

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: P560914

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560914
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-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3319.0 lumens
Efficiency: N/A
Efficacy: 76.8 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

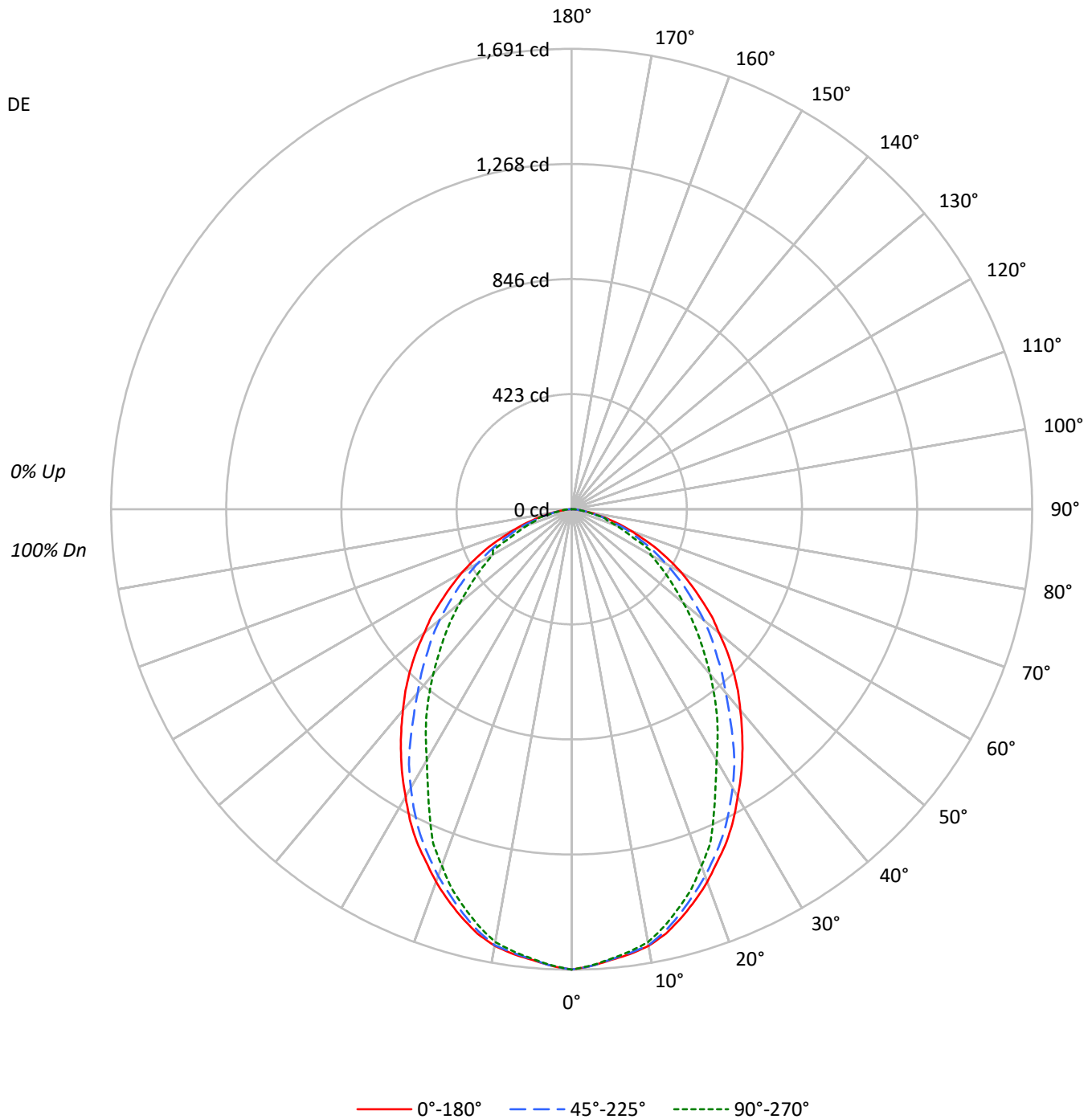
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	4550	4550	4550
5°	4488	4482	4477
10°	4449	4444	4411
15°	4329	4285	4225
20°	4170	4103	3991
25°	3999	3911	3668
30°	3790	3668	3304
35°	3589	3390	3056
40°	3385	3090	2781
45°	3191	2856	2514
50°	2954	2651	2242
55°	2732	2403	2008
60°	2504	2146	1799
65°	2202	1879	1593
70°	1814	1645	1353
75°	1443	1260	1320
80°	969	908	848
85°	602	726	846

