

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: P561661

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561661
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-80-96-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

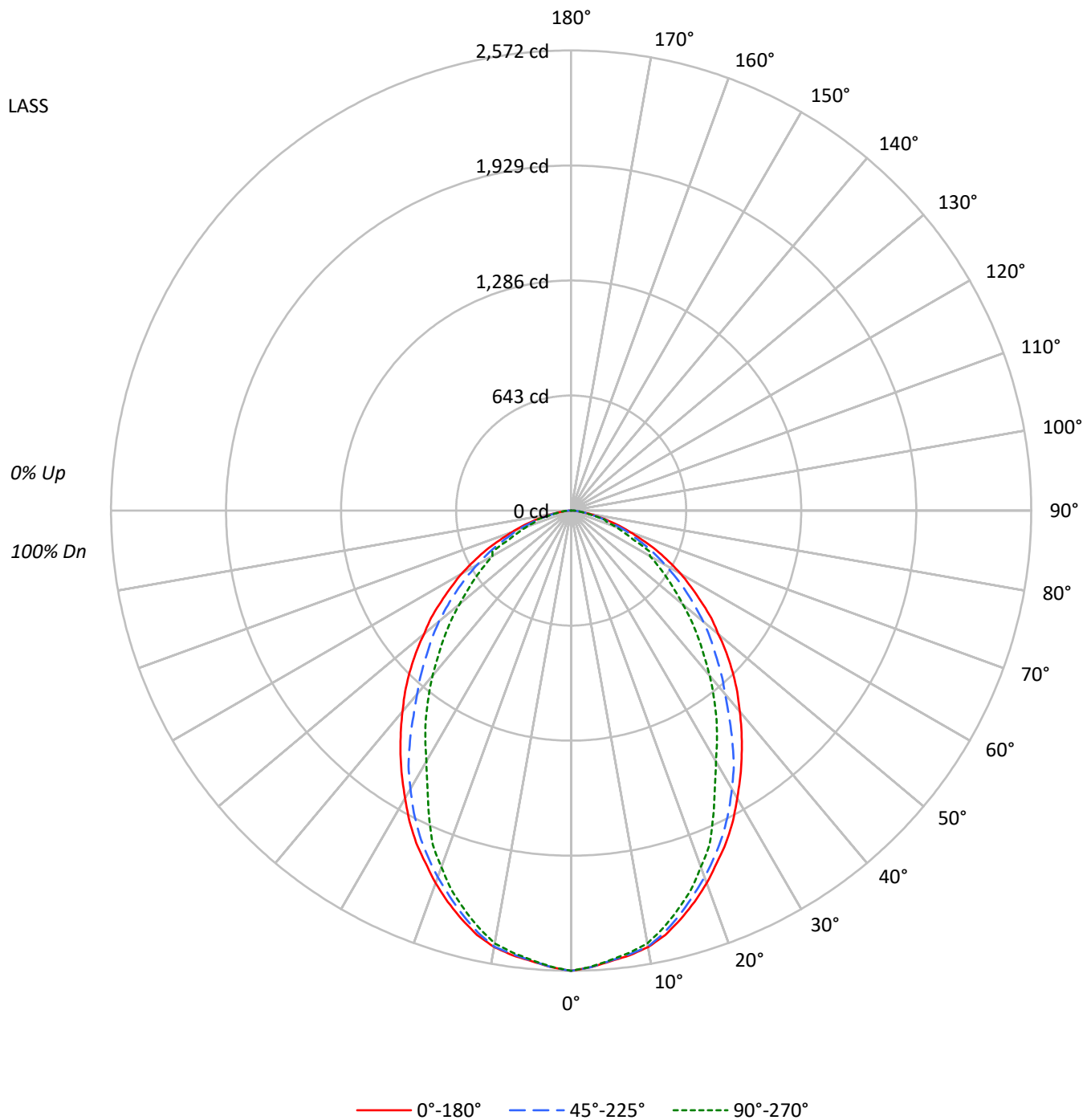
Lumens per Lamp: N/A
Luminaire Lumens: 5050.0 lumens
Efficiency: N/A
Efficacy: 107.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	6922	6922	6922
5°	6828	6820	6812
10°	6769	6761	6712
15°	6586	6520	6429
20°	6344	6243	6072
25°	6084	5951	5581
30°	5766	5581	5027
35°	5461	5158	4650
40°	5150	4701	4231
45°	4855	4346	3825
50°	4495	4034	3411
55°	4158	3656	3056
60°	3809	3265	2737
65°	3352	2860	2424
70°	2761	2504	2059
75°	2195	1917	2010
80°	1475	1382	1291
85°	917	1102	1284

