

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: P560917

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560917
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-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3771.0 lumens
Efficiency: N/A
Efficacy: 87.3 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

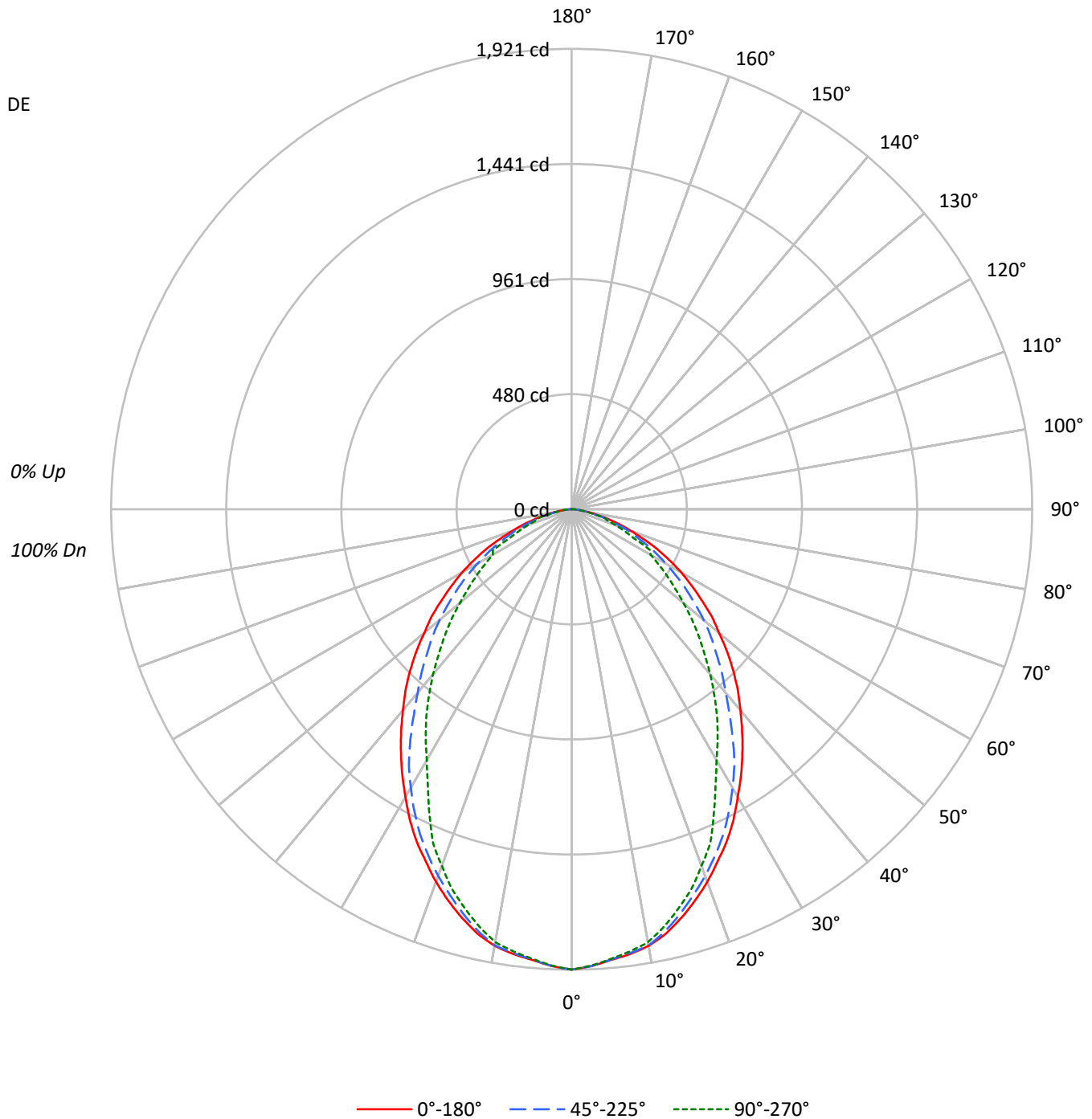
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5169	5169	5169
5°	5099	5093	5087
10°	5055	5049	5012
15°	4918	4869	4801
20°	4738	4661	4534
25°	4543	4444	4167
30°	4306	4168	3754
35°	4078	3852	3472
40°	3846	3510	3159
45°	3626	3245	2856
50°	3356	3012	2547
55°	3105	2730	2282
60°	2844	2438	2044
65°	2503	2135	1810
70°	2061	1869	1537
75°	1640	1432	1500
80°	1102	1032	964
85°	685	821	960

