

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: P561663

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561663
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-80-97-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

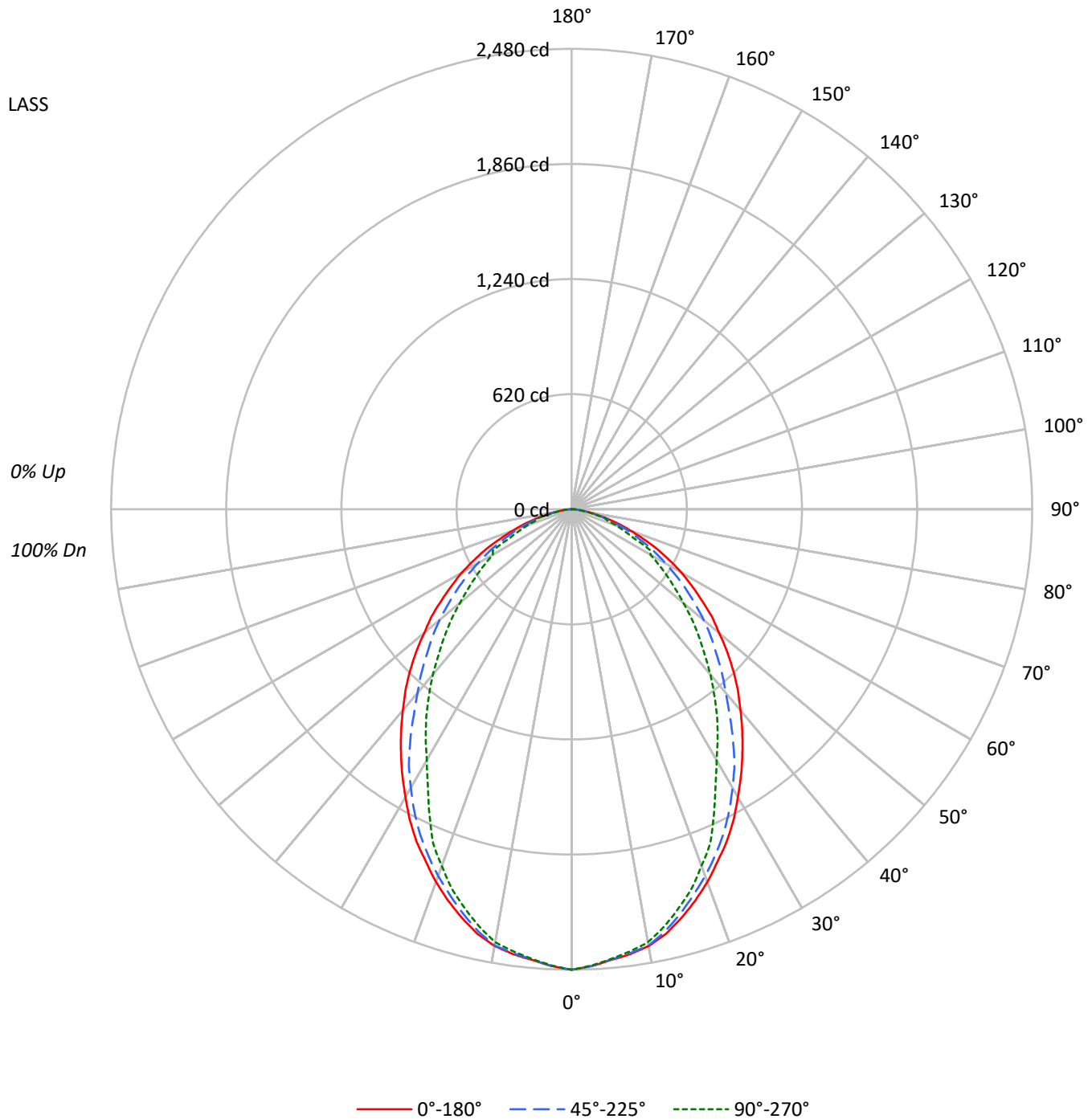
Lumens per Lamp: N/A
Luminaire Lumens: 4869.0 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6674	6674	6674
5°	6584	6576	6568
10°	6527	6519	6472
15°	6350	6287	6199
20°	6117	6019	5855
25°	5866	5738	5380
30°	5560	5381	4847
35°	5265	4973	4483
40°	4966	4533	4079
45°	4681	4190	3688
50°	4333	3889	3289
55°	4009	3524	2946
60°	3673	3148	2639
65°	3231	2757	2337
70°	2662	2414	1985
75°	2117	1849	1938
80°	1423	1333	1244
85°	886	1062	1238

