

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: P688121

Luminaire Tested: FLR-HA-24-45-50-CP250

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688121  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2207-724-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/22/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR-HA-24-45-50-CP250  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X4 5000K Luminaire for High Abuse  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

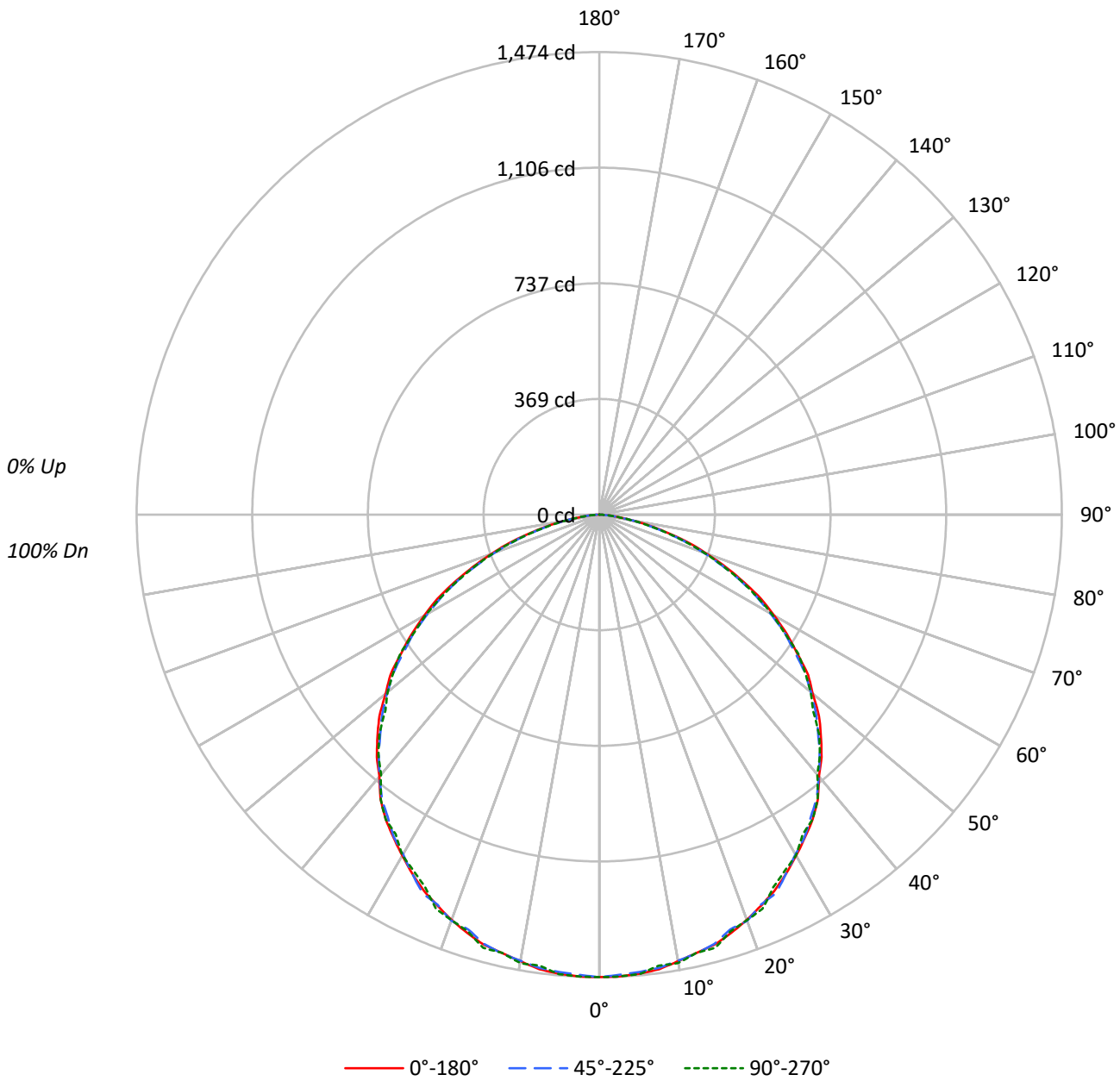
Lumens per Lamp: N/A  
Luminaire Lumens: 4085.7 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.8  
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	102	99	95	98	95	92	94	92	90	91	89	87	85
2	100	92	85	79	97	90	84	78	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	53	51
5	76	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31
9	57	44	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
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°	1983	1983	1983
5°	1984	1976	1986
10°	1974	1972	1983
15°	1977	1974	1991
20°	1968	1973	1969
25°	1963	1977	1947
30°	1950	1942	1948
35°	1948	1931	1948
40°	1914	1912	1899
45°	1900	1876	1885
50°	1858	1843	1841
55°	1804	1779	1815
60°	1730	1692	1711
65°	1613	1578	1581
70°	1430	1389	1405
75°	1177	1132	1148
80°	825	807	819
85°	423	398	398

