

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: P561703

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561703
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-LD4-2LO-50-UNV-93-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4787.0 lumens
Efficiency: N/A
Efficacy: 102.3 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

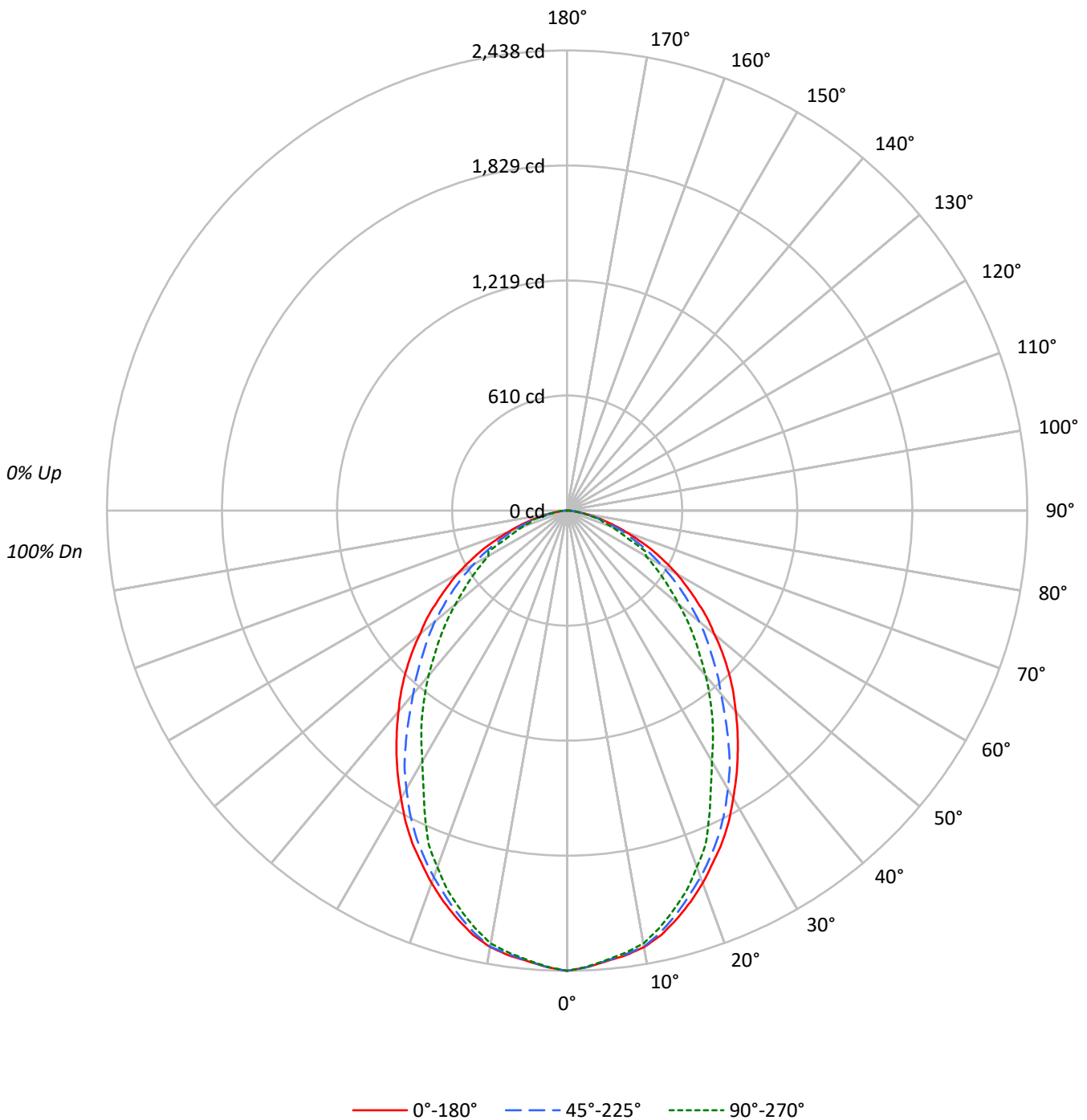
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6562	6562	6562
5°	6472	6465	6457
10°	6416	6409	6363
15°	6243	6181	6094
20°	6014	5917	5756
25°	5767	5641	5290
30°	5466	5291	4765
35°	5177	4890	4408
40°	4882	4456	4011
45°	4603	4120	3626
50°	4261	3824	3234
55°	3941	3465	2897
60°	3611	3095	2594
65°	3177	2711	2297
70°	2617	2373	1952
75°	2080	1817	1905
80°	1398	1311	1223
85°	871	1044	1220

