

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: P561625

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561625
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-82-88-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

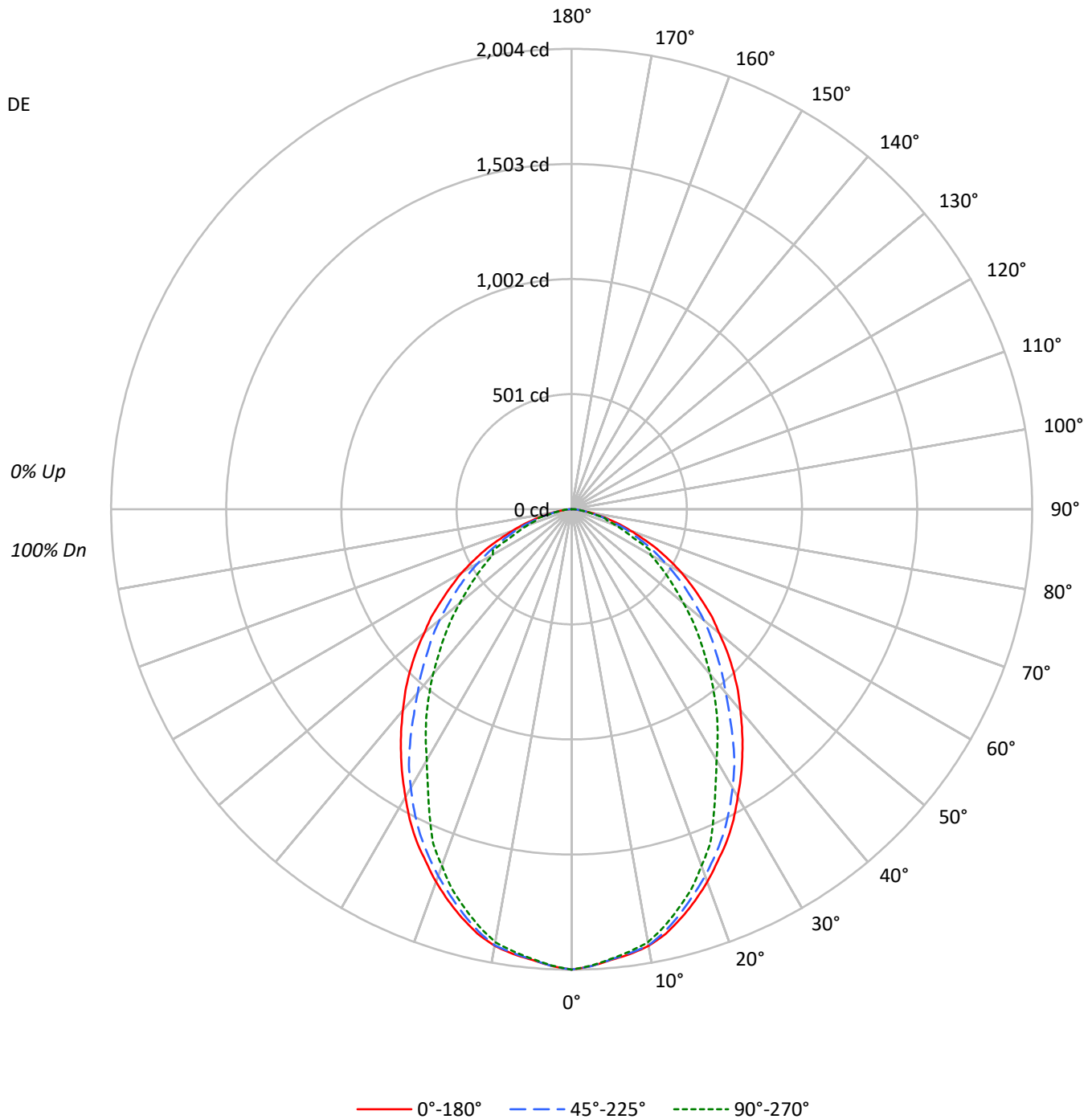
Lumens per Lamp: N/A
Luminaire Lumens: 3934.0 lumens
Efficiency: N/A
Efficacy: 84.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5392	5392	5392
5°	5319	5313	5307
10°	5273	5267	5229
15°	5131	5079	5008
20°	4942	4863	4730
25°	4739	4636	4347
30°	4492	4348	3916
35°	4254	4018	3622
40°	4012	3662	3296
45°	3782	3385	2980
50°	3501	3142	2658
55°	3239	2848	2381
60°	2968	2544	2132
65°	2611	2227	1888
70°	2151	1950	1604
75°	1710	1493	1566
80°	1148	1077	1006
85°	716	858	1000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3782 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.5	4.7
10°-20°	511.9	13.0
20°-30°	708.7	18.0
30°-40°	755.7	19.2
40°-50°	689.5	17.5
50°-60°	540.1	13.7
60°-70°	352.0	8.9
70°-80°	156.0	4.0
80°-90°	33.5	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°	1407.2	35.8
0°-40°	2162.9	55.0
0°-60°	3392.5	86.2
0°-90°	3934.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3934.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2004	2004	2004	2004	2004	
5°	1969	1967	1967	1964	1964	187
15°	1842	1842	1823	1805	1798	518
25°	1596	1587	1561	1506	1464	733
35°	1295	1286	1223	1130	1103	810
45°	994	973	890	816	783	766
55°	690	670	607	535	507	619
