

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: P560784

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560784
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-LD4-1HI-35-UNV-82-84-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3170.0 lumens
Efficiency: N/A
Efficacy: 73.4 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

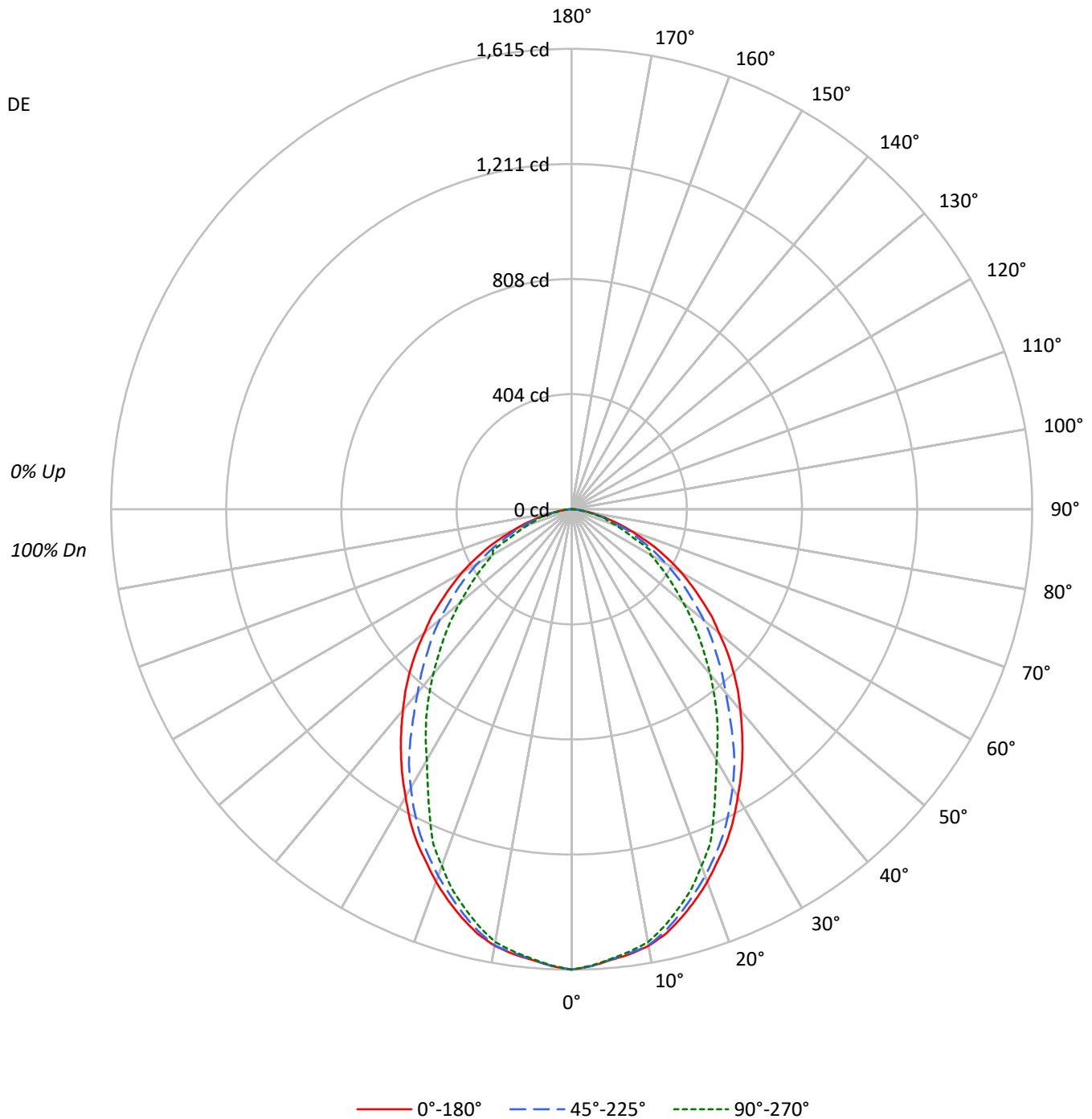
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	4345	4345	4345
5°	4286	4281	4276
10°	4249	4244	4214
15°	4135	4093	4036
20°	3983	3918	3812
25°	3819	3736	3503
30°	3620	3503	3155
35°	3428	3238	2919
40°	3233	2951	2656
45°	3048	2728	2401
50°	2821	2532	2141
55°	2610	2295	1918
60°	2391	2049	1718
65°	2104	1795	1521
70°	1733	1571	1293
75°	1378	1203	1261
80°	925	868	810
85°	577	692	806