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3191 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.4	4.7
10°-20°	431.9	13.0
20°-30°	597.9	18.0
30°-40°	637.6	19.2
40°-50°	581.7	17.5
50°-60°	455.7	13.7
60°-70°	297.0	8.9
70°-80°	131.6	4.0
80°-90°	28.2	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°	1187.2	35.8
0°-40°	1824.8	55.0
0°-60°	2862.2	86.2
0°-90°	3319.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3319.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1691	1691	1691	1691	1691	
5°	1661	1659	1659	1657	1657	158
15°	1554	1554	1538	1523	1517	437
25°	1347	1339	1317	1270	1235	618
35°	1093	1085	1032	954	930	683
45°	838	821	750	688	661	646
55°	582	565	512	452	428	522
65°	346	326	295	301	250	341
75°	139	129	121	115	127	149
85°	20	22	24	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1690.7	1690.7	1690.7	1690.7	1690.7
2.5°	1678.9	1678.9	1678.9	1677.0	1677.0
5°	1661.3	1659.4	1659.4	1657.4	1657.4
7.5°	1647.7	1645.7	1643.7	1641.8	1637.9
10°	1628.1	1628.1	1626.2	1616.4	1614.4
12.5°	1596.8	1594.9	1587.1	1573.4	1569.5
15°	1553.8	1553.8	1538.2	1522.6	1516.7
17.5°	1506.9	1505.0	1485.4	1469.8	1462.0
20°	1456.1	1452.2	1432.7	1407.2	1393.6
22.5°	1399.4	1399.4	1376.0	1342.8	1329.1
25°	1346.7	1338.8	1317.3	1270.4	1235.3
27.5°	1286.1	1274.3	1250.9	1184.4	1143.4
30°	1219.6	1213.8	1180.5	1094.5	1063.3
32.5°	1157.1	1147.3	1112.1	1022.2	996.8
35°	1092.6	1084.8	1032.0	953.8	930.3
37.5°	1028.1	1018.3	951.8	889.3	860.0
40°	963.6	951.8	879.5	822.9	791.6
42.5°	903.0	887.3	817.0	756.4	721.2
45°	838.5	820.9	750.5	688.0	660.6
47.5°	774.0	758.4	693.9	629.4	598.1
50°	705.6	691.9	633.3	568.8	535.5
52.5°	648.9	627.4	570.7	506.2	478.9
55°	582.4	564.9	512.1	451.5	428.0
57.5°	521.9	504.3	455.4	398.7	379.2
60°	465.2	439.8	398.7	349.9	334.2
62.5°	402.6	383.1	347.9	306.9	326.4
65°	345.9	326.4	295.1	301.0	250.2
67.5°	283.4	273.6	246.3	218.9	211.1
70°	230.6	218.9	209.1	179.8	172.0
72.5°	183.7	172.0	158.3	142.7	136.8
75°	138.8	129.0	121.2	115.3	127.0
77.5°	95.8	91.9	86.0	80.1	78.2
80°	62.5	60.6	58.6	56.7	54.7
82.5°	37.1	37.1	37.1	37.1	37.1
85°	19.5	21.5	23.5	25.4	27.4
87.5°	11.7	11.7	13.7	15.6	17.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)