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1900 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.4	3.4
10°-20°	399.8	9.8
20°-30°	607.9	14.9
30°-40°	735.2	18.0
40°-50°	761.9	18.6
50°-60°	680.1	16.6
60°-70°	488.4	12.0
70°-80°	234.2	5.7
80°-90°	38.9	1.0
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°	1147.1	28.1
0°-40°	1882.3	46.1
0°-60°	3324.3	81.4
0°-90°	4085.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4085.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1474	1474	1474	1474	1474	
5°	1469	1473	1463	1464	1470	140
15°	1419	1421	1417	1417	1429	400
25°	1322	1319	1332	1315	1311	609
35°	1186	1176	1176	1171	1186	740
45°	999	992	986	985	991	770
55°	769	760	758	757	774	689
65°	507	492	496	489	497	501
75°	226	212	218	218	221	245
85°	27	26	26	26	26	40
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1474.1	1474.1	1474.1	1474.1	1474.1
2.5°	1473.3	1474.9	1467.8	1466.2	1473.3
5°	1468.6	1473.3	1463.1	1463.9	1470.2
7.5°	1461.5	1458.4	1456.8	1462.3	1449.8
10°	1445.1	1452.1	1443.5	1439.6	1451.4
12.5°	1431.0	1431.8	1432.6	1434.1	1430.2
15°	1419.2	1420.8	1416.9	1416.9	1429.4
17.5°	1398.1	1401.2	1386.3	1395.7	1392.6
20°	1374.6	1371.5	1377.7	1375.4	1375.4
22.5°	1348.7	1348.7	1345.6	1347.2	1359.7
25°	1322.1	1319.0	1331.5	1315.1	1311.2
27.5°	1290.0	1286.9	1290.0	1281.4	1279.8
30°	1254.8	1246.9	1250.1	1250.8	1254.0
32.5°	1220.3	1212.5	1217.9	1212.5	1207.0
35°	1185.8	1176.4	1175.7	1171.0	1185.8
37.5°	1144.3	1134.1	1138.1	1123.2	1143.5
40°	1089.5	1083.2	1088.7	1084.0	1080.9
42.5°	1048.8	1041.7	1039.4	1036.2	1040.9
45°	998.6	991.6	986.1	985.3	990.8
47.5°	950.1	932.1	936.8	929.7	923.4
50°	887.4	882.7	880.4	873.3	879.6
52.5°	838.9	821.6	825.5	819.3	826.3
55°	769.1	760.5	758.2	756.6	773.8
57.5°	708.8	697.9	699.4	695.5	697.9
60°	643.0	632.9	628.9	628.2	636.0
62.5°	581.2	560.0	563.2	562.4	566.3
65°	506.8	491.9	495.8	488.7	496.6
67.5°	435.5	420.6	422.2	420.6	424.5
70°	363.4	347.0	353.2	350.1	357.2
72.5°	300.8	281.2	286.7	281.2	287.5
75°	226.4	211.5	217.7	217.7	220.9
77.5°	166.8	153.5	158.2	156.6	159.8
80°	106.5	101.0	104.2	101.8	105.7
82.5°	61.1	57.2	57.2	58.7	59.5
85°	27.4	25.8	25.8	25.8	25.8
87.5°	7.0	7.0	7.0	7.0	7.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)