65°	410	387	350	357	296	404
75°	164	153	144	137	151	176
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2003.9	2003.9	2003.9	2003.9	2003.9
2.5°	1990.0	1990.0	1990.0	1987.7	1987.7
5°	1969.2	1966.9	1966.9	1964.5	1964.5
7.5°	1953.0	1950.6	1948.3	1946.0	1941.4
10°	1929.8	1929.8	1927.5	1915.9	1913.6
12.5°	1892.7	1890.4	1881.1	1864.9	1860.3
15°	1841.8	1841.8	1823.2	1804.7	1797.7
17.5°	1786.2	1783.8	1760.7	1742.1	1732.9
20°	1725.9	1721.3	1698.1	1668.0	1651.8
22.5°	1658.7	1658.7	1630.9	1591.6	1575.3
25°	1596.2	1586.9	1561.4	1505.8	1464.1
27.5°	1524.4	1510.5	1482.7	1403.9	1355.3
30°	1445.6	1438.7	1399.3	1297.3	1260.3
32.5°	1371.5	1359.9	1318.2	1211.6	1181.5
35°	1295.0	1285.8	1223.2	1130.5	1102.7
37.5°	1218.6	1207.0	1128.2	1054.1	1019.3
40°	1142.1	1128.2	1042.5	975.3	938.3
42.5°	1070.3	1051.8	968.4	896.6	854.9
45°	993.9	973.0	889.6	815.5	783.0
47.5°	917.4	898.9	822.4	746.0	708.9
50°	836.3	820.1	750.6	674.2	634.8
52.5°	769.1	743.7	676.5	600.0	567.6
55°	690.4	669.5	607.0	535.2	507.4
57.5°	618.6	597.7	539.8	472.6	449.4
60°	551.4	521.3	472.6	414.7	396.2
62.5°	477.2	454.1	412.4	363.7	386.9
65°	410.1	386.9	349.8	356.8	296.5
67.5°	335.9	324.3	291.9	259.5	250.2
70°	273.4	259.5	247.9	213.1	203.9
72.5°	217.8	203.9	187.7	169.1	162.2
75°	164.5	152.9	143.6	136.7	150.6
77.5°	113.5	108.9	101.9	95.0	92.7
80°	74.1	71.8	69.5	67.2	64.9
82.5°	44.0	44.0	44.0	44.0	44.0
85°	23.2	25.5	27.8	30.1	32.4
87.5°	13.9	13.9	16.2	18.5	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)