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4603 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.0	4.7
10°-20°	622.9	13.0
20°-30°	862.4	18.0
30°-40°	919.6	19.2
40°-50°	838.9	17.5
50°-60°	657.2	13.7
60°-70°	428.4	8.9
70°-80°	189.8	4.0
80°-90°	40.8	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°	1712.3	35.8
0°-40°	2631.9	55.0
0°-60°	4128.1	86.2
0°-90°	4787.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4787.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2438	2438	2438	2438	2438	
5°	2396	2393	2393	2390	2390	227
15°	2241	2241	2219	2196	2188	630
25°	1942	1931	1900	1832	1782	892
35°	1576	1564	1488	1376	1342	985
45°	1209	1184	1082	992	953	932
55°	840	815	739	651	617	753
65°	499	471	426	434	361	492
75°	200	186	175	166	183	214
85°	28	31	34	37	40	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2438.4	2438.4	2438.4	2438.4	2438.4
2.5°	2421.5	2421.5	2421.5	2418.7	2418.7
5°	2396.1	2393.3	2393.3	2390.5	2390.5
7.5°	2376.4	2373.6	2370.8	2368.0	2362.3
10°	2348.2	2348.2	2345.4	2331.3	2328.5
12.5°	2303.1	2300.3	2289.0	2269.3	2263.7
15°	2241.1	2241.1	2218.6	2196.0	2187.5
17.5°	2173.4	2170.6	2142.4	2119.9	2108.6
20°	2100.2	2094.5	2066.3	2029.7	2009.9
22.5°	2018.4	2018.4	1984.6	1936.7	1916.9
25°	1942.3	1931.0	1900.0	1832.3	1781.6
27.5°	1854.9	1838.0	1804.2	1708.3	1649.1
30°	1759.1	1750.6	1702.7	1578.6	1533.5
32.5°	1668.8	1654.8	1604.0	1474.3	1437.7
35°	1575.8	1564.5	1488.4	1375.7	1341.8
37.5°	1482.8	1468.7	1372.9	1282.6	1240.4
40°	1389.8	1372.9	1268.5	1186.8	1141.7
42.5°	1302.4	1279.8	1178.3	1091.0	1040.2
45°	1209.4	1184.0	1082.5	992.3	952.8
47.5°	1116.3	1093.8	1000.7	907.7	862.6
50°	1017.7	997.9	913.4	820.3	772.4
52.5°	935.9	904.9	823.1	730.1	690.7
55°	840.1	814.7	738.6	651.2	617.4
57.5°	752.7	727.3	656.8	575.1	546.9
60°	670.9	634.3	575.1	504.6	482.0
62.5°	580.7	552.5	501.8	442.6	470.8
65°	499.0	470.8	425.7	434.1	360.8
67.5°	408.8	394.7	355.2	315.7	304.5
70°	332.6	315.7	301.6	259.3	248.1
72.5°	265.0	248.1	228.3	205.8	197.3
75°	200.1	186.1	174.8	166.3	183.2
77.5°	138.1	132.5	124.0	115.6	112.8
80°	90.2	87.4	84.6	81.8	78.9
82.5°	53.6	53.6	53.6	53.6	53.6
85°	28.2	31.0	33.8	36.6	39.5
87.5°	16.9	16.9	19.7	22.6	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)