

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: P561707

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561707
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-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5117.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

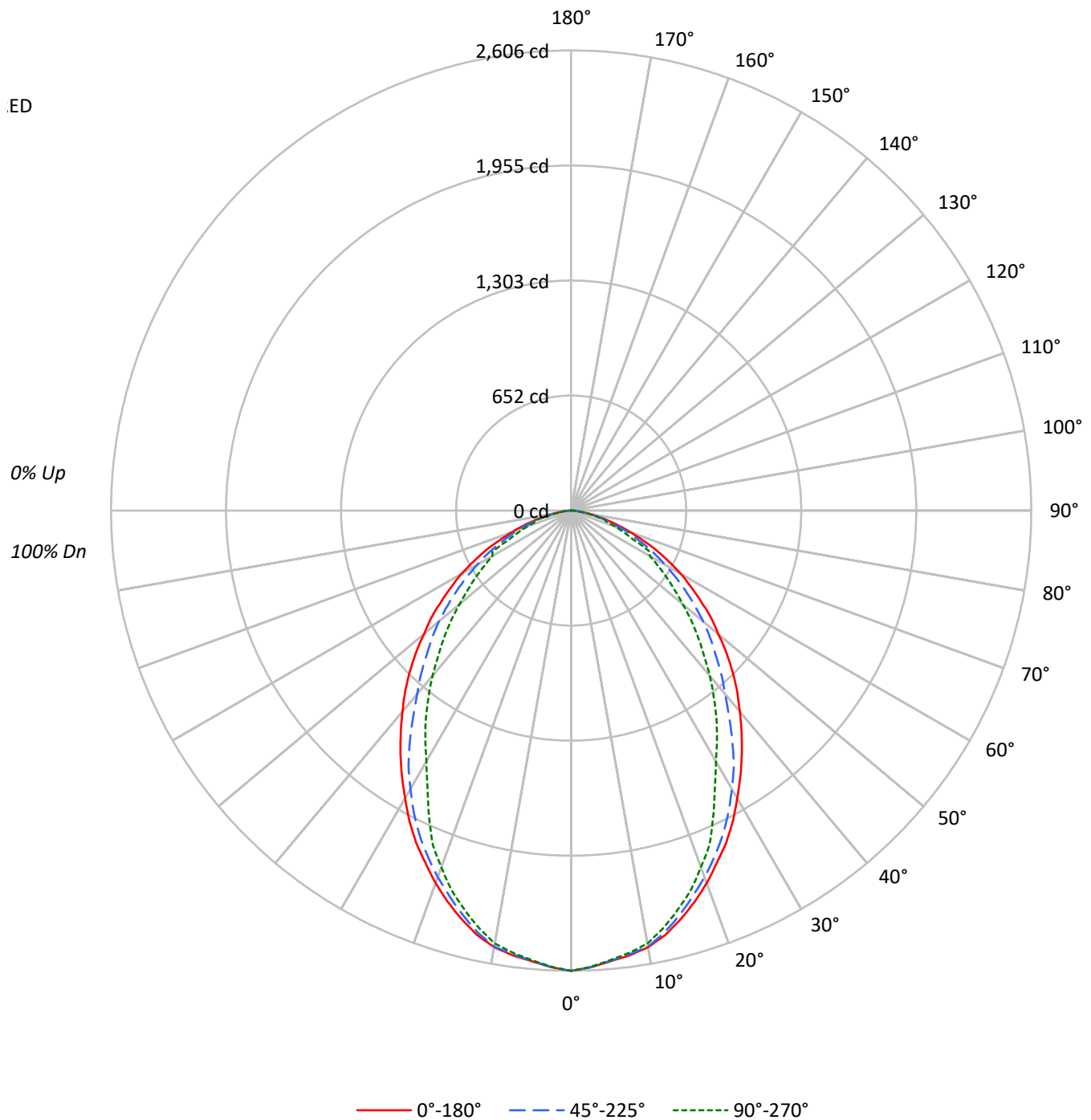
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7014	7014	7014
5°	6919	6911	6903
10°	6859	6851	6801
15°	6674	6607	6514
20°	6429	6325	6153
25°	6165	6030	5654
30°	5843	5656	5094
35°	5534	5227	4712
40°	5219	4763	4287
45°	4920	4403	3876
50°	4554	4087	3457
55°	4213	3704	3096
60°	3860	3308	2773
65°	3396	2897	2456
70°	2798	2537	2087
75°	2224	1942	2037
80°	1494	1401	1308
85°	929	1118	1303

