

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: P560900

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560900
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-50-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3352.0 lumens
Efficiency: N/A
Efficacy: 77.6 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

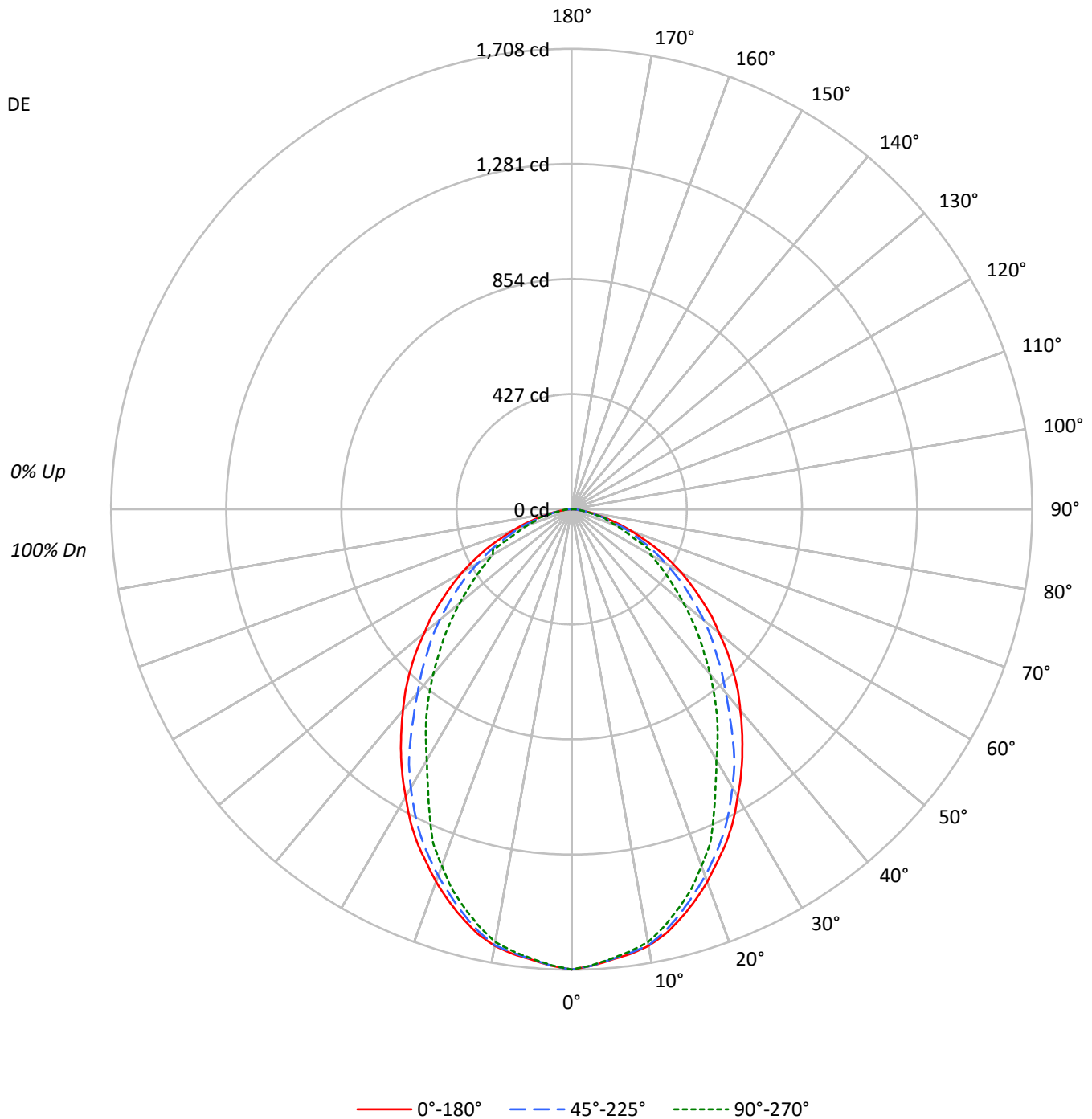
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4595	4595	4595
5°	4532	4527	4522
10°	4493	4488	4455
15°	4372	4328	4267
20°	4211	4143	4030
25°	4038	3950	3704
30°	3827	3705	3337
35°	3625	3424	3087
40°	3419	3120	2808
45°	3223	2885	2539
50°	2983	2678	2264
55°	2760	2426	2028
60°	2528	2167	1816
65°	2225	1898	1609
70°	1832	1662	1367
75°	1458	1273	1334
80°	979	917	857
85°	608	732	852

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3223 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.9	4.7
10°-20°	436.2	13.0
20°-30°	603.9	18.0
30°-40°	643.9	19.2
40°-50°	587.5	17.5
50°-60°	460.2	13.7
60°-70°	299.9	8.9
70°-80°	132.9	4.0
80°-90°	28.5	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°	1199.0	35.8
0°-40°	1843.0	55.0
0°-60°	2890.6	86.2
0°-90°	3352.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3352.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1708	1708	1708	1708	1708	
5°	1678	1676	1676	1674	1674	159
15°	1569	1569	1554	1538	1532	441
25°	1360	1352	1330	1283	1248	624
35°	1103	1096	1042	963	940	690
45°	847	829	758	695	667	652
55°	588	570	517	456	432	528
65°	349	330	298	304	253	344
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1707.5	1707.5	1707.5	1707.5	1707.5
2.5°	1695.6	1695.6	1695.6	1693.6	1693.6
5°	1677.9	1675.9	1675.9	1673.9	1673.9
7.5°	1664.0	1662.1	1660.1	1658.1	1654.2
10°	1644.3	1644.3	1642.3	1632.5	1630.5
12.5°	1612.7	1610.7	1602.8	1589.0	1585.1
15°	1569.3	1569.3	1553.5	1537.7	1531.8
17.5°	1521.9	1519.9	1500.2	1484.4	1476.5
20°	1470.6	1466.6	1446.9	1421.2	1407.4
22.5°	1413.3	1413.3	1389.7	1356.1	1342.3
25°	1360.0	1352.2	1330.4	1283.1	1247.5
27.5°	1298.9	1287.0	1263.3	1196.2	1154.8
30°	1231.7	1225.8	1192.3	1105.4	1073.8
32.5°	1168.6	1158.7	1123.2	1032.4	1006.7
35°	1103.4	1095.5	1042.2	963.3	939.6
37.5°	1038.3	1028.4	961.3	898.1	868.5
40°	973.2	961.3	888.3	831.0	799.4
42.5°	912.0	896.2	825.1	763.9	728.4
45°	846.8	829.1	758.0	694.8	667.2
47.5°	781.7	765.9	700.8	635.6	604.0
50°	712.6	698.8	639.6	574.4	540.9
52.5°	655.4	633.6	576.4	511.3	483.6
55°	588.2	570.5	517.2	456.0	432.3
57.5°	527.0	509.3	459.9	402.7	382.9
60°	469.8	444.1	402.7	353.3	337.5
62.5°	406.6	386.9	351.4	309.9	329.6
65°	349.4	329.6	298.1	304.0	252.7
67.5°	286.2	276.4	248.7	221.1	213.2
70°	232.9	221.1	211.2	181.6	173.7
72.5°	185.6	173.7	159.9	144.1	138.2
75°	140.2	130.3	122.4	116.5	128.3
77.5°	96.7	92.8	86.9	80.9	79.0
80°	63.2	61.2	59.2	57.2	55.3
82.5°	37.5	37.5	37.5	37.5	37.5
85°	19.7	21.7	23.7	25.7	27.6
87.5°	11.8	11.8	13.8	15.8	17.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)