

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: P561223

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561223
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-LD4-1STD-40-UNV-81-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2988.0 lumens
Efficiency: N/A
Efficacy: 89.7 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

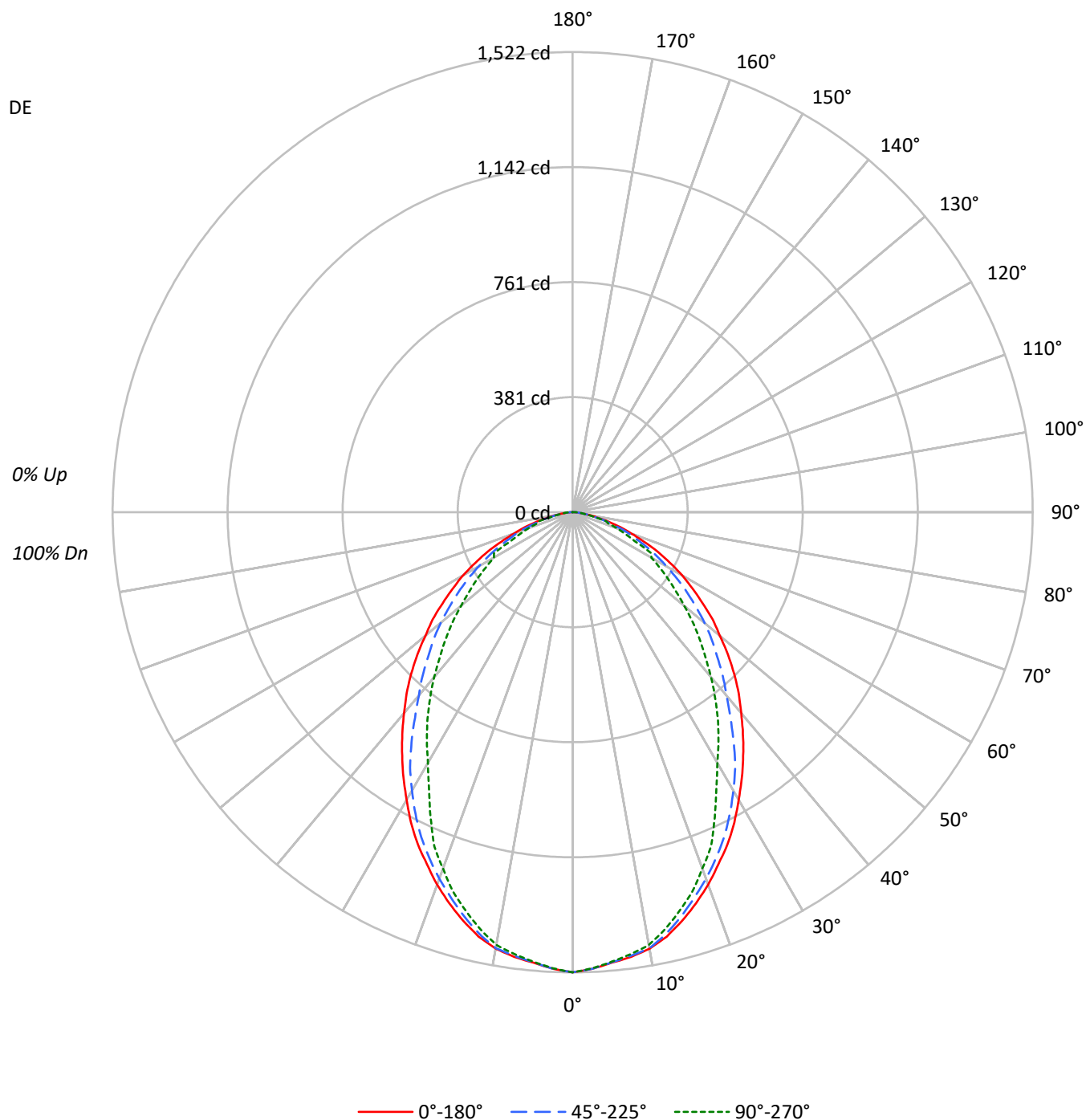
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561223

