

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: P561532

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561532
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-35-UNV-80-96-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

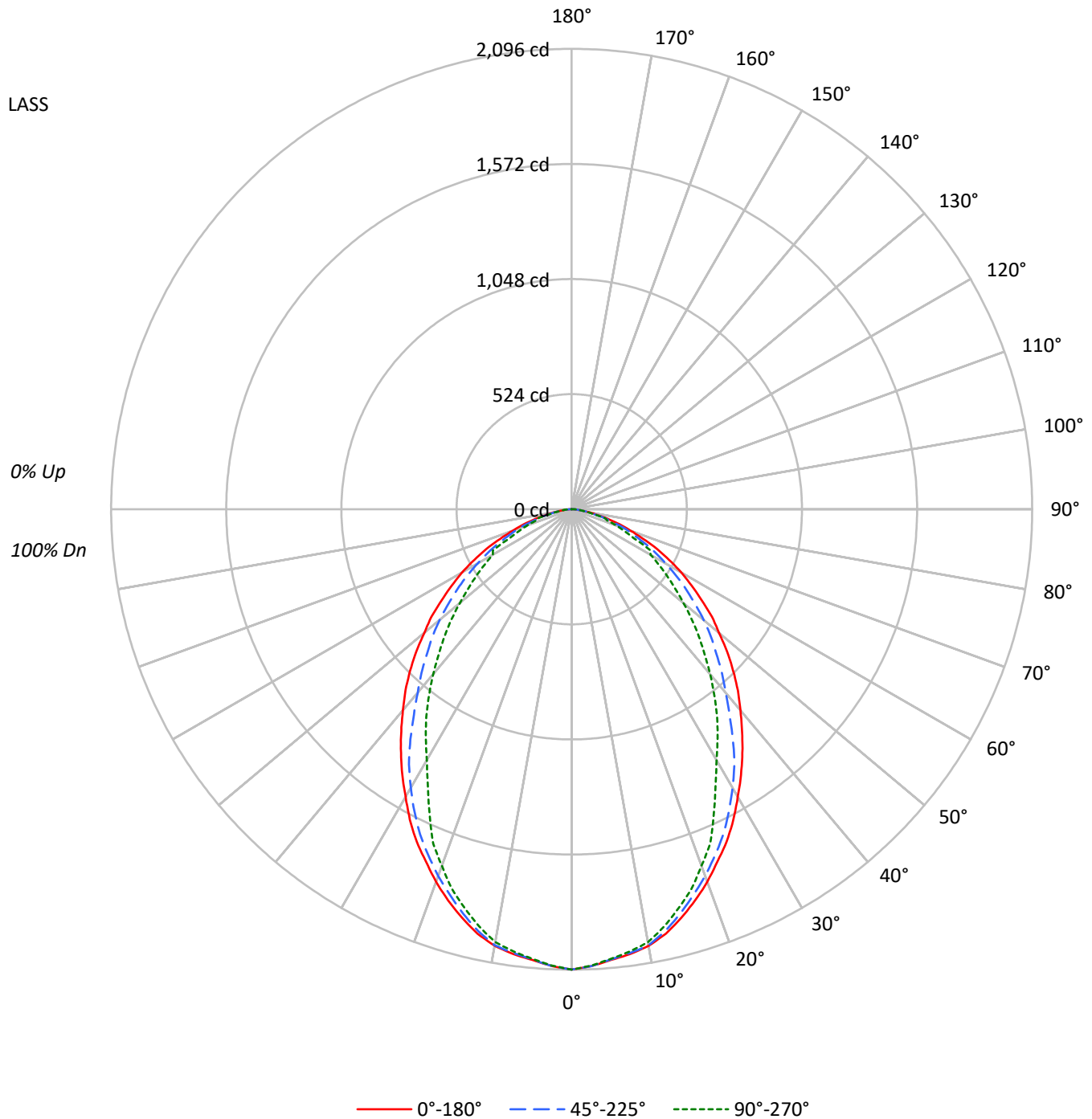
Lumens per Lamp: N/A
Luminaire Lumens: 4114.0 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	5639	5639	5639
5°	5563	5556	5549
10°	5514	5508	5468
15°	5366	5312	5238
20°	5169	5085	4947
25°	4956	4848	4546
30°	4698	4547	4095
35°	4449	4202	3788
40°	4196	3830	3447
45°	3955	3540	3116
50°	3661	3286	2779
55°	3387	2978	2489
60°	3103	2660	2230
65°	2730	2329	1975
70°	2249	2039	1677
75°	1788	1562	1638
80°	1201	1127	1051
85°	747	898	1047

