

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: P560937

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560937
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-93-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3540.0 lumens
Efficiency: N/A
Efficacy: 81.9 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

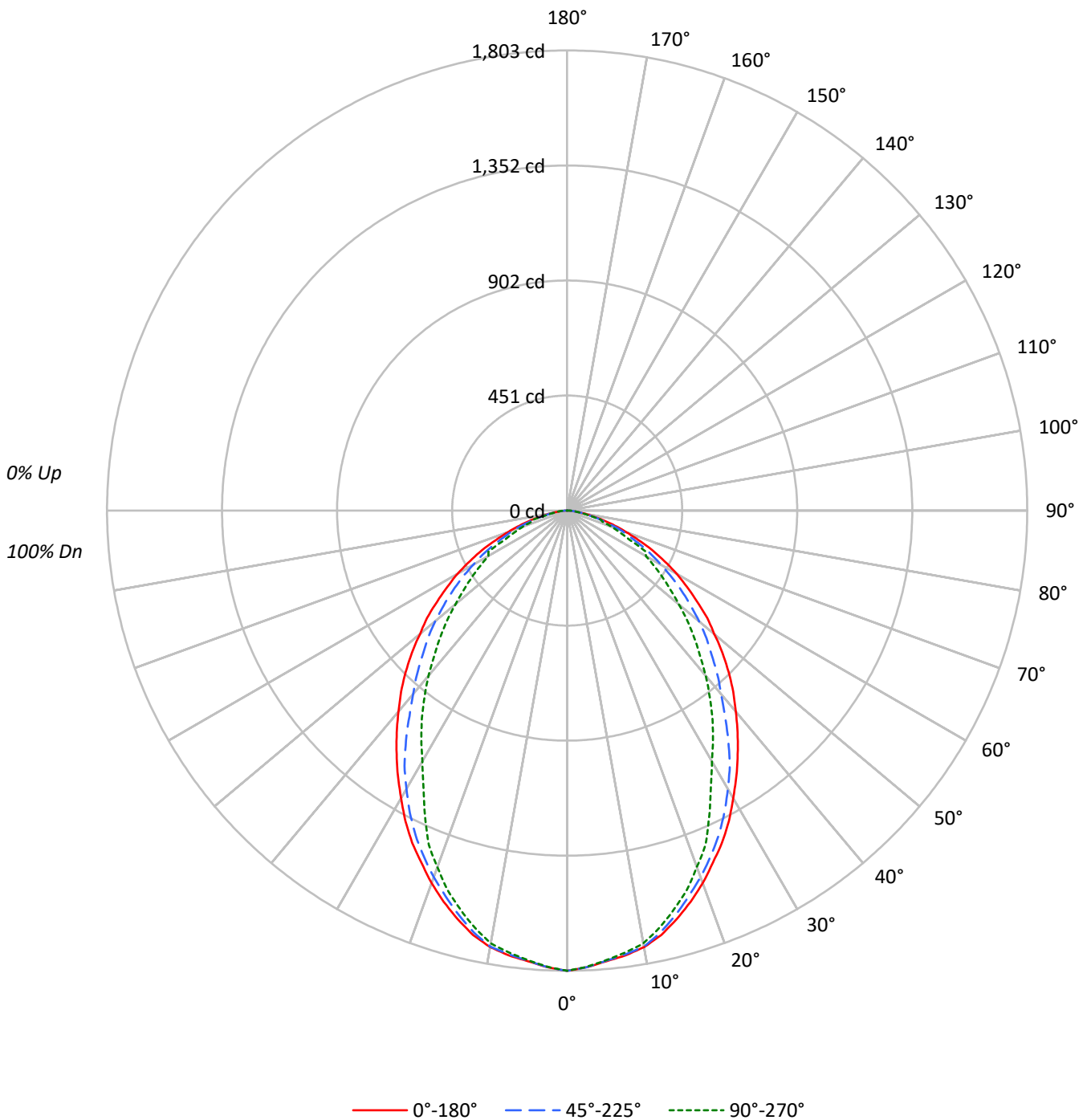
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4852	4852	4852
5°	4787	4781	4775
10°	4745	4739	4705
15°	4617	4571	4507
20°	4448	4376	4257
25°	4265	4172	3912
30°	4042	3912	3524
35°	3828	3616	3260
40°	3610	3295	2966
45°	3403	3046	2681
50°	3151	2828	2391
55°	2914	2563	2142
60°	2670	2289	1919
65°	2350	2004	1699
70°	1936	1755	1443
75°	1539	1343	1409
80°	1034	969	905
85°	642	772	902