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4855 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.5	4.7
10°-20°	657.2	13.0
20°-30°	909.8	18.0
30°-40°	970.1	19.2
40°-50°	885.0	17.5
50°-60°	693.4	13.7
60°-70°	451.9	8.9
70°-80°	200.2	4.0
80°-90°	43.0	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°	1806.4	35.8
0°-40°	2776.5	55.0
0°-60°	4354.9	86.2
0°-90°	5050.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5050.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2572	2572	2572	2572	2572	
5°	2528	2525	2525	2522	2522	240
15°	2364	2364	2340	2317	2308	665
25°	2049	2037	2004	1933	1880	941
35°	1662	1650	1570	1451	1416	1039
45°	1276	1249	1142	1047	1005	983
55°	886	860	779	687	651	795
65°	526	497	449	458	381	519
75°	211	196	184	176	193	226
85°	30	33	36	39	42	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2572.4	2572.4	2572.4	2572.4	2572.4
2.5°	2554.6	2554.6	2554.6	2551.6	2551.6
5°	2527.8	2524.8	2524.8	2521.8	2521.8
7.5°	2507.0	2504.0	2501.0	2498.1	2492.1
10°	2477.2	2477.2	2474.3	2459.4	2456.4
12.5°	2429.7	2426.7	2414.8	2394.0	2388.0
15°	2364.2	2364.2	2340.4	2316.6	2307.7
17.5°	2292.9	2289.9	2260.1	2236.4	2224.5
20°	2215.5	2209.6	2179.9	2141.2	2120.4
22.5°	2129.3	2129.3	2093.6	2043.1	2022.2
25°	2049.0	2037.1	2004.4	1933.0	1879.5
27.5°	1956.8	1939.0	1903.3	1802.2	1739.7
30°	1855.7	1846.8	1796.2	1665.4	1617.8
32.5°	1760.5	1745.7	1692.1	1555.3	1516.7
35°	1662.4	1650.5	1570.2	1451.3	1415.6
37.5°	1564.3	1549.4	1448.3	1353.1	1308.5
40°	1466.1	1448.3	1338.2	1252.0	1204.4
42.5°	1373.9	1350.1	1243.1	1150.9	1097.4
45°	1275.8	1249.0	1142.0	1046.8	1005.2
47.5°	1177.7	1153.9	1055.7	957.6	910.0
50°	1073.6	1052.8	963.5	865.4	814.8
52.5°	987.3	954.6	868.4	770.2	728.6
55°	886.2	859.5	779.2	687.0	651.3
57.5°	794.0	767.3	692.9	606.7	576.9
60°	707.8	669.1	606.7	532.3	508.5
62.5°	612.6	582.9	529.3	466.9	496.6
65°	526.4	496.6	449.1	458.0	380.7
67.5°	431.2	416.3	374.7	333.1	321.2
70°	350.9	333.1	318.2	273.6	261.7
72.5°	279.5	261.7	240.9	217.1	208.2
75°	211.1	196.3	184.4	175.5	193.3
77.5°	145.7	139.8	130.9	121.9	119.0
80°	95.2	92.2	89.2	86.2	83.3
82.5°	56.5	56.5	56.5	56.5	56.5
85°	29.7	32.7	35.7	38.7	41.6
87.5°	17.8	17.8	20.8	23.8	26.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)