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3626 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.8	4.7
10°-20°	490.7	13.0
20°-30°	679.4	18.0
30°-40°	724.4	19.2
40°-50°	660.9	17.5
50°-60°	517.7	13.7
60°-70°	337.4	8.9
70°-80°	149.5	4.0
80°-90°	32.1	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°	1348.9	35.8
0°-40°	2073.3	55.0
0°-60°	3251.9	86.2
0°-90°	3771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3771.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1921	1921	1921	1921	1921	
5°	1888	1885	1885	1883	1883	179
15°	1765	1765	1748	1730	1723	496
25°	1530	1521	1497	1443	1404	702
35°	1241	1232	1172	1084	1057	776
45°	953	933	853	782	751	734
55°	662	642	582	513	486	594
65°	393	371	335	342	284	387
75°	158	147	138	131	144	169
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1920.9	1920.9	1920.9	1920.9	1920.9
2.5°	1907.6	1907.6	1907.6	1905.4	1905.4
5°	1887.6	1885.4	1885.4	1883.1	1883.1
7.5°	1872.0	1869.8	1867.6	1865.4	1860.9
10°	1849.8	1849.8	1847.6	1836.5	1834.3
12.5°	1814.3	1812.1	1803.2	1787.7	1783.2
15°	1765.4	1765.4	1747.7	1729.9	1723.3
17.5°	1712.2	1709.9	1687.7	1670.0	1661.1
20°	1654.4	1650.0	1627.8	1598.9	1583.4
22.5°	1590.0	1590.0	1563.4	1525.6	1510.1
25°	1530.1	1521.2	1496.7	1443.4	1403.5
27.5°	1461.2	1447.9	1421.2	1345.7	1299.1
30°	1385.7	1379.0	1341.3	1243.6	1208.1
32.5°	1314.6	1303.5	1263.6	1161.4	1132.6
35°	1241.4	1232.5	1172.5	1083.7	1057.0
37.5°	1168.1	1157.0	1081.5	1010.4	977.1
40°	1094.8	1081.5	999.3	934.9	899.4
42.5°	1026.0	1008.2	928.2	859.4	819.4
45°	952.7	932.7	852.7	781.7	750.6
47.5°	879.4	861.6	788.3	715.1	679.5
50°	801.7	786.1	719.5	646.2	608.5
52.5°	737.3	712.8	648.4	575.2	544.1
55°	661.8	641.8	581.8	513.0	486.3
57.5°	592.9	572.9	517.4	453.0	430.8
60°	528.5	499.7	453.0	397.5	379.7
62.5°	457.5	435.3	395.3	348.6	370.9
65°	393.1	370.9	335.3	342.0	284.2
67.5°	322.0	310.9	279.8	248.7	239.8
70°	262.0	248.7	237.6	204.3	195.4
72.5°	208.7	195.4	179.9	162.1	155.4
75°	157.7	146.6	137.7	131.0	144.3
77.5°	108.8	104.4	97.7	91.0	88.8
80°	71.1	68.8	66.6	64.4	62.2
82.5°	42.2	42.2	42.2	42.2	42.2
85°	22.2	24.4	26.6	28.9	31.1
87.5°	13.3	13.3	15.5	17.8	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)