



# User Manual

Version 1.0 | Pastured Steps, LLC

## 1. Introduction

The **CRACK OF DAWN™** is a smart lighting solution designed to raise pullets and optimize egg production for layers. By utilizing a Real-Time Clock (RTC) and GPS coordinates, the system automatically calculates local sunrise and sunset times to provide the optimal amount of supplemental light for your flock.

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## 2. Quick Start Guide

Follow these steps to initialize your controller.

### 2.1 Power & Connectivity

1. **Power Up:** Connect the controller to a DC power source.
  - *Specification:* A 12V supply is recommended, but the unit supports 5V – 27V DC.
2. **Connect to Wi-Fi:** Open the Wi-Fi settings on your smartphone or device.
3. **Select Network:** Connect to the network named **Crack-of-Dawn-XXXX** (where XXXX is a unique code).
4. **Enter Password:** The default password is **12345678**.

### 2.2 Accessing the Interface

1. Once connected, your device should automatically open the "Sign In" or "Log In" page.
2. If it does not automatically load, open a web browser and navigate to:
  - <http://192.168.4.1> **OR**
  - <http://crackofdawn.local>. (not available on all devices)

**Note:** Ensure you use **http** and NOT https.

**Pro Tip:** Once the page successfully loads, select "Add to Home Screen" in your browser menu to create a dedicated app icon on your phone.



## 2.3 Initial Configuration

- **Set Location:** Navigate to **Settings > Location**. Enter your Latitude and Longitude to ensure accurate sunrise/sunset calculations.
  - **Set Date/Time:** Navigate to **Settings > Date/Time**. Verify the Date, Time, and Timezone are correct.
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## 3. Dashboard Overview

The Home screen provides real-time system status.

### System Status

- **LIGHTS ARE ON:** The system is currently illuminating the coop.
- **WARMING UP (XX%):** Lights are in the "Ramp Up" phase, simulating a gentle sunrise.
- **LIGHTS ARE OFF:** The system is idle.
- **SYSTEM DISABLED:** The mode is set to "Off" and the lights will not come on.

### Visual Cycle Ring

This graphical ring displays a 24-hour cycle:

- **Light Blue (Upper Arc):** Daylight hours (Sunrise to Sunset).
- **Dark Blue (Lower Arc):** Night hours (Sunset to Sunrise).
- **Yellow:** Indicates when supplemental lights will run.
- **Orange Marker:** Indicates the current time of day.

### Info Legend

- **Lights On:** Specific start/stop times for supplemental lighting.
  - **Daylight:** Total hours of natural sunlight for the current day.
  - **Center Display:** Total Light Duration (Natural + Supplemental) the hens will receive.
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## 4. Operation Modes

Configure your preferred mode in **Settings > Light Settings**.

### A. Fixed Mode (Layers)

Allows you to set a fixed amount of total light required.

- **Function:** You select a Total Light Duration from 8 to 16 hours. The system calculates your daylight for the day and determines the precise pre-dawn time to come on.

### B. Pullet Mode (Growing Birds)

Designed for raising young birds according to scientific lighting schedules.

- **Setup:** Select Pullet Mode and enter the **Hatch Date** of your flock.
- **Function:** The system automatically adjusts daily light duration based on bird age.
- **Note:** Once pullets are older than 25 weeks (176 days), the system maintains the recommended 16 hours of total light.

### C. Off Mode

- **Function:** Completely disables the lighting. The controller remains powered and accessible via Wi-Fi, but the lights will not come on.

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## 5. System Configuration

### Date & Time Settings

- **Timezone:** Select your Standard Timezone offset (e.g., UTC -6 for Central Time).

**WARNING:** Do not use Daylight Saving Time (DST) offsets. Always set the system to **Standard Time**. *(In summer, subtract 1 hour from your local DST time.)*

### Location Settings

- **Latitude/Longitude:** Required for solar calculations.
- **Accuracy:** Coordinates can be found via Google Maps. (Right-Click or Long-press your location to see the coordinates.) Three decimal places are sufficient.

### Network Settings



- **SSID:** You may rename the Wi-Fi broadcast name to distinguish between multiple controllers (chicken tractors). **Each SSID must be unique.**

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## 6. Features & Maintenance

### Test Mode

Located on the Configuration page, this function verifies wiring and bulb health.

1. **Ramp Up:** Lights fade from 0% to 100% over 30 seconds.
2. **Full On:** Lights remain at max brightness for 5 minutes.
3. **Auto-Off:** Once complete, the system returns to the schedule.

### Lighting Log

Located in the menu, this displays a chart, one week at a time. Press the arrows to view previous weeks. The blue bars show daylight hours, while the yellow bars show supplemental lighting. The daily history of Lighting On/Off times and events is displayed below. You can delete the stored history by selecting **Clear Log** at the bottom of the list.

### System Updates

Located on the "About" page. Please download the .bin files from our website (<https://www.crackofdawnlighting.com/support>) and use these to update your firmware.

- **Firmware:** Updates the controller's main operating code.
- **User Interface:** Updates the interface viewed on your mobile device.

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## 7. Troubleshooting

Issue	Probable Cause	Solution
"Time Not Set" Warning	<b>Power Loss.</b> The device lost power and the internal battery is dead or missing.	Go to <b>Settings &gt; Date/Time</b> and click "Save" to re-sync.



<b>Lights On at Weird Times</b>	<b>Timezone or DST Settings</b>	Ensure have the correct timezone selected and that you are not using Daylight Saving Time offsets in the Timezone settings.
<b>System Disabled</b>	<b>Mode Selection</b>	Check <b>Settings &gt; Light Mode</b> and ensure it is not set to "Off".