

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: P560912

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560912
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-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3386.0 lumens
Efficiency: N/A
Efficacy: 78.4 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

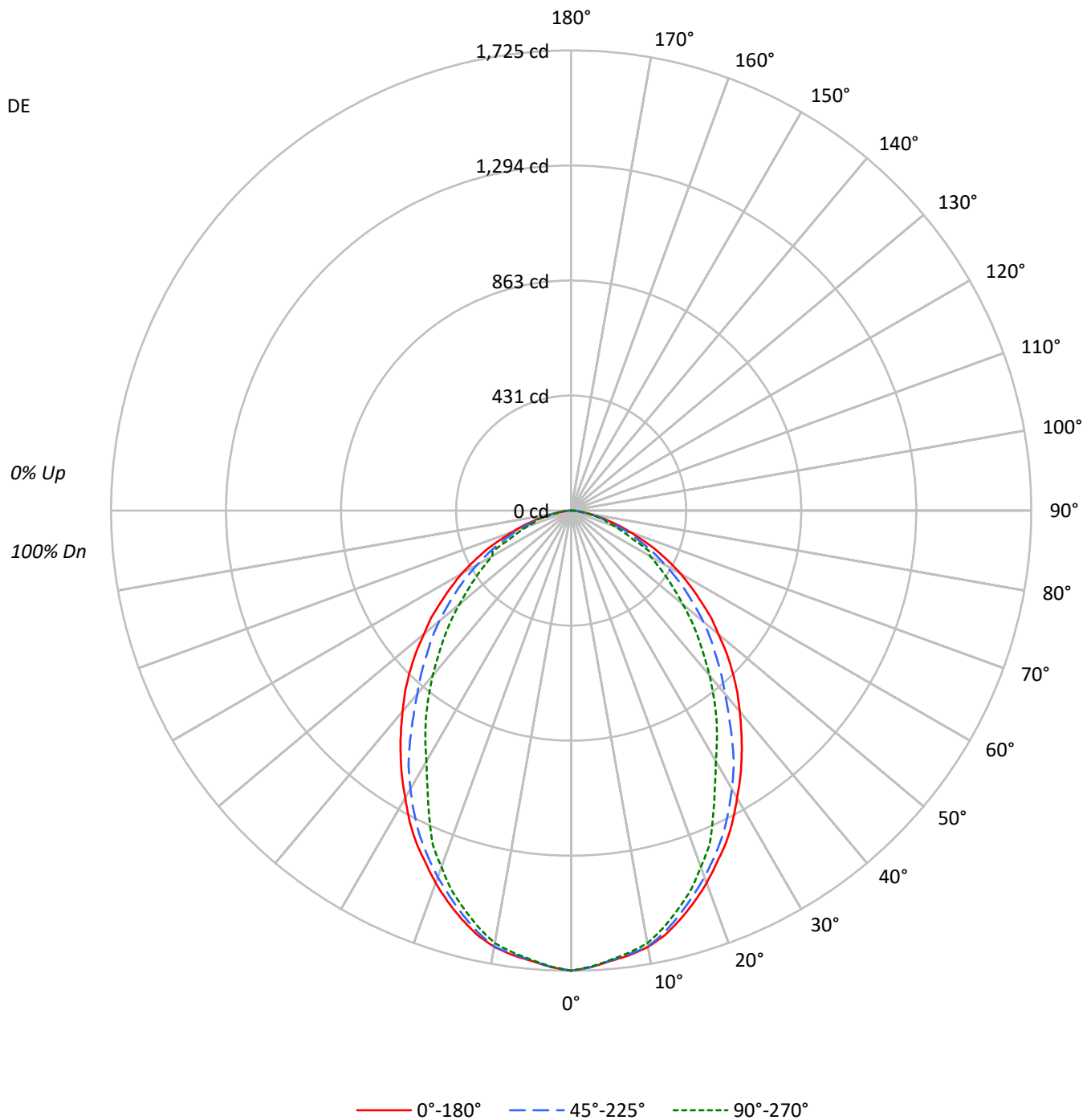
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4641	4641	4641
5°	4578	4573	4568
10°	4539	4533	4500
15°	4416	4372	4311
20°	4254	4186	4071
25°	4079	3990	3742
30°	3866	3742	3370
35°	3662	3459	3118
40°	3453	3152	2837
45°	3255	2914	2565
50°	3013	2704	2287
55°	2788	2451	2049
60°	2554	2189	1835
65°	2247	1917	1625
70°	1851	1679	1381
75°	1472	1285	1347
80°	989	927	865
85°	614	738	861

