

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: P688196

Luminaire Tested: FLR-HA-14-40-50-CP187

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688196  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2207-724-13)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/22/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR-HA-14-40-50-CP187  
Description: Fail-Safe - FLR Fully Luminous Recessed 1X4 5000K Luminaire for High Abuse  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

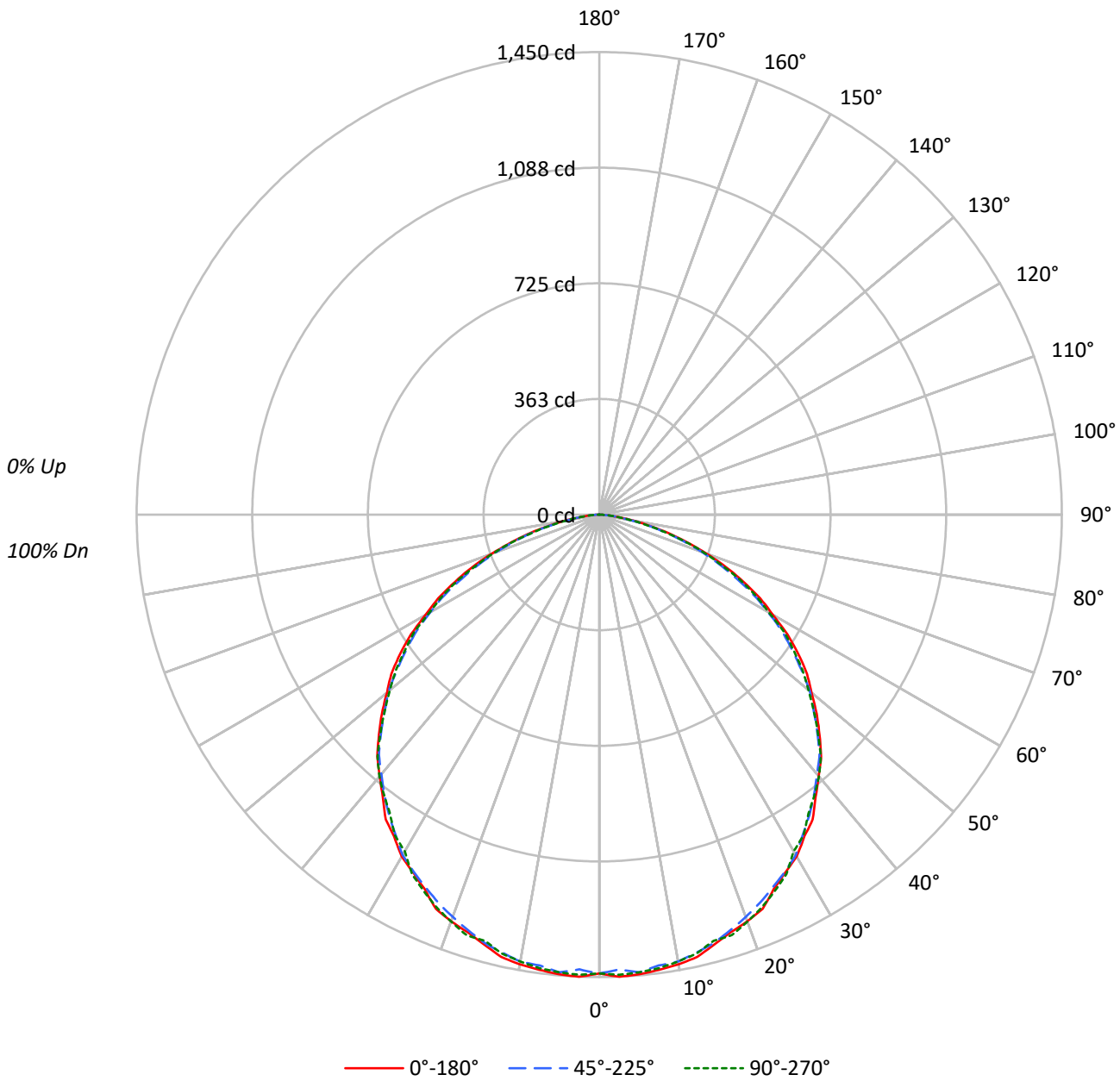
Lumens per Lamp: N/A  
Luminaire Lumens: 3993.4 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 39.4  
Input Voltage (V): 120  
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	109	105	101	97	107	103	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	79	86	81	77	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	33	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3872	3872	3872
5°	3907	3891	3891
10°	3912	3889	3887
15°	3886	3873	3854
20°	3887	3845	3889
25°	3845	3827	3866
30°	3847	3830	3787
35°	3832	3774	3756
40°	3760	3730	3765
45°	3717	3679	3690
50°	3635	3609	3583
55°	3575	3460	3492
60°	3377	3286	3302
65°	3178	3026	3119
70°	2814	2681	2765
75°	2319	2215	2206
80°	1657	1537	1537
85°	806	784	806

