

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: P688222

Luminaire Tested: FLR-HA-24-L3C3 (MED)-40-CP187

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688222  
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-24-L3C3 (MED)-40-CP187  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X4 4000K Luminaire at Medium Lumen setting for High Abuse  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

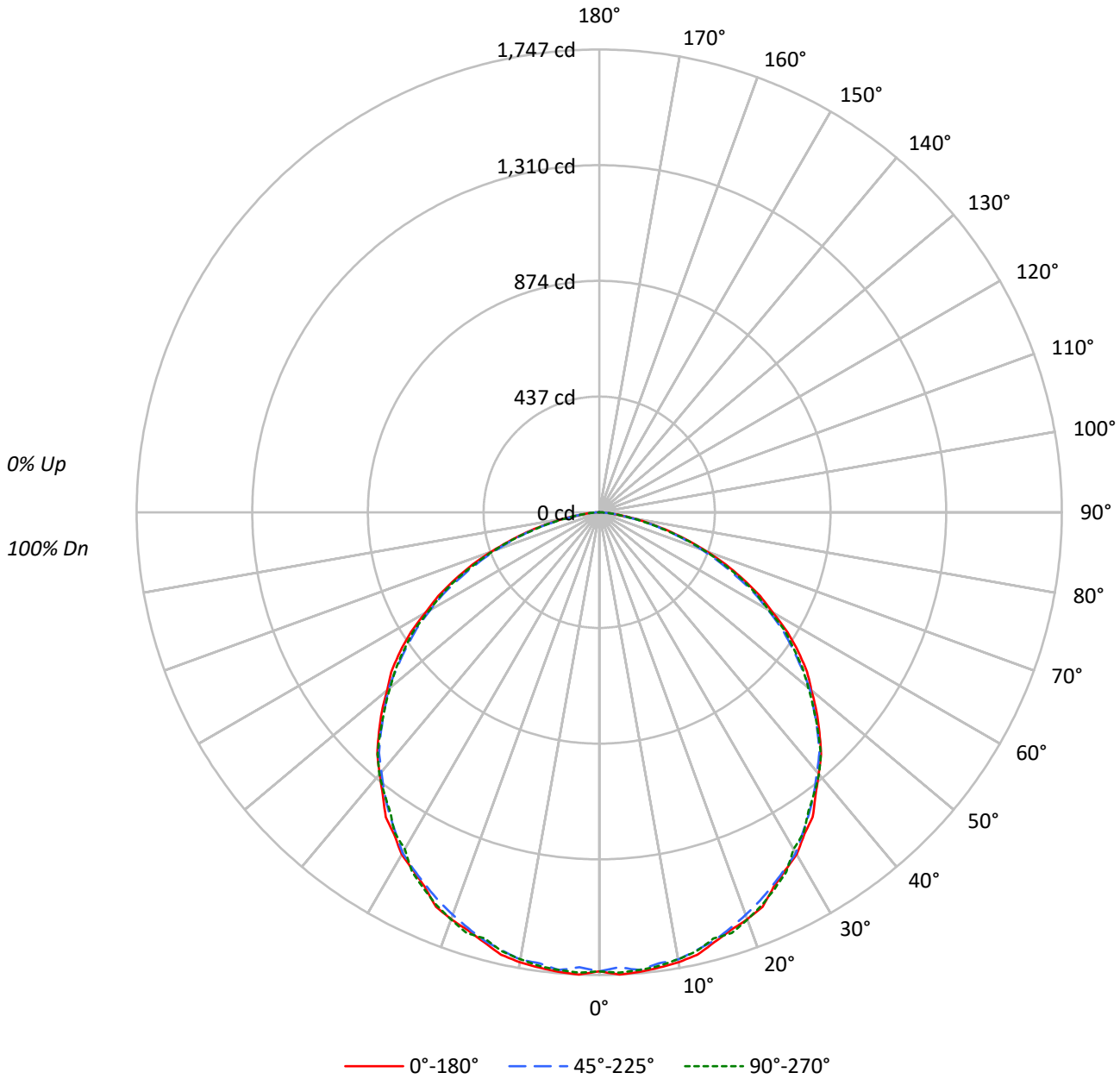
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4810.3 lumens  
Efficiency: N/A  
Efficacy: 124.9 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 38.5  
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°	2332	2332	2332
5°	2353	2343	2343
10°	2356	2342	2341
15°	2340	2333	2321
20°	2341	2316	2342
25°	2316	2305	2328
30°	2317	2307	2281
35°	2308	2273	2262
40°	2265	2247	2268
45°	2238	2215	2222
50°	2189	2173	2158
55°	2153	2084	2103
60°	2034	1979	1989
65°	1914	1822	1878
70°	1694	1614	1665
75°	1396	1334	1329
80°	997	926	926
85°	486	472	486

