

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: P560942

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560942
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-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3486.0 lumens
Efficiency: N/A
Efficacy: 80.7 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

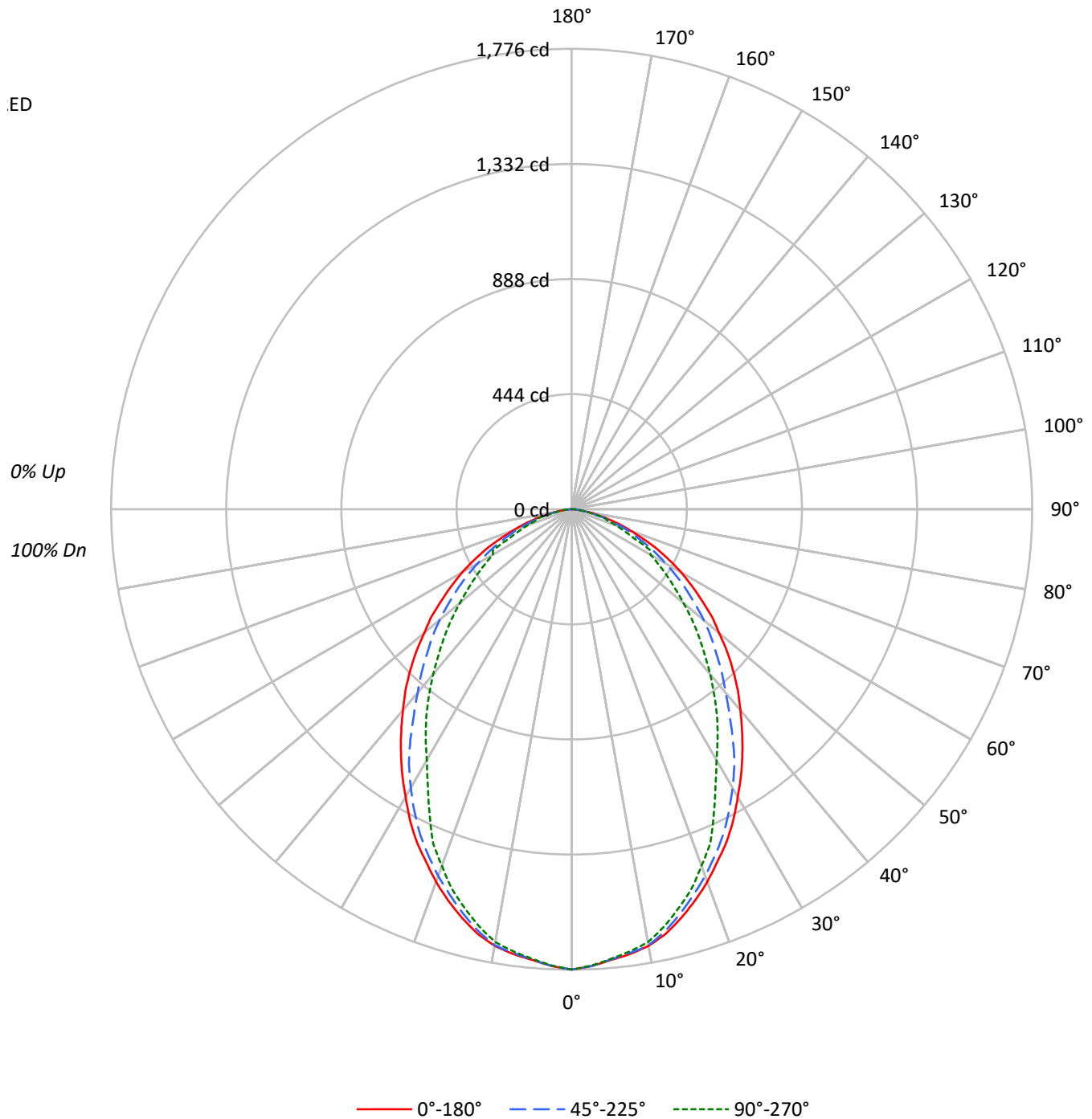
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4778	4778	4778
5°	4713	4708	4702
10°	4673	4667	4633
15°	4547	4501	4438
20°	4380	4309	4192
25°	4200	4108	3852
30°	3980	3853	3470
35°	3770	3561	3210
40°	3555	3245	2921
45°	3352	3000	2641
50°	3103	2784	2355
55°	2870	2523	2109
60°	2630	2254	1889
65°	2314	1974	1673
70°	1906	1729	1422
75°	1516	1324	1387
80°	1018	955	891
85°	633	760	886

