

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: P687844

Luminaire Tested: FLR-HA-22-L3C3 (LOW)-40-CA08

Issue Date: 5/22/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P687844  
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-22-L3C3 (LOW)-40-CA08  
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 4000K Luminaire at Low Lumen setting for High Abuse  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

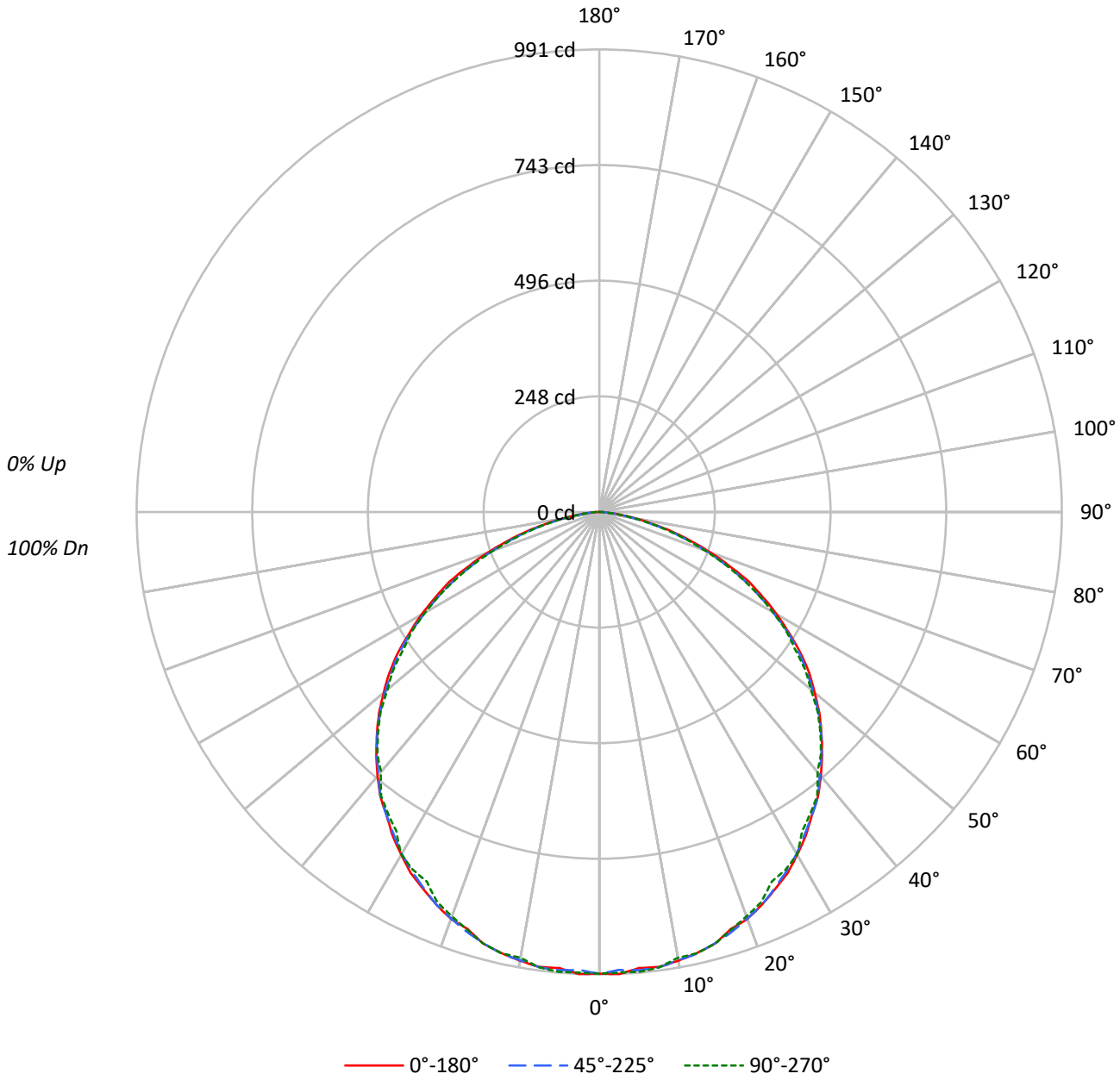
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2779.6 lumens  
Efficiency: N/A  
Efficacy: 130.5 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.3  
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
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°	2663	2663	2663
5°	2650	2663	2672
10°	2668	2666	2651
15°	2669	2666	2668
20°	2658	2655	2641
25°	2647	2641	2595
30°	2636	2628	2634
35°	2607	2609	2591
40°	2595	2583	2555
45°	2562	2559	2549
50°	2522	2503	2476
55°	2470	2447	2400
60°	2363	2312	2312
65°	2255	2163	2141
70°	1985	1906	1883
75°	1656	1574	1590
80°	1184	1114	1106
85°	618	571	602

