

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: P687834

Luminaire Tested: FLR-HA-14-40-35-CA08

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P687834  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2303-938-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/22/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR-HA-14-40-35-CA08  
Description: Fail-Safe - FLR Fully Luminous Recessed 1X4 3500K Luminaire for High Abuse  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

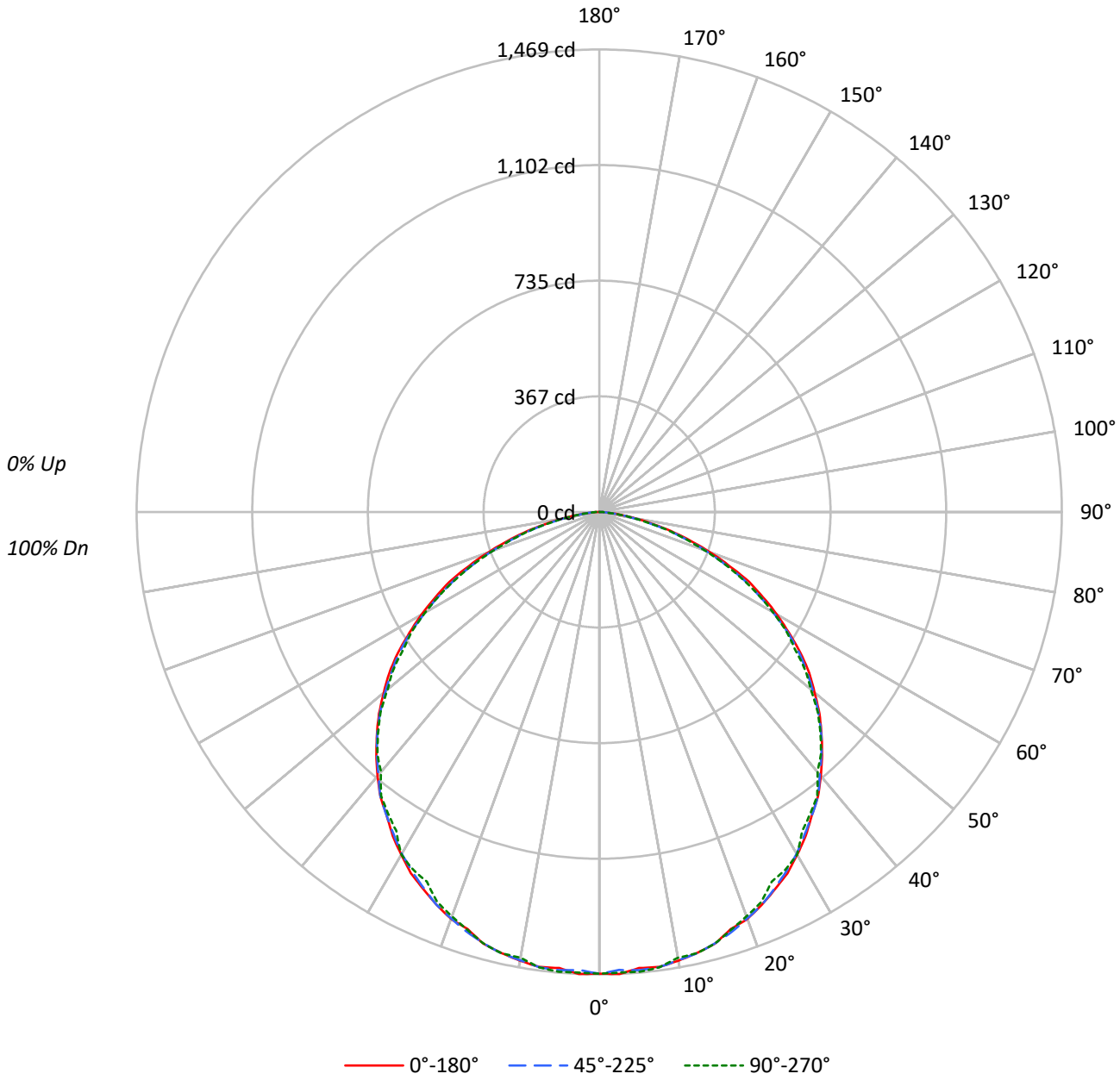
Lumens per Lamp: N/A  
Luminaire Lumens: 4120.2 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.39  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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	102	99	95	98	95	92	94	92	89	91	89	87	85
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	57	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27
10	53	40	32	27	52	39	32	27	38	31	27	38	31	27	37	31	26	25

