

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: P688378

Luminaire Tested: FLR-HA-22-35-40-CA125

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P688378  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2303-938-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/22/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FLR-HA-22-35-40-CA125  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 4000K Luminaire for High Abuse  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

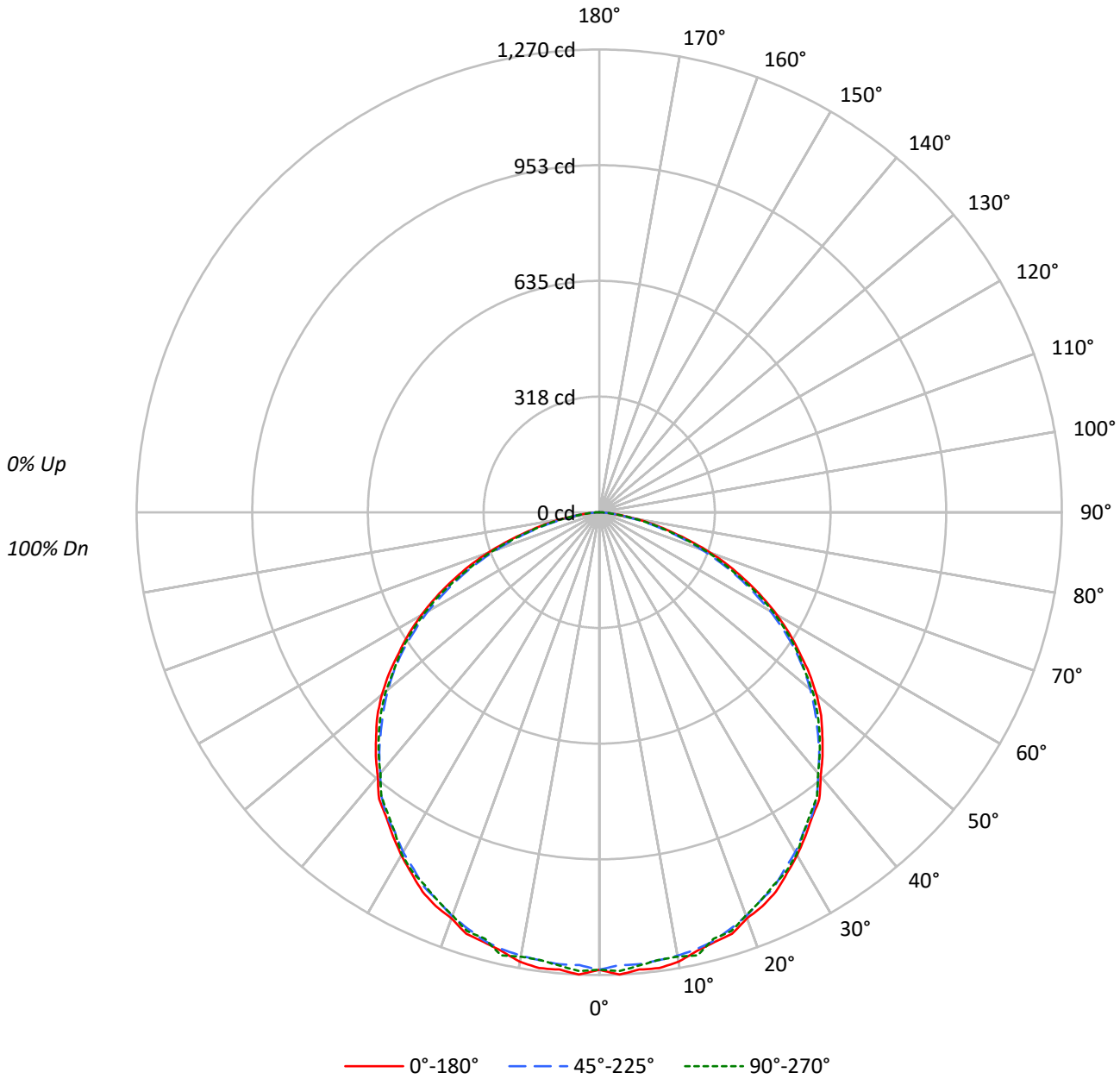
Lumens per Lamp: N/A  
Luminaire Lumens: 3526.9 lumens  
Efficiency: N/A  
Efficacy: 112.3 lumens/watt  
Spacing Criteria (0/90/45): 1.28 / 1.27 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 31.4  
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	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	91	85	79	97	90	83	78	86	81	76	83	79	75	80	76	73	71																																				
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60																																				
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51																																				
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44																																				
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39																																				
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34																																				
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30																																				
9	57	43	35	30	55	43	35	30	42	35	29	41	34	29	40	34	29	27																																				
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25																																				