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 2568 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.8	3.4
10°-20°	269.6	9.7
20°-30°	410.2	14.8
30°-40°	497.0	17.9
40°-50°	517.6	18.6
50°-60°	463.4	16.7
60°-70°	336.4	12.1
70°-80°	163.4	5.9
80°-90°	28.2	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°	773.7	27.8
0°-40°	1270.7	45.7
0°-60°	2251.6	81.0
0°-90°	2779.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2779.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	990	990	990	990	990	
5°	981	987	986	984	989	94
15°	958	956	957	950	958	270
25°	892	894	890	888	874	411
35°	794	798	794	797	789	498
45°	673	675	672	669	670	520
55°	526	522	522	516	512	469
65°	354	345	340	339	336	345
75°	159	156	151	152	153	169
85°	20	20	18	18	20	30
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	989.5	989.5	989.5	989.5	989.5
2.5°	991.0	990.5	982.5	986.0	988.0
5°	981.0	987.0	986.0	984.0	989.0
7.5°	983.5	981.0	984.0	983.5	984.5
10°	976.5	974.1	975.6	976.1	970.1
12.5°	968.1	966.6	969.1	971.1	968.6
15°	958.1	956.1	957.1	950.1	957.6
17.5°	937.1	942.1	943.6	939.6	939.1
20°	928.1	926.6	927.1	925.6	922.1
22.5°	911.1	917.1	911.1	908.1	905.6
25°	891.6	893.6	889.6	888.1	874.1
27.5°	873.2	872.7	868.2	868.2	864.2
30°	848.2	844.7	845.7	841.7	847.7
32.5°	823.2	823.7	819.2	820.7	809.7
35°	793.7	798.2	794.2	796.7	788.7
37.5°	769.8	766.8	769.8	765.8	767.3
40°	738.8	737.8	735.3	736.3	727.3
42.5°	706.8	705.3	704.8	702.8	703.3
45°	673.3	674.8	672.3	668.8	669.8
47.5°	639.9	641.4	636.9	632.4	635.4
50°	602.4	603.4	597.9	596.4	591.4
52.5°	566.9	562.5	559.5	557.0	556.5
55°	526.5	522.5	521.5	515.5	511.5
57.5°	481.5	480.5	477.5	473.0	475.0
60°	439.1	435.1	429.6	428.6	429.6
62.5°	395.6	391.1	384.1	386.1	384.1
65°	354.2	344.7	339.7	338.7	336.2
67.5°	301.2	294.2	290.2	288.7	289.7
70°	252.3	251.8	242.3	240.8	239.3
72.5°	204.8	200.8	195.3	194.8	194.3
75°	159.3	155.8	151.4	151.9	152.9
77.5°	114.9	111.4	107.4	108.9	106.9
80°	76.4	75.4	71.9	71.4	71.4
82.5°	45.5	43.5	41.5	41.5	42.0
85°	20.0	20.5	18.5	18.5	19.5
87.5°	5.0	5.5	5.0	5.0	5.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)