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2238 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.6	3.4
10°-20°	472.2	9.8
20°-30°	717.5	14.9
30°-40°	867.4	18.0
40°-50°	898.8	18.7
50°-60°	798.9	16.6
60°-70°	572.9	11.9
70°-80°	272.7	5.7
80°-90°	45.2	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°	1354.3	28.2
0°-40°	2221.7	46.2
0°-60°	3919.5	81.5
0°-90°	4810.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4810.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1733	1733	1733	1733	1733	
5°	1742	1734	1735	1726	1735	166
15°	1680	1675	1675	1665	1666	475
25°	1560	1556	1552	1552	1568	722
35°	1405	1383	1384	1385	1377	874
45°	1176	1163	1164	1160	1168	907
55°	918	890	888	893	897	816
65°	601	569	572	580	590	593
75°	269	243	257	258	256	286
85°	32	28	31	31	32	48
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1733.0	1733.0	1733.0	1733.0	1733.0
2.5°	1746.9	1737.7	1719.1	1731.2	1739.5
5°	1742.3	1733.9	1734.9	1726.5	1734.9
7.5°	1733.9	1725.6	1717.3	1714.5	1727.5
10°	1724.7	1708.9	1714.5	1708.0	1713.6
12.5°	1710.8	1697.8	1694.1	1685.8	1697.8
15°	1680.2	1674.7	1674.7	1665.4	1666.3
17.5°	1653.4	1642.2	1646.0	1641.3	1665.4
20°	1634.8	1617.2	1617.2	1614.5	1635.8
22.5°	1611.7	1591.3	1586.7	1588.5	1605.2
25°	1559.8	1556.1	1552.4	1551.5	1568.1
27.5°	1522.8	1512.6	1519.1	1516.3	1530.2
30°	1491.3	1473.7	1484.8	1474.6	1468.1
32.5°	1441.3	1434.8	1432.0	1432.9	1435.7
35°	1405.1	1382.9	1383.8	1384.8	1377.3
37.5°	1342.1	1344.9	1332.9	1332.9	1334.7
40°	1289.3	1285.6	1279.2	1279.2	1291.2
42.5°	1240.3	1223.6	1231.0	1219.9	1238.4
45°	1176.3	1163.4	1164.3	1159.7	1168.0
47.5°	1113.4	1102.2	1098.5	1102.2	1098.5
50°	1045.7	1038.3	1038.3	1034.6	1030.9
52.5°	989.2	963.3	961.5	967.0	967.9
55°	917.9	890.1	888.3	892.9	896.6
57.5°	842.9	810.5	817.0	824.4	829.0
60°	755.8	732.7	735.4	747.5	739.2
62.5°	685.4	653.9	658.6	668.8	668.8
65°	601.1	568.7	572.4	579.8	590.0
67.5°	519.6	485.4	490.9	499.3	502.0
70°	430.7	394.6	410.3	418.7	423.3
72.5°	345.5	317.7	331.6	336.2	339.9
75°	268.6	242.7	256.6	258.4	255.6
77.5°	190.8	172.3	183.4	187.1	184.3
80°	128.7	110.2	119.5	122.3	119.5
82.5°	70.4	64.8	68.5	69.5	67.6
85°	31.5	27.8	30.6	30.6	31.5
87.5°	9.3	8.3	8.3	9.3	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)