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

	0°	45°	90°
0°	3947	3947	3947
5°	3928	3948	3960
10°	3955	3951	3929
15°	3957	3952	3954
20°	3940	3935	3914
25°	3924	3915	3847
30°	3907	3895	3904
35°	3865	3868	3841
40°	3847	3829	3787
45°	3798	3793	3779
50°	3738	3710	3670
55°	3661	3627	3557
60°	3503	3427	3427
65°	3343	3206	3173
70°	2942	2825	2791
75°	2456	2333	2356
80°	1756	1652	1641
85°	914	846	892

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 3807 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.0	3.4
10°-20°	399.7	9.7
20°-30°	608.1	14.8
30°-40°	736.7	17.9
40°-50°	767.2	18.6
50°-60°	686.9	16.7
60°-70°	498.7	12.1
70°-80°	242.2	5.9
80°-90°	41.7	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°	1146.8	27.8
0°-40°	1883.5	45.7
0°-60°	3337.6	81.0
0°-90°	4120.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4120.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1467	1467	1467	1467	1467	
5°	1454	1463	1462	1459	1466	139
15°	1420	1417	1419	1408	1419	400
25°	1322	1325	1319	1316	1296	610
35°	1176	1183	1177	1181	1169	738
45°	998	1000	997	991	993	770
55°	780	774	773	764	758	695
65°	525	511	504	502	498	512
75°	236	231	224	225	227	251
85°	30	30	27	27	29	44
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1466.8	1466.8	1466.8	1466.8	1466.8
2.5°	1469.0	1468.3	1456.4	1461.6	1464.6
5°	1454.2	1463.1	1461.6	1458.7	1466.1
7.5°	1457.9	1454.2	1458.7	1457.9	1459.4
10°	1447.5	1443.8	1446.1	1446.8	1437.9
12.5°	1435.0	1432.7	1436.4	1439.4	1435.7
15°	1420.2	1417.2	1418.7	1408.3	1419.4
17.5°	1389.1	1396.5	1398.7	1392.8	1392.0
20°	1375.7	1373.5	1374.2	1372.0	1366.8
22.5°	1350.5	1359.4	1350.5	1346.1	1342.4
25°	1321.7	1324.6	1318.7	1316.5	1295.8
27.5°	1294.3	1293.5	1286.9	1286.9	1280.9
30°	1257.3	1252.1	1253.6	1247.6	1256.5
32.5°	1220.2	1221.0	1214.3	1216.5	1200.2
35°	1176.5	1183.2	1177.3	1181.0	1169.1
37.5°	1141.0	1136.6	1141.0	1135.1	1137.3
40°	1095.1	1093.6	1089.9	1091.4	1078.1
42.5°	1047.7	1045.5	1044.8	1041.8	1042.5
45°	998.1	1000.3	996.6	991.4	992.9
47.5°	948.5	950.7	944.1	937.4	941.8
50°	893.0	894.4	886.3	884.1	876.7
52.5°	840.4	833.7	829.3	825.6	824.8
55°	780.4	774.5	773.0	764.1	758.2
57.5°	713.8	712.3	707.9	701.2	704.2
60°	650.8	644.9	636.8	635.3	636.8
62.5°	586.4	579.8	569.4	572.4	569.4
65°	525.0	510.9	503.5	502.0	498.3
67.5°	446.5	436.1	430.2	428.0	429.5
70°	373.9	373.2	359.1	356.9	354.7
72.5°	303.6	297.7	289.5	288.8	288.0
75°	236.2	231.0	224.4	225.1	226.6
77.5°	170.3	165.1	159.2	161.4	158.5
80°	113.3	111.8	106.6	105.9	105.9
82.5°	67.4	64.4	61.5	61.5	62.2
85°	29.6	30.4	27.4	27.4	28.9
87.5°	7.4	8.1	7.4	7.4	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)