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3717 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.7	3.4
10°-20°	392.0	9.8
20°-30°	595.7	14.9
30°-40°	720.1	18.0
40°-50°	746.2	18.7
50°-60°	663.3	16.6
60°-70°	475.6	11.9
70°-80°	226.4	5.7
80°-90°	37.5	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°	1124.3	28.2
0°-40°	1844.4	46.2
0°-60°	3253.9	81.5
0°-90°	3993.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3993.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1439	1439	1439	1439	1439	
5°	1446	1440	1440	1433	1440	138
15°	1395	1390	1390	1383	1383	394
25°	1295	1292	1289	1288	1302	599
35°	1166	1148	1149	1150	1143	725
45°	977	966	967	963	970	753
55°	762	739	737	741	744	678
65°	499	472	475	481	490	493
75°	223	202	213	214	212	237
85°	26	23	25	25	26	40
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1438.7	1438.7	1438.7	1438.7	1438.7
2.5°	1450.3	1442.6	1427.2	1437.2	1444.1
5°	1446.4	1439.5	1440.3	1433.3	1440.3
7.5°	1439.5	1432.6	1425.7	1423.3	1434.1
10°	1431.8	1418.7	1423.3	1418.0	1422.6
12.5°	1420.3	1409.5	1406.4	1399.5	1409.5
15°	1394.9	1390.3	1390.3	1382.6	1383.4
17.5°	1372.6	1363.4	1366.4	1362.6	1382.6
20°	1357.2	1342.6	1342.6	1340.3	1358.0
22.5°	1338.0	1321.1	1317.2	1318.8	1332.6
25°	1294.9	1291.9	1288.8	1288.0	1301.9
27.5°	1264.2	1255.7	1261.1	1258.8	1270.3
30°	1238.0	1223.4	1232.6	1224.2	1218.8
32.5°	1196.5	1191.1	1188.8	1189.6	1191.9
35°	1166.5	1148.1	1148.8	1149.6	1143.4
37.5°	1114.2	1116.5	1106.5	1106.5	1108.1
40°	1070.4	1067.3	1061.9	1061.9	1071.9
42.5°	1029.6	1015.8	1022.0	1012.7	1028.1
45°	976.6	965.8	966.6	962.7	969.7
47.5°	924.3	915.1	912.0	915.1	912.0
50°	868.2	862.0	862.0	858.9	855.9
52.5°	821.3	799.7	798.2	802.8	803.6
55°	762.0	739.0	737.4	741.3	744.4
57.5°	699.8	672.8	678.2	684.4	688.2
60°	627.5	608.2	610.6	620.6	613.6
62.5°	569.0	542.9	546.7	555.2	555.2
65°	499.1	472.1	475.2	481.4	489.8
67.5°	431.4	402.9	407.6	414.5	416.8
70°	357.6	327.6	340.7	347.6	351.4
72.5°	286.8	263.8	275.3	279.1	282.2
75°	223.0	201.5	213.0	214.5	212.2
77.5°	158.4	143.0	152.3	155.3	153.0
80°	106.9	91.5	99.2	101.5	99.2
82.5°	58.4	53.8	56.9	57.7	56.1
85°	26.1	23.1	25.4	25.4	26.1
87.5°	7.7	6.9	6.9	7.7	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)