

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: P561710

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561710
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-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4245.0 lumens
Efficiency: N/A
Efficacy: 90.7 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

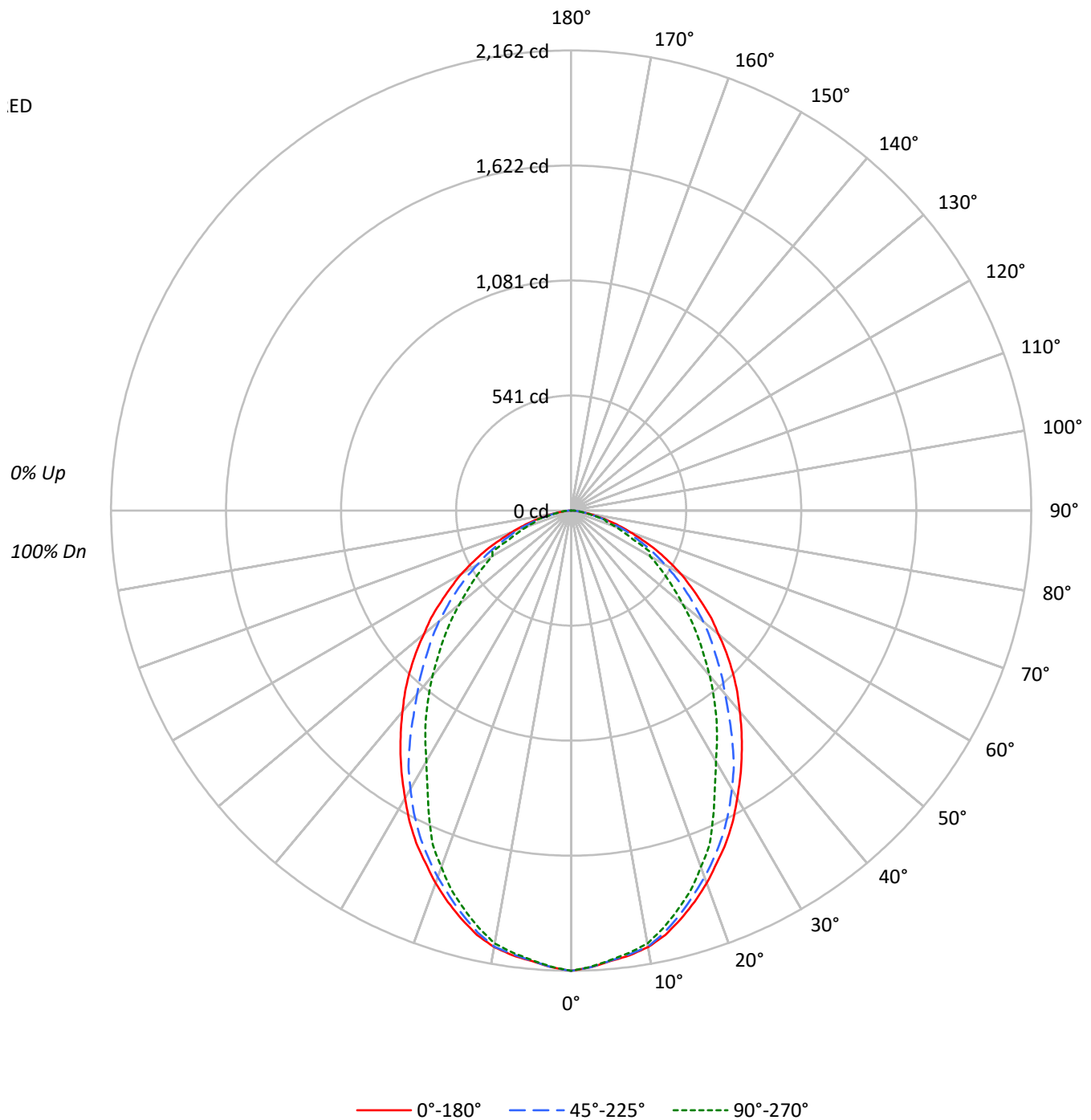
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5819	5819	5819
5°	5740	5733	5726
10°	5690	5683	5642
15°	5537	5481	5404
20°	5333	5247	5104
25°	5114	5003	4691
30°	4847	4692	4226
35°	4591	4336	3909
40°	4329	3952	3556
45°	4081	3653	3215
50°	3778	3391	2868
55°	3495	3073	2569
60°	3202	2745	2301
65°	2818	2404	2038
70°	2321	2105	1731
75°	1845	1612	1690
80°	1240	1162	1085
85°	772	926	1081