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3955 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.1	4.7
10°-20°	535.4	13.0
20°-30°	741.2	18.0
30°-40°	790.3	19.2
40°-50°	721.0	17.5
50°-60°	564.8	13.7
60°-70°	368.1	8.9
70°-80°	163.1	4.0
80°-90°	35.0	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°	1471.6	35.8
0°-40°	2261.9	55.0
0°-60°	3547.7	86.2
0°-90°	4114.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4114.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2096	2096	2096	2096	2096	
5°	2059	2057	2057	2054	2054	195
15°	1926	1926	1907	1887	1880	541
25°	1669	1660	1633	1575	1531	766
35°	1354	1345	1279	1182	1153	847
45°	1039	1018	930	853	819	801
55°	722	700	635	560	531	648
65°	429	405	366	373	310	423
75°	172	160	150	143	158	184
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2095.6	2095.6	2095.6	2095.6	2095.6
2.5°	2081.1	2081.1	2081.1	2078.7	2078.7
5°	2059.3	2056.9	2056.9	2054.4	2054.4
7.5°	2042.3	2039.9	2037.5	2035.0	2030.2
10°	2018.1	2018.1	2015.7	2003.6	2001.1
12.5°	1979.3	1976.9	1967.2	1950.3	1945.4
15°	1926.0	1926.0	1906.6	1887.3	1880.0
17.5°	1867.9	1865.5	1841.2	1821.9	1812.2
20°	1804.9	1800.0	1775.8	1744.3	1727.4
22.5°	1734.6	1734.6	1705.6	1664.4	1647.4
25°	1669.2	1659.5	1632.9	1574.7	1531.1
27.5°	1594.1	1579.6	1550.5	1468.1	1417.3
30°	1511.8	1504.5	1463.3	1356.7	1317.9
32.5°	1434.2	1422.1	1378.5	1267.1	1235.6
35°	1354.3	1344.6	1279.2	1182.3	1153.2
37.5°	1274.3	1262.2	1179.8	1102.3	1066.0
40°	1194.4	1179.8	1090.2	1019.9	981.2
42.5°	1119.3	1099.9	1012.7	937.6	894.0
45°	1039.3	1017.5	930.3	852.8	818.9
47.5°	959.4	940.0	860.1	780.1	741.3
50°	874.6	857.6	784.9	705.0	663.8
52.5°	804.3	777.7	707.4	627.5	593.6
55°	722.0	700.2	634.7	559.6	530.6
57.5°	646.9	625.1	564.5	494.2	470.0
60°	576.6	545.1	494.2	433.7	414.3
62.5°	499.1	474.8	431.2	380.4	404.6
65°	428.8	404.6	365.8	373.1	310.1
67.5°	351.3	339.2	305.3	271.3	261.6
70°	285.9	271.3	259.2	222.9	213.2
72.5°	227.7	213.2	196.2	176.9	169.6
75°	172.0	159.9	150.2	142.9	157.5
77.5°	118.7	113.9	106.6	99.3	96.9
80°	77.5	75.1	72.7	70.3	67.8
82.5°	46.0	46.0	46.0	46.0	46.0
85°	24.2	26.6	29.1	31.5	33.9
87.5°	14.5	14.5	17.0	19.4	21.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)