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-87-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P561223

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-87-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	4096	4096	4096
5°	4040	4035	4031
10°	4005	4000	3971
15°	3897	3858	3804
20°	3754	3694	3593
25°	3600	3521	3302
30°	3412	3302	2974
35°	3231	3052	2752
40°	3047	2781	2503
45°	2873	2571	2263
50°	2659	2387	2018
55°	2460	2163	1808
60°	2254	1932	1619
65°	1983	1692	1434
70°	1633	1482	1218
75°	1299	1134	1189
80°	872	818	764
85°	543	651	760

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2873 cd/sqm

TEST NUMBER: P561223

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.7	4.7
10°-20°	388.8	13.0
20°-30°	538.3	18.0
30°-40°	574.0	19.2
40°-50°	523.7	17.5
50°-60°	410.2	13.7
60°-70°	267.4	8.9
70°-80°	118.5	4.0
80°-90°	25.4	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°	1068.8	35.8
0°-40°	1642.8	55.0
0°-60°	2576.7	86.2
0°-90°	2988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2988.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1522	1522	1522	1522	1522	
5°	1496	1494	1494	1492	1492	142
15°	1399	1399	1385	1371	1365	393
25°	1212	1205	1186	1144	1112	557
35°	984	977	929	859	838	615
45°	755	739	676	619	595	581
55°	524	508	461	406	385	470
65°	311	294	266	271	225	307
75°	125	116	109	104	114	134
85°	18	19	21	23	25	24
90°	0	0	0	0	0	

TEST NUMBER: P561223

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1522.0	1522.0	1522.0	1522.0	1522.0
2.5°	1511.5	1511.5	1511.5	1509.7	1509.7
5°	1495.7	1493.9	1493.9	1492.1	1492.1
7.5°	1483.3	1481.6	1479.8	1478.1	1474.5
10°	1465.7	1465.7	1464.0	1455.2	1453.4
12.5°	1437.6	1435.8	1428.8	1416.5	1413.0
15°	1398.9	1398.9	1384.8	1370.7	1365.4
17.5°	1356.6	1354.9	1337.3	1323.2	1316.2
20°	1310.9	1307.4	1289.8	1266.9	1254.6
22.5°	1259.9	1259.9	1238.8	1208.8	1196.5
25°	1212.4	1205.3	1186.0	1143.7	1112.1
27.5°	1157.8	1147.3	1126.1	1066.3	1029.4
30°	1098.0	1092.7	1062.8	985.4	957.2
32.5°	1041.7	1032.9	1001.2	920.3	897.4
35°	983.6	976.6	929.1	858.7	837.6
37.5°	925.5	916.7	856.9	800.6	774.2
40°	867.5	856.9	791.8	740.8	712.6
42.5°	812.9	798.9	735.5	681.0	649.3
45°	754.9	739.0	675.7	619.4	594.7
47.5°	696.8	682.7	624.7	566.6	538.4
50°	635.2	622.9	570.1	512.0	482.1
52.5°	584.2	564.8	513.8	455.7	431.1
55°	524.4	508.5	461.0	406.5	385.4
57.5°	469.8	454.0	410.0	359.0	341.4
60°	418.8	395.9	359.0	315.0	300.9
62.5°	362.5	344.9	313.2	276.3	293.9
65°	311.4	293.9	265.7	271.0	225.2
67.5°	255.1	246.3	221.7	197.1	190.0
70°	207.6	197.1	188.3	161.9	154.8
72.5°	165.4	154.8	142.5	128.5	123.2
75°	124.9	116.1	109.1	103.8	114.4
77.5°	86.2	82.7	77.4	72.1	70.4
80°	56.3	54.5	52.8	51.0	49.3
82.5°	33.4	33.4	33.4	33.4	33.4
85°	17.6	19.4	21.1	22.9	24.6
87.5°	10.6	10.6	12.3	14.1	15.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)