

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: P561599

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561599
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

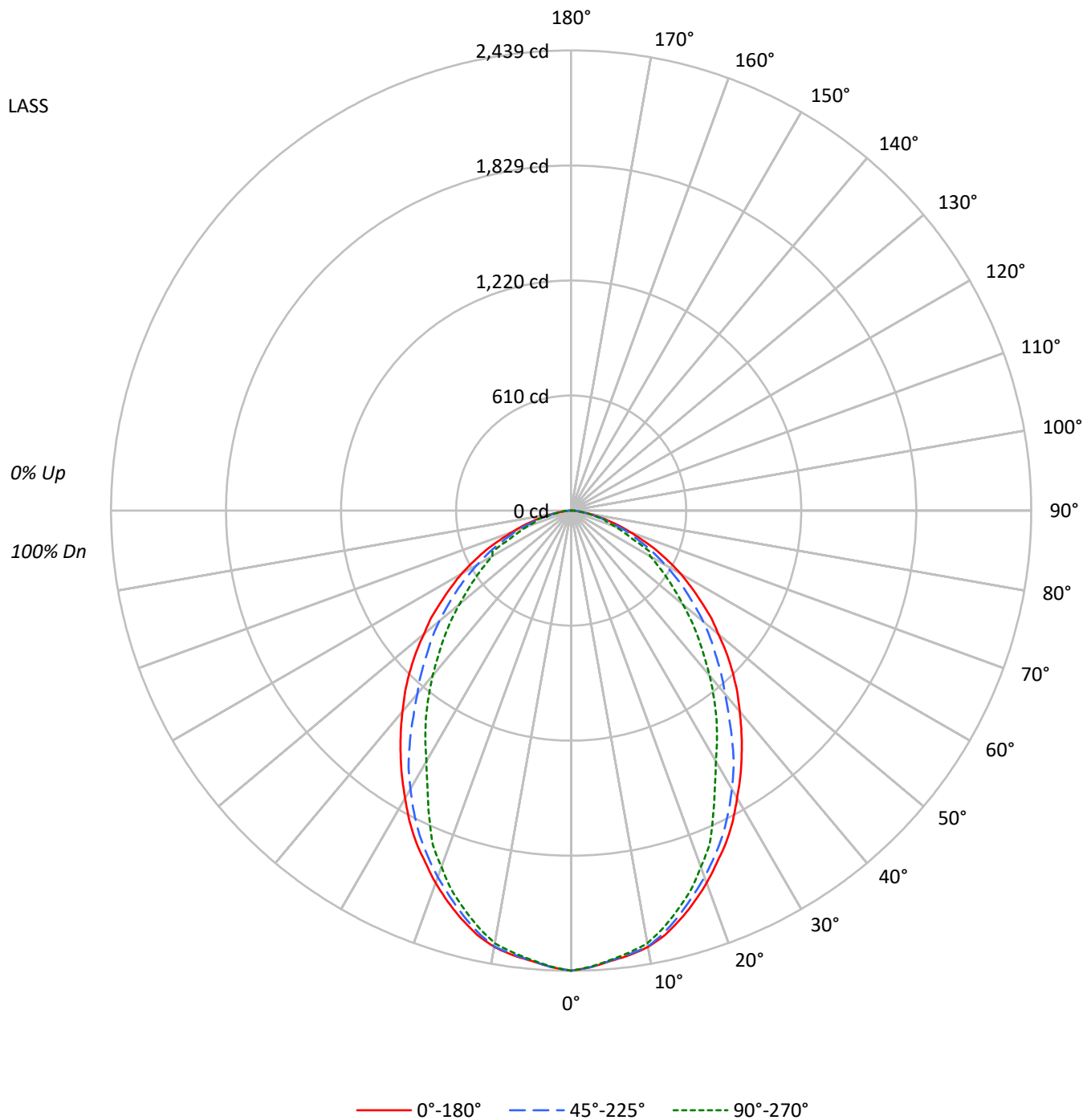
Lumens per Lamp: N/A
Luminaire Lumens: 4788.0 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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			
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°	6563	6563	6563
5°	6474	6466	6459
10°	6418	6410	6364
15°	6245	6182	6096
20°	6015	5919	5757
25°	5768	5643	5291
30°	5467	5292	4766
35°	5178	4890	4409
40°	4883	4457	4011
45°	4603	4120	3627
50°	4261	3824	3234
55°	3942	3466	2897
60°	3612	3096	2595
65°	3178	2711	2298
70°	2618	2374	1952
75°	2082	1817	1906
80°	1398	1311	1223
85°	871	1044	1220

