

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"> • Outdoor agricultural operations except where otherwise specified in this table • Pathways leading to and around restrooms and drinking water • Inside restroom facilities • Storage areas accessed by employees
10	107.64	<ul style="list-style-type: none"> • Intermittently exposed or exposed point of operation equipment, covered under Group 8. Points of Operation and Other Hazardous Parts of Machinery • Operationally visible moving parts of machinery covered under Group 6. Power Transmission, Prime Movers, and Machine Parts of the General Industry Safety Orders • Task lighting for agricultural operations that involve the use of tools that can potentially cause cuts, lacerations, or punctures
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).