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

	0°	45°	90°
0°	3378	3378	3378
5°	3403	3364	3374
10°	3423	3377	3384
15°	3402	3392	3376
20°	3395	3377	3372
25°	3410	3372	3357
30°	3378	3346	3368
35°	3350	3342	3319
40°	3322	3287	3282
45°	3296	3226	3255
50°	3260	3167	3201
55°	3145	3074	3110
60°	3032	2916	2981
65°	2833	2676	2741
70°	2560	2351	2456
75°	2093	1915	1981
80°	1502	1344	1402
85°	821	704	722

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3296 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.0	3.4
10°-20°	343.1	9.7
20°-30°	522.1	14.8
30°-40°	633.0	17.9
40°-50°	658.2	18.7
50°-60°	588.2	16.7
60°-70°	424.1	12.0
70°-80°	204.3	5.8
80°-90°	35.0	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°	984.1	27.9
0°-40°	1617.2	45.9
0°-60°	2863.6	81.2
0°-90°	3526.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3526.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1255	1255	1255	1255	1255	
5°	1260	1249	1245	1252	1249	120
15°	1221	1212	1217	1210	1212	346
25°	1148	1131	1136	1130	1131	528
35°	1020	1008	1017	1011	1010	639
45°	866	855	848	852	855	668
55°	670	662	655	653	663	601
65°	445	434	420	424	430	441
75°	201	196	184	186	190	217
85°	27	25	23	23	23	37
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1255.3	1255.3	1255.3	1255.3	1255.3
2.5°	1269.9	1259.8	1244.0	1251.5	1260.4
5°	1259.8	1249.0	1245.2	1251.5	1249.0
7.5°	1261.7	1245.2	1240.2	1247.1	1239.5
10°	1252.8	1238.3	1235.7	1238.9	1238.3
12.5°	1233.8	1230.7	1228.8	1223.7	1245.8
15°	1221.2	1212.3	1217.4	1209.8	1211.7
17.5°	1212.9	1192.0	1198.4	1197.1	1205.3
20°	1185.7	1180.6	1179.4	1175.6	1177.5
22.5°	1170.5	1158.5	1154.7	1153.4	1154.7
25°	1148.4	1130.6	1135.7	1130.0	1130.6
27.5°	1116.7	1097.1	1103.4	1102.8	1111.6
30°	1087.0	1072.4	1076.8	1073.0	1083.8
32.5°	1053.4	1040.7	1042.6	1042.0	1043.3
35°	1019.8	1008.5	1017.3	1011.0	1010.4
37.5°	992.6	969.8	981.9	974.9	982.5
40°	945.8	936.9	935.7	931.2	934.4
42.5°	907.2	895.8	893.9	896.4	896.4
45°	866.0	854.6	847.7	851.5	855.3
47.5°	826.1	811.6	802.7	804.6	812.2
50°	778.7	759.7	756.5	759.0	764.7
52.5°	727.4	712.2	707.8	707.1	709.7
55°	670.4	661.5	655.2	653.3	662.8
57.5°	619.1	605.8	598.2	601.4	610.3
60°	563.4	548.9	541.9	544.4	553.9
62.5°	505.2	490.6	479.9	484.9	495.7
65°	445.0	434.3	420.3	423.5	430.5
67.5°	386.8	374.8	360.2	362.1	369.7
70°	325.4	312.7	298.8	302.0	312.1
72.5°	260.8	252.6	239.9	241.2	250.1
75°	201.3	195.6	184.2	186.1	190.5
77.5°	149.4	141.8	132.9	134.8	140.5
80°	96.9	94.3	86.7	88.0	90.5
82.5°	55.1	55.1	51.9	50.6	53.8
85°	26.6	24.7	22.8	23.4	23.4
87.5°	6.3	7.0	6.3	5.7	6.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)