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4603 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.0	4.7
10°-20°	623.1	13.0
20°-30°	862.6	18.0
30°-40°	919.8	19.2
40°-50°	839.1	17.5
50°-60°	657.4	13.7
60°-70°	428.4	8.9
70°-80°	189.8	4.0
80°-90°	40.8	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°	1712.7	35.8
0°-40°	2632.5	55.0
0°-60°	4129.0	86.2
0°-90°	4788.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4788.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2439	2439	2439	2439	2439	
5°	2397	2394	2394	2391	2391	227
15°	2242	2242	2219	2196	2188	630
25°	1943	1931	1900	1833	1782	892
35°	1576	1565	1489	1376	1342	985
45°	1210	1184	1083	992	953	932
55°	840	815	739	651	618	754
65°	499	471	426	434	361	492
75°	200	186	175	166	183	215
85°	28	31	34	37	40	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2438.9	2438.9	2438.9	2438.9	2438.9
2.5°	2422.0	2422.0	2422.0	2419.2	2419.2
5°	2396.6	2393.8	2393.8	2391.0	2391.0
7.5°	2376.9	2374.1	2371.3	2368.5	2362.8
10°	2348.7	2348.7	2345.9	2331.8	2329.0
12.5°	2303.6	2300.8	2289.5	2269.8	2264.1
15°	2241.6	2241.6	2219.0	2196.5	2188.0
17.5°	2173.9	2171.1	2142.9	2120.3	2109.1
20°	2100.6	2095.0	2066.8	2030.1	2010.4
22.5°	2018.8	2018.8	1985.0	1937.1	1917.3
25°	1942.7	1931.4	1900.4	1832.7	1782.0
27.5°	1855.3	1838.4	1804.5	1708.7	1649.5
30°	1759.4	1751.0	1703.0	1579.0	1533.9
32.5°	1669.2	1655.1	1604.3	1474.6	1438.0
35°	1576.1	1564.9	1488.7	1376.0	1342.1
37.5°	1483.1	1469.0	1373.1	1282.9	1240.6
40°	1390.1	1373.1	1268.8	1187.0	1141.9
42.5°	1302.6	1280.1	1178.6	1091.2	1040.4
45°	1209.6	1184.2	1082.7	992.5	953.0
47.5°	1116.6	1094.0	1001.0	907.9	862.8
50°	1017.9	998.1	913.5	820.5	772.6
52.5°	936.1	905.1	823.3	730.3	690.8
55°	840.2	814.9	738.7	651.3	617.5
57.5°	752.8	727.5	657.0	575.2	547.0
60°	671.1	634.4	575.2	504.7	482.1
62.5°	580.8	552.6	501.9	442.7	470.9
65°	499.1	470.9	425.8	434.2	360.9
67.5°	408.8	394.7	355.3	315.8	304.5
70°	332.7	315.8	301.7	259.4	248.1
72.5°	265.0	248.1	228.4	205.8	197.4
75°	200.2	186.1	174.8	166.4	183.3
77.5°	138.2	132.5	124.1	115.6	112.8
80°	90.2	87.4	84.6	81.8	78.9
82.5°	53.6	53.6	53.6	53.6	53.6
85°	28.2	31.0	33.8	36.7	39.5
87.5°	16.9	16.9	19.7	22.6	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)