

# Nighttime Outdoor Agricultural Operations

When agricultural work is conducted outdoors during hours of darkness, employees face hazards due to a decrease in their ability to see, as well as be seen by others, including those operating mobile agricultural equipment and vehicles.

Two Cal/OSHA standards address these hazards. California Code of Regulations, title 8, **section 3449** sets requirements to prevent employee exposure to hazards during agricultural operations at night. **Section 3441(g)** has been revised to require headlights on trucks. These new requirements took effect on July 1, 2020. This fact sheet gives an overview of the requirements.

## Which employers must comply with these standards?

Employers with outdoor agricultural operations taking place between sunset and sunrise must comply with the requirements of **section 3449**.

Agricultural employers using tractors, self-propelled farm equipment, and trucks between sunset and sunrise must comply with the revision to **section 3441(g)** regarding headlights.

## What are the requirements of the standards?

### Lighting – 3449(a)

Different work operations have different lighting requirements. These lighting levels are listed in Table 1 of the standard. See next page. When determining the illumination levels for task-specific lighting, the employer must take the measurement at the task/working surface where the work is being performed. For area lighting (i.e., general lighting for walking and standing),



Photo Credit: Jordan Vineyard & Winery

the measurement must be made approximately 30 inches above the surface where the employee walks, works, or uses to gain access to a work area.

Employers can meet the lighting requirements in a variety of ways, such as vehicle-mounted lights, portable lights, head lamps, or any combination.

### Safety Meetings – 3449(b)

Supervisors must conduct a safety meeting at the beginning of each shift to inform workers of the location of the restrooms, drinking water, break areas, nearby bodies of water, and high-traffic areas.

### Class 2 High-Visibility Garments – 3449(c)

The employer must provide and require workers to wear Class 2 high-visibility garments. These garments help vehicle operators see workers at night.

### Headlights and Taillights – 3441(g)

All tractors, self-propelled farm equipment, and trucks operating at night must have at least one headlight and one rear light. Specific requirements for these lights can be found in **section 3441(g)**.

*(continued on next page)*

## Table 1 - Illumination Levels

Foot-candles	Lux	Operations, Areas, or Tasks
0.09 - 0.19	1 - 2	Poultry harvesting or catching operations
3	32.29	Meeting area and meal/rest area
5	53.82	<ul style="list-style-type: none"><li>Outdoor agricultural operations except where otherwise specified in this table</li><li>Pathways leading to and around restrooms and drinking water</li><li>Inside restroom facilities</li><li>Storage areas accessed by employees</li></ul>
10	107.64	<ul style="list-style-type: none"><li>Intermittently exposed or exposed point of operation equipment, covered under <b>Group 8</b>. Points of Operation and Other Hazardous Parts of Machinery</li><li>Operationally visible moving parts of machinery covered under <b>Group 6</b>. Power Transmission, Prime Movers, and Machine Parts of the General Industry Safety Orders</li><li>Task lighting for agricultural operations that involve the use of tools that can potentially cause cuts, lacerations, or punctures</li></ul>
20	215.30	Task lighting for maintenance work on equipment

## Types of lighting

There are many types of lights available for purchase. Employers should choose lights that provide the best illumination for their workers. The appendix of **section 3449** can help employers select the lights appropriate for their work.

- Some types of light bulbs (light sources) produce light that the human eye perceives better at night than other types.
- If workers must differentiate colors to perform their tasks, employers should choose lights with a high Color Rendering Index (CRI).

## More Information

This guidance document is an overview. For the full requirements, read the title 8 sections below:

- Outdoor Agricultural Operations During Hours of Darkness (Between Sunset and Sunrise)** - section 3449
- Operation of Agricultural Equipment** - section 3441

**Employees with work-related questions or complaints may contact DIR's Call Center in English or Spanish at 844-LABOR-DIR (844-522-6734).**

