

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: P561052

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561052
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-LD4-1LO-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1940.0 lumens
Efficiency: N/A
Efficacy: 82.9 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

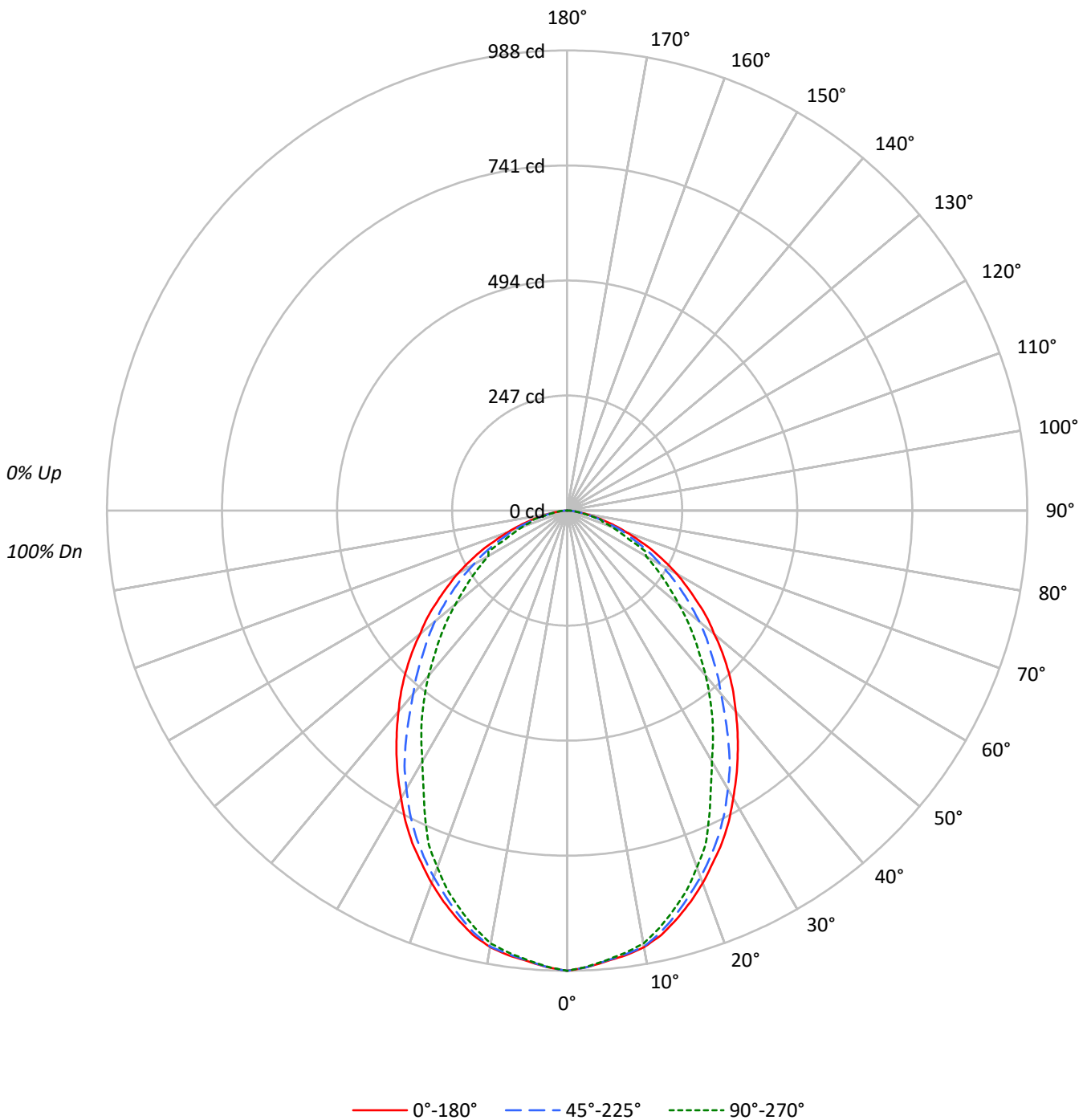
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2659	2659	2659
5°	2623	2620	2617
10°	2601	2597	2579
15°	2530	2505	2470
20°	2437	2398	2333
25°	2337	2286	2144
30°	2215	2144	1931
35°	2098	1982	1786
40°	1978	1806	1625
45°	1865	1670	1469
50°	1726	1550	1310
55°	1597	1404	1174
60°	1463	1255	1052
65°	1287	1098	931
70°	1061	961	791
75°	843	736	773
80°	567	532	496
85°	352	423	494

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1865 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	4.7
10°-20°	252.5	13.0
20°-30°	349.5	18.0
30°-40°	372.7	19.2
40°-50°	340.0	17.5
50°-60°	266.4	13.7
60°-70°	173.6	8.9
70°-80°	76.9	4.0
80°-90°	16.5	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°	694.0	35.8
0°-40°	1066.6	55.0
0°-60°	1673.0	86.2
0°-90°	1940.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1940.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	988	988	988	988	988	
5°	971	970	970	969	969	92
15°	908	908	899	890	886	255
25°	787	783	770	743	722	361
35°	639	634	603	558	544	399
45°	490	480	439	402	386	378
55°	340	330	299	264	250	305
65°	202	191	172	176	146	199
75°	81	75	71	67	74	87
85°	11	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	988.2	988.2	988.2	988.2	988.2
2.5°	981.4	981.4	981.4	980.2	980.2
5°	971.1	969.9	969.9	968.8	968.8
7.5°	963.1	961.9	960.8	959.6	957.4
10°	951.7	951.7	950.5	944.8	943.7
12.5°	933.4	932.2	927.7	919.7	917.4
15°	908.2	908.2	899.1	890.0	886.5
17.5°	880.8	879.7	868.3	859.1	854.5
20°	851.1	848.8	837.4	822.6	814.6
22.5°	818.0	818.0	804.3	784.9	776.9
25°	787.1	782.6	770.0	742.6	722.0
27.5°	751.7	744.9	731.2	692.3	668.3
30°	712.9	709.5	690.0	639.8	621.5
32.5°	676.3	670.6	650.0	597.5	582.6
35°	638.6	634.1	603.2	557.5	543.8
37.5°	600.9	595.2	556.4	519.8	502.7
40°	563.2	556.4	514.1	481.0	462.7
42.5°	527.8	518.7	477.5	442.1	421.6
45°	490.1	479.8	438.7	402.1	386.1
47.5°	452.4	443.3	405.6	367.9	349.6
50°	412.4	404.4	370.2	332.4	313.0
52.5°	379.3	366.7	333.6	295.9	279.9
55°	340.4	330.2	299.3	263.9	250.2
57.5°	305.0	294.7	266.2	233.1	221.6
60°	271.9	257.0	233.1	204.5	195.4
62.5°	235.3	223.9	203.4	179.4	190.8
65°	202.2	190.8	172.5	175.9	146.2
67.5°	165.7	159.9	143.9	128.0	123.4
70°	134.8	128.0	122.2	105.1	100.5
72.5°	107.4	100.5	92.5	83.4	80.0
75°	81.1	75.4	70.8	67.4	74.3
77.5°	56.0	53.7	50.3	46.8	45.7
80°	36.6	35.4	34.3	33.1	32.0
82.5°	21.7	21.7	21.7	21.7	21.7
85°	11.4	12.6	13.7	14.9	16.0
87.5°	6.9	6.9	8.0	9.1	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)