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3255 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.6	4.7
10°-20°	440.6	13.0
20°-30°	610.0	18.0
30°-40°	650.5	19.2
40°-50°	593.4	17.5
50°-60°	464.9	13.7
60°-70°	303.0	8.9
70°-80°	134.2	4.0
80°-90°	28.8	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°	1211.2	35.8
0°-40°	1861.7	55.0
0°-60°	2920.0	86.2
0°-90°	3386.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3386.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1725	1725	1725	1725	1725	
5°	1695	1693	1693	1691	1691	161
15°	1585	1585	1569	1553	1547	446
25°	1374	1366	1344	1296	1260	631
35°	1115	1107	1053	973	949	697
45°	855	838	766	702	674	659
55°	594	576	522	461	437	533
65°	353	333	301	307	255	348
75°	142	132	124	118	130	152
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1724.8	1724.8	1724.8	1724.8	1724.8
2.5°	1712.8	1712.8	1712.8	1710.8	1710.8
5°	1694.9	1692.9	1692.9	1690.9	1690.9
7.5°	1680.9	1678.9	1676.9	1674.9	1670.9
10°	1661.0	1661.0	1659.0	1649.0	1647.0
12.5°	1629.1	1627.1	1619.1	1605.1	1601.2
15°	1585.2	1585.2	1569.3	1553.3	1547.3
17.5°	1537.4	1535.4	1515.4	1499.5	1491.5
20°	1485.5	1481.5	1461.6	1435.7	1421.7
22.5°	1427.7	1427.7	1403.8	1369.9	1355.9
25°	1373.8	1365.9	1343.9	1296.1	1260.2
27.5°	1312.0	1300.1	1276.1	1208.3	1166.5
30°	1244.2	1238.3	1204.4	1116.6	1084.7
32.5°	1180.4	1170.5	1134.6	1042.8	1016.9
35°	1114.6	1106.7	1052.8	973.1	949.1
37.5°	1048.8	1038.9	971.1	907.3	877.3
40°	983.0	971.1	897.3	839.5	807.6
42.5°	921.2	905.3	833.5	771.7	735.8
45°	855.4	837.5	765.7	701.9	674.0
47.5°	789.6	773.7	707.9	642.1	610.2
50°	719.8	705.9	646.0	580.2	546.3
52.5°	662.0	640.1	582.2	516.4	488.5
55°	594.2	576.3	522.4	460.6	436.7
57.5°	532.4	514.4	464.6	406.8	386.8
60°	474.6	448.6	406.8	356.9	341.0
62.5°	410.8	390.8	354.9	313.1	333.0
65°	352.9	333.0	301.1	307.1	255.2
67.5°	289.1	279.2	251.2	223.3	215.3
70°	235.3	223.3	213.4	183.4	175.5
72.5°	187.4	175.5	161.5	145.6	139.6
75°	141.6	131.6	123.6	117.6	129.6
77.5°	97.7	93.7	87.7	81.8	79.8
80°	63.8	61.8	59.8	57.8	55.8
82.5°	37.9	37.9	37.9	37.9	37.9
85°	19.9	21.9	23.9	25.9	27.9
87.5°	12.0	12.0	14.0	16.0	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)