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4681 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.9	4.7
10°-20°	633.6	13.0
20°-30°	877.2	18.0
30°-40°	935.3	19.2
40°-50°	853.3	17.5
50°-60°	668.5	13.7
60°-70°	435.7	8.9
70°-80°	193.0	4.0
80°-90°	41.4	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°	1741.7	35.8
0°-40°	2677.0	55.0
0°-60°	4198.8	86.2
0°-90°	4869.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4869.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2480	2480	2480	2480	2480	
5°	2437	2434	2434	2432	2432	231
15°	2280	2280	2257	2234	2225	641
25°	1976	1964	1933	1864	1812	907
35°	1603	1591	1514	1399	1365	1002
45°	1230	1204	1101	1009	969	948
55°	854	829	751	662	628	766
65°	508	479	433	442	367	500
75°	204	189	178	169	186	218
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°	2480.2	2480.2	2480.2	2480.2	2480.2
2.5°	2463.0	2463.0	2463.0	2460.1	2460.1
5°	2437.2	2434.3	2434.3	2431.5	2431.5
7.5°	2417.1	2414.3	2411.4	2408.5	2402.8
10°	2388.5	2388.5	2385.6	2371.2	2368.4
12.5°	2342.6	2339.7	2328.2	2308.2	2302.4
15°	2279.5	2279.5	2256.6	2233.6	2225.0
17.5°	2210.7	2207.8	2179.1	2156.2	2144.7
20°	2136.1	2130.4	2101.7	2064.4	2044.4
22.5°	2053.0	2053.0	2018.6	1969.8	1949.8
25°	1975.6	1964.1	1932.6	1863.7	1812.1
27.5°	1886.7	1869.5	1835.1	1737.6	1677.4
30°	1789.2	1780.6	1731.8	1605.7	1559.8
32.5°	1697.4	1683.1	1631.5	1499.6	1462.3
35°	1602.8	1591.3	1513.9	1399.2	1364.8
37.5°	1508.2	1493.9	1396.4	1304.6	1261.6
40°	1413.6	1396.4	1290.3	1207.1	1161.3
42.5°	1324.7	1301.7	1198.5	1109.6	1058.0
45°	1230.1	1204.3	1101.0	1009.3	969.1
47.5°	1135.4	1112.5	1017.9	923.3	877.4
50°	1035.1	1015.0	929.0	834.4	785.6
52.5°	951.9	920.4	837.2	742.6	702.5
55°	854.5	828.6	751.2	662.3	627.9
57.5°	765.6	739.8	668.1	584.9	556.3
60°	682.4	645.1	584.9	513.2	490.3
62.5°	590.7	562.0	510.4	450.2	478.8
65°	507.5	478.8	433.0	441.6	367.0
67.5°	415.8	401.4	361.3	321.1	309.7
70°	338.3	321.1	306.8	263.8	252.3
72.5°	269.5	252.3	232.3	209.3	200.7
75°	203.6	189.2	177.8	169.2	186.4
77.5°	140.5	134.8	126.2	117.6	114.7
80°	91.8	88.9	86.0	83.2	80.3
82.5°	54.5	54.5	54.5	54.5	54.5
85°	28.7	31.5	34.4	37.3	40.1
87.5°	17.2	17.2	20.1	22.9	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)