

Guide to OSHA Workplace Lighting Requirements

It may not be a topic you think of often, but lighting in the workplace can have a significant effect (whether good or bad) on the safety of workers, their level of output, and the quality of work they produce.

Rather than leaving good lighting to chance, OSHA requires companies to follow OSHA lighting regulations in the workplace. While this may seem nit-picky, the benefits of safety, productivity, and quality are worth the effort.

OSHA Workplace Lighting Requirements

OSHA workplace lighting standards cover everything from the recommended lighting level of offices to light cover requirements—and many other topics in between.

OSHA terms explained:

- Foot-candle is the amount of illumination produced by a candle from a distance of one foot. Different types of work are required to have certain levels of illumination, measured in foot-candles. OSHA's established minimum lighting requirements are listed in foot-candles (ft-c).
- Lux level measures light level intensity. One lux is the amount of illumination supplied by one candle on a one-meter surface from a distance of one meter.
- OSHA 1910 Illumination Standards refers to a requirement subpart that covers the examination, installation, and use of electrical equipment and exit routes and emergency planning.
- OSHA 1915 Subpart F covers the illumination of general working conditions in shipyards.
- OSHA 1926 Subpart D covers general construction area lighting standards.

The Recommended Lighting Level of Offices

Since appropriate illumination enhances (or diminishes) your workers' ability to see computer monitors, the recommended lighting level of offices is different from other workplaces. Straining to see text and images on a screen makes it difficult to work, and it can lead to mistakes and eye fatigue.

To combat this problem, OSHA has made the following lighting recommendations for offices:

- Place well-distributed rows of diffuse lights parallel to the line of sight.
- Provide supplemental task and desk lighting.
- Use blinds on windows to eliminate bright light (vertical blinds for windows that face east and west and horizontal blinds for windows that face north and south).
- Orient the computer so window lighting is at a right angle to the screen.
- Use light colors and matte finishes on walls and ceilings to reduce contrast and soften lighting reflections.

The Minimum Illumination Required in Workplace Lighting Standards

General construction areas require a minimum of 5 foot-candles of illumination, and plants and shops require at least 10 foot-candles.

For other types of workplaces, the minimum illumination standards are as follows:

- First-aid stations and infirmaries: 30 f-c
- Warehouses, walkways, and exits: 10 ft-c
- Underground shafts and tunnels: 5 ft-c
- Waste areas, loading platforms, refueling areas, active storage areas: 3 ft-c

And here are the typical lux levels required in common commercial installations:

- Offices, laboratories, and show rooms: 500 lux
- Factories and workshops: 750 lux
- Warehouse loading bays: 300–400 lux
- Lobbies, corridors, and stairwells: 200 lux
- Warehouse aisles: 100–200 lux

OSHA Light Cover Requirements

OSHA light cover requirements state that all light fixtures must have protective plates. If light fixtures are in an area where they could be damaged, they must be guarded by strong barriers to prevent shattering. This is also the requirement for covers of pull boxes, junction boxes, and fittings.

Dangers of Fluorescent Light Bulbs

Fluorescent light bulbs, the bright lighting found in many commercial and industrial spaces, contain mercury. When a fluorescent light bulb breaks, it releases mercury vapor into the surrounding area. Inhaling mercury vapor can cause damage to the liver, kidneys, and nervous system. To protect workers from exposure to mercury from broken fluorescent light bulbs, OSHA created requirements for safely covering them in workplaces. The agency also issued guidelines for safely cleaning up shattered glass and chemical materials after a fluorescent light bulb breaks. Failure to adhere to these guidelines can result in an OSHA citation for the employer, along with a substantial fine.

Protective Coverings for All Light Fixtures

All light fixtures, whether they contain fluorescent bulbs or not, must have protective plates. In areas where light fixtures could be damaged, they must be guarded by sufficiently strong barriers to

prevent shattering. This requirement covers pull boxes, fittings and junction boxes, and applies even when there is just a minute chance of a worker coming into physical contact with the light bulb.

Additional OSHA Requirements

Light fixtures should be at least 7 feet above all work surfaces to reduce the chance of accidental contact with a worker. When they are situated at lower heights, the light tubes must be contained in OSHA-compliant shatterproof shields. Light fixtures may not have any exposed live parts. Live parts are the components of electrical devices that operate on electrical current, like electrical conductors within the fixture. The openings on fixtures must be small enough that an employee cannot accidentally put a finger into the fixture and suffer an electric shock.

All electrical equipment must be firmly mounted to the wall onto which it is affixed. For light fixtures that operate at 600 volts or more, OSHA requires that employers cover fittings and keep them securely fastened shut at all times, including when the fittings are waiting to be painted or serviced. If a system operates on less than 600 volts, this requirement does not apply.

Additionally, light fixtures:

- Should be at least 7 feet above work surfaces or must have an OSHA-compliant shatterproof shield
- May not have any exposed live parts
- Cannot have an opening large enough that a finger can fit through
- Must be firmly mounted to the wall

Common Application Gaps in Industrial Lighting Standards

Unfortunately, there are common ways that companies don't apply industrial lighting standards, and that leads to safety problems and OSHA citations.

Application gaps can include:

- Uncovered light fixtures, wiring, junction boxes, and fittings
- Exposed lighting parts
- Not having the proper illumination for a specific type of work area

To avoid these missteps, regularly inspect all lighting fixtures and use a light meter/lux meter to measure illumination.

The Benefits of Complying with OSHA Standards

There is no doubt that there are many benefits that come with OSHA workplace lighting requirements. The first is an increase in productivity. Having adequate lighting makes people more comfortable with

their work and work environment. This comfort translates into the employee experiencing a better mood and higher job satisfaction. And those factors can lead to higher productivity.

Another benefit is that complying will help you maintain a good safety record. This is important because your reputation as a brand, contractor, and employer is on the line. Customers, partners, and potential employees don't want to work with a company that doesn't take compliance seriously.

The Risks of Non-Compliance

You would be taking some serious risks if you are not compliant with OSHA workplace lighting requirements. If an OSHA inspector finds an organization is out of compliance, they can expect a citation with a hefty fine.

As of January 2020, the following OSHA penalty amounts apply:

- Serious Violation: \$13,494
- Failure to Abate Prior Violation: \$13,494 per day beyond the abatement date
- Willful or Repeated Violation: \$134,937

Non-compliance also has other associated risks that carry expensive collateral damage, including:

- Liability lawsuits, such as workers' comp, personal injury, or wrongful death
- Parallel inspections and repeat citations, even in multiple locations or facilities
- Sanctions from regulatory authorities, such as the EPA or DOL
- Allegations of intentional disregard, which may lead to punitive damages and criminal violations
- Bad reputation, which leads to a loss of contracts, a decline of projects, and a prevention of acquisitions

Remember, you may not only need to manage your own compliance but also that of your **contractors**. After all, their risks are your risks. This process can be very complicated and time-consuming to complete, but contractor compliance management software can standardize the process and make it more efficient.

Industrial lighting standards may not seem like a serious concern at first. However, when you tally up all the benefits of compliance and the costs of non-compliance, you can understand how these requirements can significantly affect your bottom line.

Don't take chances. Frequently monitor and maintain your workplace lighting to ensure it passes [OSHA standards](#).