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4920 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.6	4.7
10°-20°	665.9	13.0
20°-30°	921.9	18.0
30°-40°	983.0	19.2
40°-50°	896.8	17.5
50°-60°	702.6	13.7
60°-70°	457.9	8.9
70°-80°	202.9	4.0
80°-90°	43.6	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°	1830.4	35.8
0°-40°	2813.4	55.0
0°-60°	4412.7	86.2
0°-90°	5117.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5117.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2606	2606	2606	2606	2606	
5°	2561	2558	2558	2555	2555	243
15°	2396	2396	2372	2347	2338	673
25°	2076	2064	2031	1959	1904	953
35°	1684	1672	1591	1470	1434	1053
45°	1293	1266	1157	1061	1018	996
55°	898	871	790	696	660	805
65°	533	503	455	464	386	526
75°	214	199	187	178	196	229
85°	30	33	36	39	42	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2606.5	2606.5	2606.5	2606.5	2606.5
2.5°	2588.5	2588.5	2588.5	2585.4	2585.4
5°	2561.3	2558.3	2558.3	2555.3	2555.3
7.5°	2540.2	2537.2	2534.2	2531.2	2525.2
10°	2510.1	2510.1	2507.1	2492.0	2489.0
12.5°	2461.9	2458.9	2446.8	2425.7	2419.7
15°	2395.6	2395.6	2371.5	2347.4	2338.3
17.5°	2323.3	2320.3	2290.1	2266.0	2254.0
20°	2244.9	2238.9	2208.8	2169.6	2148.5
22.5°	2157.5	2157.5	2121.4	2070.2	2049.1
25°	2076.2	2064.1	2031.0	1958.7	1904.4
27.5°	1982.8	1964.7	1928.5	1826.1	1762.8
30°	1880.3	1871.3	1820.1	1687.5	1639.3
32.5°	1783.9	1768.8	1714.6	1576.0	1536.8
35°	1684.5	1672.4	1591.0	1470.5	1434.3
37.5°	1585.0	1569.9	1467.5	1371.1	1325.9
40°	1485.6	1467.5	1356.0	1268.6	1220.4
42.5°	1392.2	1368.1	1259.6	1166.2	1111.9
45°	1292.7	1265.6	1157.1	1060.7	1018.5
47.5°	1193.3	1169.2	1069.7	970.3	922.1
50°	1087.8	1066.7	976.3	876.9	825.7
52.5°	1000.4	967.3	879.9	780.5	738.3
55°	898.0	870.9	789.5	696.1	659.9
57.5°	804.6	777.4	702.1	614.7	584.6
60°	717.2	678.0	614.7	539.4	515.3
62.5°	620.7	590.6	536.4	473.1	503.2
65°	533.4	503.2	455.0	464.1	385.7
67.5°	436.9	421.9	379.7	337.5	325.4
70°	355.6	337.5	322.4	277.2	265.2
72.5°	283.3	265.2	244.1	220.0	210.9
75°	213.9	198.9	186.8	177.8	195.9
77.5°	147.7	141.6	132.6	123.5	120.5
80°	96.4	93.4	90.4	87.4	84.4
82.5°	57.3	57.3	57.3	57.3	57.3
85°	30.1	33.1	36.2	39.2	42.2
87.5°	18.1	18.1	21.1	24.1	27.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)