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3352 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.3	4.7
10°-20°	453.6	13.0
20°-30°	628.0	18.0
30°-40°	669.7	19.2
40°-50°	610.9	17.5
50°-60°	478.6	13.7
60°-70°	311.9	8.9
70°-80°	138.2	4.0
80°-90°	29.7	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°	1247.0	35.8
0°-40°	1916.6	55.0
0°-60°	3006.2	86.2
0°-90°	3486.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3486.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1776	1776	1776	1776	1776	
5°	1745	1743	1743	1741	1741	166
15°	1632	1632	1616	1599	1593	459
25°	1414	1406	1384	1334	1297	649
35°	1148	1139	1084	1002	977	717
45°	881	862	788	723	694	678
55°	612	593	538	474	450	549
65°	363	343	310	316	263	358
75°	146	136	127	121	133	156
85°	20	23	25	27	29	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1775.7	1775.7	1775.7	1775.7	1775.7
2.5°	1763.4	1763.4	1763.4	1761.4	1761.4
5°	1744.9	1742.9	1742.9	1740.8	1740.8
7.5°	1730.6	1728.5	1726.5	1724.4	1720.3
10°	1710.0	1710.0	1708.0	1697.7	1695.7
12.5°	1677.2	1675.1	1666.9	1652.6	1648.4
15°	1632.0	1632.0	1615.6	1599.2	1593.0
17.5°	1582.8	1580.7	1560.2	1543.7	1535.5
20°	1529.4	1525.3	1504.7	1478.1	1463.7
22.5°	1469.8	1469.8	1445.2	1410.3	1395.9
25°	1414.4	1406.2	1383.6	1334.4	1297.4
27.5°	1350.8	1338.5	1313.8	1244.0	1200.9
30°	1281.0	1274.8	1239.9	1149.6	1116.8
32.5°	1215.3	1205.0	1168.1	1073.6	1047.0
35°	1147.5	1139.3	1083.9	1001.8	977.2
37.5°	1079.8	1069.5	999.7	934.1	903.3
40°	1012.1	999.7	923.8	864.3	831.4
42.5°	948.4	932.0	858.1	794.5	757.5
45°	880.7	862.2	788.3	722.6	693.9
47.5°	812.9	796.5	728.8	661.0	628.2
50°	741.1	726.7	665.1	597.4	562.5
52.5°	681.5	659.0	599.4	531.7	503.0
55°	611.8	593.3	537.8	474.2	449.6
57.5°	548.1	529.6	478.3	418.8	398.3
60°	488.6	461.9	418.8	367.5	351.0
62.5°	422.9	402.4	365.4	322.3	342.8
65°	363.4	342.8	310.0	316.1	262.8
67.5°	297.7	287.4	258.7	229.9	221.7
70°	242.2	229.9	219.7	188.9	180.7
72.5°	193.0	180.7	166.3	149.9	143.7
75°	145.8	135.5	127.3	121.1	133.4
77.5°	100.6	96.5	90.3	84.2	82.1
80°	65.7	63.6	61.6	59.5	57.5
82.5°	39.0	39.0	39.0	39.0	39.0
85°	20.5	22.6	24.6	26.7	28.7
87.5°	12.3	12.3	14.4	16.4	18.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)