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3403 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.9	4.7
10°-20°	460.7	13.0
20°-30°	637.8	18.0
30°-40°	680.0	19.2
40°-50°	620.4	17.5
50°-60°	486.0	13.7
60°-70°	316.8	8.9
70°-80°	140.3	4.0
80°-90°	30.1	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°	1266.3	35.8
0°-40°	1946.3	55.0
0°-60°	3052.8	86.2
0°-90°	3540.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3540.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1803	1803	1803	1803	1803	
5°	1772	1770	1770	1768	1768	168
15°	1657	1657	1641	1624	1618	466
25°	1436	1428	1405	1355	1318	659
35°	1165	1157	1101	1017	992	729
45°	894	876	800	734	705	689
55°	621	602	546	482	456	557
65°	369	348	315	321	267	364
75°	148	138	129	123	136	159
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1803.2	1803.2	1803.2	1803.2	1803.2
2.5°	1790.7	1790.7	1790.7	1788.6	1788.6
5°	1772.0	1769.9	1769.9	1767.8	1767.8
7.5°	1757.4	1755.3	1753.2	1751.1	1746.9
10°	1736.5	1736.5	1734.4	1724.0	1721.9
12.5°	1703.2	1701.1	1692.7	1678.1	1674.0
15°	1657.3	1657.3	1640.6	1623.9	1617.7
17.5°	1607.3	1605.2	1584.3	1567.7	1559.3
20°	1553.1	1548.9	1528.1	1501.0	1486.4
22.5°	1492.6	1492.6	1467.6	1432.2	1417.6
25°	1436.3	1428.0	1405.1	1355.0	1317.5
27.5°	1371.7	1359.2	1334.2	1263.3	1219.5
30°	1300.8	1294.6	1259.1	1167.4	1134.1
32.5°	1234.1	1223.7	1186.2	1090.3	1063.2
35°	1165.3	1157.0	1100.7	1017.3	992.3
37.5°	1096.5	1086.1	1015.2	948.5	917.2
40°	1027.7	1015.2	938.1	877.6	844.3
42.5°	963.1	946.4	871.4	806.8	769.2
45°	894.3	875.6	800.5	733.8	704.6
47.5°	825.5	808.8	740.1	671.3	637.9
50°	752.6	738.0	675.4	606.6	571.2
52.5°	692.1	669.2	608.7	539.9	510.7
55°	621.2	602.5	546.2	481.6	456.5
57.5°	556.6	537.8	485.7	425.3	404.4
60°	496.1	469.0	425.3	373.2	356.5
62.5°	429.4	408.6	371.1	327.3	348.1
65°	369.0	348.1	314.8	321.0	266.8
67.5°	302.3	291.9	262.7	233.5	225.1
70°	246.0	233.5	223.1	191.8	183.4
72.5°	196.0	183.4	168.9	152.2	145.9
75°	148.0	137.6	129.2	123.0	135.5
77.5°	102.1	98.0	91.7	85.5	83.4
80°	66.7	64.6	62.5	60.5	58.4
82.5°	39.6	39.6	39.6	39.6	39.6
85°	20.8	22.9	25.0	27.1	29.2
87.5°	12.5	12.5	14.6	16.7	18.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)