

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: P561711

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561711
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
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 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: 4879.0 lumens
Efficiency: N/A
Efficacy: 104.3 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

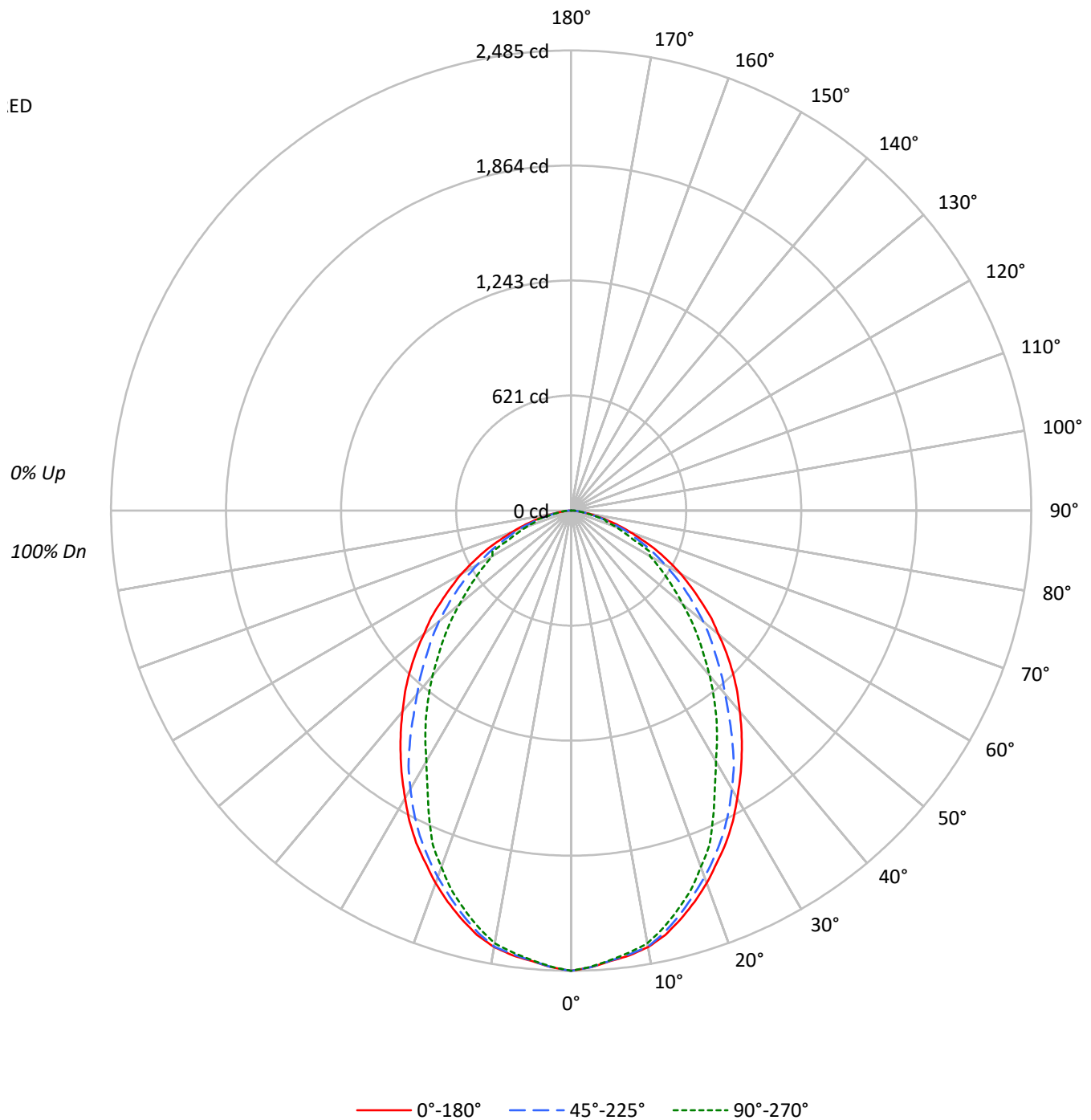
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6688	6688	6688
5°	6597	6589	6582
10°	6540	6532	6485
15°	6364	6299	6211
20°	6130	6031	5867
25°	5878	5750	5391
30°	5571	5392	4857
35°	5276	4983	4493
40°	4976	4542	4088
45°	4691	4199	3696
50°	4342	3897	3296
55°	4017	3532	2952
60°	3680	3154	2644
65°	3238	2762	2342
70°	2667	2419	1989
75°	2121	1852	1942
80°	1424	1336	1246
85°	886	1065	1241