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4081 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.3	4.7
10°-20°	552.4	13.0
20°-30°	764.8	18.0
30°-40°	815.5	19.2
40°-50°	743.9	17.5
50°-60°	582.8	13.7
60°-70°	379.9	8.9
70°-80°	168.3	4.0
80°-90°	36.1	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°	1518.5	35.8
0°-40°	2334.0	55.0
0°-60°	3660.7	86.2
0°-90°	4245.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4245.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2162	2162	2162	2162	2162	
5°	2125	2122	2122	2120	2120	202
15°	1987	1987	1967	1947	1940	559
25°	1722	1712	1685	1625	1580	791
35°	1397	1387	1320	1220	1190	874
45°	1072	1050	960	880	845	826
55°	745	722	655	578	548	668
65°	442	418	378	385	320	436
75°	178	165	155	148	162	190
85°	25	28	30	32	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2162.3	2162.3	2162.3	2162.3	2162.3
2.5°	2147.3	2147.3	2147.3	2144.8	2144.8
5°	2124.8	2122.3	2122.3	2119.8	2119.8
7.5°	2107.4	2104.9	2102.4	2099.9	2094.9
10°	2082.4	2082.4	2079.9	2067.4	2064.9
12.5°	2042.4	2039.9	2029.9	2012.4	2007.4
15°	1987.4	1987.4	1967.4	1947.4	1939.9
17.5°	1927.4	1924.9	1899.9	1879.9	1869.9
20°	1862.4	1857.4	1832.4	1799.9	1782.4
22.5°	1789.9	1789.9	1759.9	1717.4	1699.9
25°	1722.4	1712.4	1684.9	1624.9	1579.9
27.5°	1644.9	1629.9	1599.9	1514.9	1462.4
30°	1559.9	1552.4	1509.9	1399.9	1359.9
32.5°	1479.9	1467.4	1422.4	1307.4	1274.9
35°	1397.4	1387.4	1319.9	1219.9	1189.9
37.5°	1314.9	1302.4	1217.4	1137.4	1099.9
40°	1232.4	1217.4	1124.9	1052.4	1012.4
42.5°	1154.9	1134.9	1044.9	967.4	922.4
45°	1072.4	1049.9	959.9	879.9	844.9
47.5°	989.9	969.9	887.4	804.9	764.9
50°	902.4	884.9	809.9	727.4	685.0
52.5°	829.9	802.4	729.9	647.5	612.5
55°	744.9	722.4	655.0	577.5	547.5
57.5°	667.5	645.0	582.5	510.0	485.0
60°	595.0	562.5	510.0	447.5	427.5
62.5°	515.0	490.0	445.0	392.5	417.5
65°	442.5	417.5	377.5	385.0	320.0
67.5°	362.5	350.0	315.0	280.0	270.0
70°	295.0	280.0	267.5	230.0	220.0
72.5°	235.0	220.0	202.5	182.5	175.0
75°	177.5	165.0	155.0	147.5	162.5
77.5°	122.5	117.5	110.0	102.5	100.0
80°	80.0	77.5	75.0	72.5	70.0
82.5°	47.5	47.5	47.5	47.5	47.5
85°	25.0	27.5	30.0	32.5	35.0
87.5°	15.0	15.0	17.5	20.0	22.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)