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3048 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.3	4.7
10°-20°	412.5	13.0
20°-30°	571.1	18.0
30°-40°	609.0	19.2
40°-50°	555.5	17.5
50°-60°	435.2	13.7
60°-70°	283.7	8.9
70°-80°	125.7	4.0
80°-90°	27.0	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°	1133.9	35.8
0°-40°	1742.9	55.0
0°-60°	2733.7	86.2
0°-90°	3170.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3170.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1615	1615	1615	1615	1615	
5°	1587	1585	1585	1583	1583	151
15°	1484	1484	1469	1454	1449	417
25°	1286	1279	1258	1213	1180	590
35°	1044	1036	986	911	889	652
45°	801	784	717	657	631	617
55°	556	540	489	431	409	499
65°	330	312	282	288	239	326
75°	132	123	116	110	121	142
85°	19	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1614.8	1614.8	1614.8	1614.8	1614.8
2.5°	1603.6	1603.6	1603.6	1601.7	1601.7
5°	1586.8	1584.9	1584.9	1583.0	1583.0
7.5°	1573.7	1571.8	1570.0	1568.1	1564.4
10°	1555.0	1555.0	1553.2	1543.8	1542.0
12.5°	1525.2	1523.3	1515.8	1502.7	1499.0
15°	1484.1	1484.1	1469.1	1454.2	1448.6
17.5°	1439.3	1437.4	1418.7	1403.8	1396.3
20°	1390.7	1387.0	1368.3	1344.1	1331.0
22.5°	1336.6	1336.6	1314.2	1282.5	1269.4
25°	1286.2	1278.7	1258.2	1213.4	1179.8
27.5°	1228.3	1217.1	1194.7	1131.3	1092.1
30°	1164.9	1159.3	1127.5	1045.4	1015.5
32.5°	1105.1	1095.8	1062.2	976.3	952.1
35°	1043.5	1036.1	985.7	911.0	888.6
37.5°	981.9	972.6	909.1	849.4	821.4
40°	920.3	909.1	840.0	785.9	756.0
42.5°	862.4	847.5	780.3	722.4	688.8
45°	800.8	784.0	716.8	657.1	631.0
47.5°	739.2	724.3	662.7	601.1	571.2
50°	673.9	660.8	604.8	543.2	511.5
52.5°	619.8	599.2	545.1	483.5	457.4
55°	556.3	539.5	489.1	431.2	408.8
57.5°	498.4	481.6	435.0	380.8	362.2
60°	444.3	420.0	380.8	334.2	319.2
62.5°	384.6	365.9	332.3	293.1	311.8
65°	330.4	311.8	281.9	287.5	238.9
67.5°	270.7	261.3	235.2	209.1	201.6
70°	220.3	209.1	199.7	171.7	164.3
72.5°	175.5	164.3	151.2	136.3	130.7
75°	132.5	123.2	115.7	110.1	121.3
77.5°	91.5	87.7	82.1	76.5	74.7
80°	59.7	57.9	56.0	54.1	52.3
82.5°	35.5	35.5	35.5	35.5	35.5
85°	18.7	20.5	22.4	24.3	26.1
87.5°	11.2	11.2	13.1	14.9	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)