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4691 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.3	4.7
10°-20°	634.9	13.0
20°-30°	879.0	18.0
30°-40°	937.3	19.2
40°-50°	855.1	17.5
50°-60°	669.9	13.7
60°-70°	436.6	8.9
70°-80°	193.4	4.0
80°-90°	41.5	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°	1745.3	35.8
0°-40°	2682.5	55.0
0°-60°	4207.4	86.2
0°-90°	4879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4879.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2485	2485	2485	2485	2485	
5°	2442	2439	2439	2436	2436	232
15°	2284	2284	2261	2238	2230	642
25°	1980	1968	1936	1868	1816	909
35°	1606	1595	1517	1402	1368	1004
45°	1233	1207	1103	1011	971	949
55°	856	830	753	664	629	768
65°	509	480	434	442	368	501
75°	204	190	178	170	187	219
85°	29	32	34	37	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2485.3	2485.3	2485.3	2485.3	2485.3
2.5°	2468.1	2468.1	2468.1	2465.2	2465.2
5°	2442.2	2439.3	2439.3	2436.5	2436.5
7.5°	2422.1	2419.2	2416.3	2413.5	2407.7
10°	2393.4	2393.4	2390.5	2376.1	2373.2
12.5°	2347.4	2344.5	2333.0	2312.9	2307.2
15°	2284.2	2284.2	2261.2	2238.2	2229.6
17.5°	2215.2	2212.3	2183.6	2160.6	2149.1
20°	2140.5	2134.8	2106.0	2068.7	2048.6
22.5°	2057.2	2057.2	2022.7	1973.9	1953.8
25°	1979.6	1968.1	1936.5	1867.6	1815.8
27.5°	1890.5	1873.3	1838.8	1741.1	1680.8
30°	1792.9	1784.2	1735.4	1609.0	1563.0
32.5°	1700.9	1686.6	1634.8	1502.7	1465.3
35°	1606.1	1594.6	1517.0	1402.1	1367.6
37.5°	1511.3	1496.9	1399.2	1307.3	1264.2
40°	1416.5	1399.2	1292.9	1209.6	1163.6
42.5°	1327.4	1304.4	1201.0	1111.9	1060.2
45°	1232.6	1206.7	1103.3	1011.4	971.1
47.5°	1137.8	1114.8	1020.0	925.2	879.2
50°	1037.2	1017.1	930.9	836.1	787.3
52.5°	953.9	922.3	839.0	744.2	703.9
55°	856.2	830.3	752.8	663.7	629.2
57.5°	767.1	741.3	669.5	586.1	557.4
60°	683.8	646.5	586.1	514.3	491.3
62.5°	591.9	563.1	511.4	451.1	479.8
65°	508.6	479.8	433.8	442.5	367.8
67.5°	416.6	402.2	362.0	321.8	310.3
70°	339.0	321.8	307.4	264.3	252.8
72.5°	270.1	252.8	232.7	209.7	201.1
75°	204.0	189.6	178.1	169.5	186.8
77.5°	140.8	135.0	126.4	117.8	114.9
80°	91.9	89.1	86.2	83.3	80.4
82.5°	54.6	54.6	54.6	54.6	54.6
85°	28.7	31.6	34.5	37.4	40.2
87.5°	17.2	17.2	20.1	23.0	25.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)