

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: P561237

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561237
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-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3023.0 lumens
Efficiency: N/A
Efficacy: 90.8 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

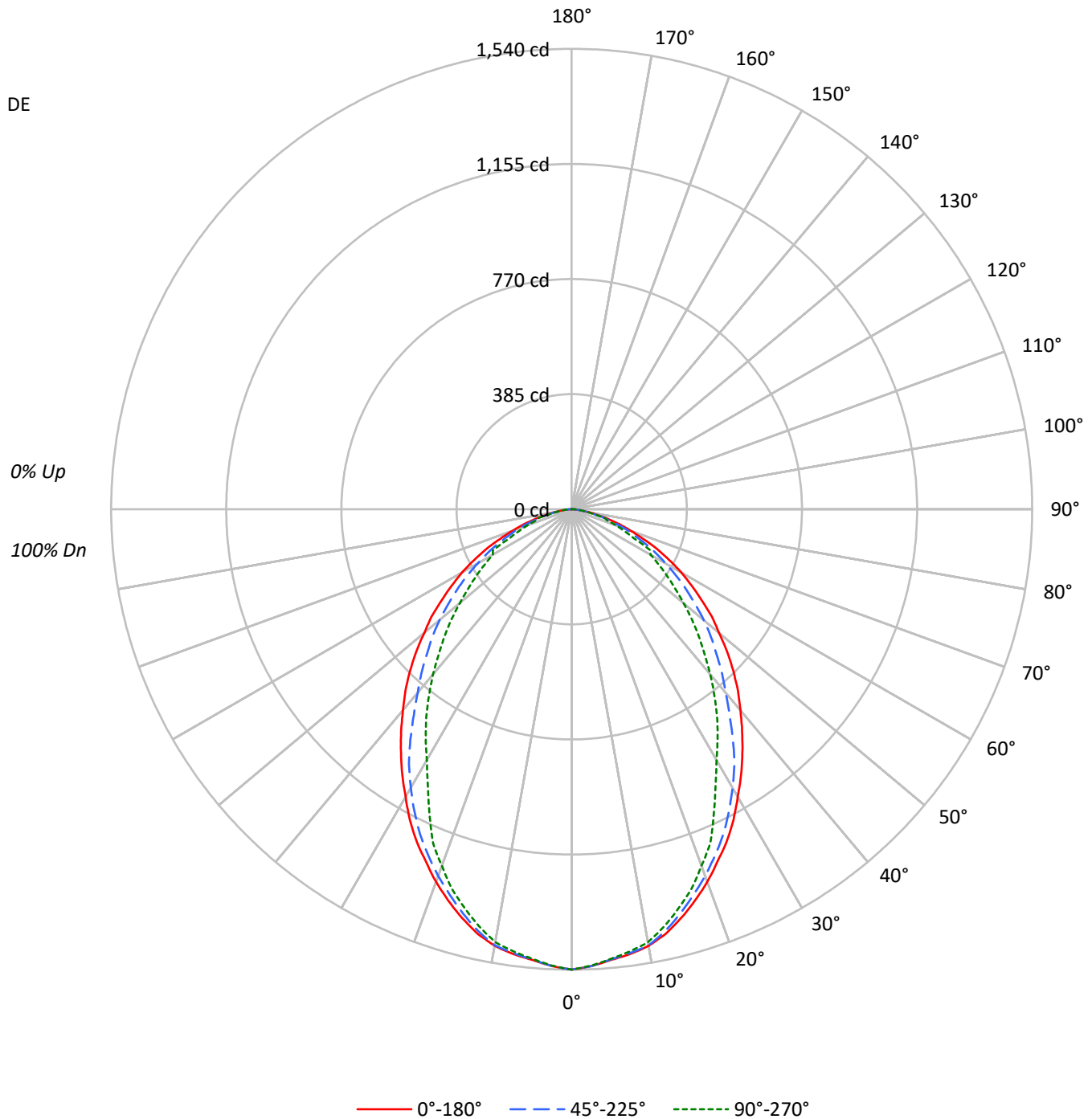
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4144	4144	4144
5°	4088	4083	4078
10°	4052	4047	4018
15°	3943	3903	3848
20°	3798	3737	3635
25°	3642	3563	3341
30°	3452	3341	3009
35°	3269	3088	2784
40°	3083	2814	2533
45°	2906	2602	2290
50°	2691	2415	2042
55°	2489	2188	1829
60°	2280	1955	1638
65°	2006	1712	1451
70°	1653	1499	1233
75°	1314	1148	1203
80°	883	828	772
85°	550	661	769

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2906 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.3	4.7
10°-20°	393.4	13.0
20°-30°	544.6	18.0
30°-40°	580.7	19.2
40°-50°	529.8	17.5
50°-60°	415.0	13.7
60°-70°	270.5	8.9
70°-80°	119.9	4.0
80°-90°	25.7	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°	1081.3	35.8
0°-40°	1662.1	55.0
0°-60°	2606.9	86.2
0°-90°	3023.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3023.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1540	1540	1540	1540	1540	
5°	1513	1511	1511	1510	1510	144
15°	1415	1415	1401	1387	1381	398
25°	1227	1219	1200	1157	1125	563
35°	995	988	940	869	847	622
45°	764	748	684	627	602	588
55°	530	514	466	411	390	476
65°	315	297	269	274	228	311
75°	126	118	110	105	116	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1539.9	1539.9	1539.9	1539.9	1539.9
2.5°	1529.2	1529.2	1529.2	1527.4	1527.4
5°	1513.2	1511.4	1511.4	1509.6	1509.6
7.5°	1500.7	1498.9	1497.2	1495.4	1491.8
10°	1482.9	1482.9	1481.1	1472.2	1470.4
12.5°	1454.4	1452.6	1445.5	1433.1	1429.5
15°	1415.3	1415.3	1401.0	1386.8	1381.4
17.5°	1372.5	1370.8	1353.0	1338.7	1331.6
20°	1326.3	1322.7	1304.9	1281.7	1269.3
22.5°	1274.6	1274.6	1253.3	1223.0	1210.5
25°	1226.6	1219.4	1199.9	1157.1	1125.1
27.5°	1171.4	1160.7	1139.3	1078.8	1041.4
30°	1110.8	1105.5	1075.2	996.9	968.4
32.5°	1053.9	1045.0	1012.9	931.0	907.9
35°	995.1	988.0	939.9	868.7	847.4
37.5°	936.4	927.5	867.0	810.0	783.3
40°	877.6	867.0	801.1	749.5	721.0
42.5°	822.5	808.2	744.1	688.9	656.9
45°	763.7	747.7	683.6	626.6	601.7
47.5°	705.0	690.7	632.0	573.2	544.7
50°	642.7	630.2	576.8	518.0	487.8
52.5°	591.0	571.4	519.8	461.1	436.1
55°	530.5	514.5	466.4	411.2	389.9
57.5°	475.3	459.3	414.8	363.2	345.4
60°	423.7	400.5	363.2	318.7	304.4
62.5°	366.7	348.9	316.9	279.5	297.3
65°	315.1	297.3	268.8	274.2	227.9
67.5°	258.1	249.2	224.3	199.4	192.3
70°	210.1	199.4	190.5	163.8	156.7
72.5°	167.3	156.7	144.2	130.0	124.6
75°	126.4	117.5	110.4	105.0	115.7
77.5°	87.2	83.7	78.3	73.0	71.2
80°	57.0	55.2	53.4	51.6	49.8
82.5°	33.8	33.8	33.8	33.8	33.8
85°	17.8	19.6	21.4	23.1	24.9
87.5°	10.7	10.7	12.5	14.2	16.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)