

# Why good lighting matters



LIGHTCORP

# SEE THINGS DIFFERENTLY

Lighting is subtle, yet plays an essential role in illuminating our workplace. And for 30 years, we have put all of our energy into understanding how it empowers a person's work, influences their mood, and helps them focus. We love the beauty of it, the science behind it, and its impact on everyday life.

This field guide is intended to share our passion and knowledge of lighting by providing an overview of the role it plays in our world.

## WHAT'S INSIDE

Lighting is a vast topic and one that keeps evolving rapidly. To help narrow the focus, we've outlined a few of the most practical categories that impact us all.

Let's dive in.

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For more helpful information on  
lighting topics, visit our website at  
**[lightcorp.com/resources](https://lightcorp.com/resources)**



PART I:  
LIGHTING 101

## **A GREAT PLACE TO START**

Before we dive into understanding how lighting can impact our health and work performance, we must first understand a few of its basic principles. This section of the field guide reviews common lighting lingo, different types of lighting, and facts about LEDs.



## COVERING THE BASICS

New to lighting? It can be a bit tricky to navigate all the technical terms and descriptions. We've compiled a cheat sheet of common terms and definitions to help you get started!

## KEYWORDS + DEFINITIONS

**Lumen:** Visible energy emitted (the brightness or amount of light you desire).

**Footcandle:** Measures the intensity of light on a surface.

**Watt:** Total energy consumed by the device.

**Color Rendering Index (CRI):** Measures how accurate a light source makes the color of an object appear. Measured on a scale of 0-100, a high CRI means better color rendering ability.

**Correlated Color Temperature (CCT):**  
Describes whether light appears warm, neutral, or cool in color.



## SYMMETRICAL VS. ASYMMETRICAL LIGHT

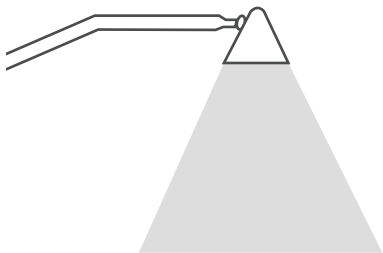
Symmetrical and asymmetrical lighting are two different approaches on how to light a surface. Determining which best suits your needs depends on the environment you are in.

### **SYMMETRICAL LIGHT**

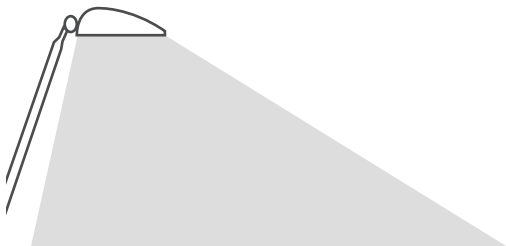
Downward light distribution results in a concentrated pool of light. It is ideal for visual tasks such as inspection of an object.

### **ASYMMETRICAL LIGHT**

Light is projected in front of the task light, allowing the fixture to be tucked away, but the surface lit appropriately. Asymmetrical lights are great for small work areas.



Symmetrical light



Asymmetrical light



## EARTH FRIENDLY + BUDGET FRIENDLY

When compared to the efficiency of fluorescent and incandescent bulbs, LEDs really shine. But did you know LEDs are also environmentally responsible, cost-effective, and better for your health than other traditional light sources?

Good for the earth, good for your budget, and good for you!

## **NO MERCURY**

LED fixtures are manufactured with no hazardous materials such as mercury, which is typically found in incandescent and fluorescent bulbs.

## **REDUCED ENERGY COSTS**

LED lights are up to 80% more efficient than their fluorescent counterparts, as up to 95% of their energy is converted into light, not heat.

## **LONGER LIFESPAN**

LEDs are designed to last 50,000 hours or more — up to 10x longer than other traditional light sources — reducing the need for frequent replacements.



PART II:  
LIGHTING AND  
YOUR HEALTH

## **LIGHTING YOU FEEL THE MOMENT IT'S ON**

The perfect lighting stimulates our senses and inspires us in imaginative ways. And it's not just beautiful to admire, but important to use for health reasons as well.

The connection between lighting and health can be better understood in this section of the field guide.

## CIRCADIAN RHYTHM

Often referred to as the “body clock”, circadian rhythm, is defined as the internal system that regulates the times when we’re most alert, and most in need of sleep.

### **WE’RE HARDWIRED FOR LIGHT**

Knowing the impact of light, (both natural and artificial) on our circadian rhythm can unlock a number of important health benefits such as improved sleep cycles and warding off serious illness.

Most of us spend the majority of our time indoors, which limits our exposure to daylight. LED lighting technology can control the

spectrum of light emitted to mimic our natural cycle, and help provide the right type of light at the right time of day.

## **LIGHTING'S IMPACT ON HEALTH**

Noticeable increases in serious health problems such as cancer, diabetes, heart disease, dementia, sleep disorders, depression, and obesity, have been attributed to a disrupted circadian system.

Through proper artificial lighting, we can help address the balance between spending too much time indoors and our body's need for light to set its "body clock". By harnessing the power of light, we are able to improve our well-being and quality of life.



# MAKING THE BRIGHT CHOICE

## **LIGHTING FOR THE AGING EYE**

As our eyes age, they naturally require more light because less light reaches our retinas. By the time you reach the age 80, you need 6 times more light than you did in your 20's!

It is important to provide a task light with full range dimming controls to allow for customizing optimal light levels on a surface.

When specifying a task light, look for footcandles to be in the 70-100 range for ideal surface intensity.

# TALK COLOR TO ME

## **CCT, WHAT DOES THAT MEAN?**

Correlated Color Temperature (CCT) describes if light appears as warm, neutral, or cool in color to an individual. Research suggests a positive association between a high color temperature (cool blue tone) and enhanced mood, alertness, and decreased fatigue.

## **BLUE LIGHT: BETTER THAN COFFEE?**

Blue light at night can have a negative effect on our sleep onset because it signifies daytime to our brain. But during the daytime, blue light may be better or equal to caffeine for the exact same reason.



PART III:  
LIGHTING THE  
WORKPLACE

## **OPTIMAL ILLUMINATION**

In any modern office plan, whether cubicle or open collaborative space, lighting impacts employee comfort and productivity. Without the necessary amount of light to perform a task, employees can be affected biologically and performance may suffer.

Not all light is created equal. We've outlined a few tips and topics in this section to help you understand the best lighting for your workplace needs.

# LIGHTING TODAY'S WORKSPACE

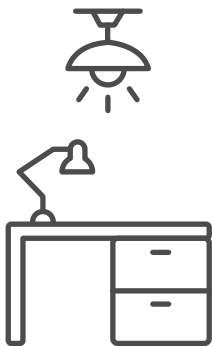
When considering the amount of lighting needed in the average office workspace, more isn't always better.

Over-lighting the workspace through recessed overhead troffer-style lighting not only wastes energy and money, but is also the main culprit blamed for common employee ailments such as eyestrain and headaches.

## **A LAYERED LIGHTING APPROACH**

A combination of low overhead ambient light, layered with supplemental task lighting provides the ideal solution.

Because personal task lights are so adjustable and efficient, the overall level of ambient light in the office can be lowered. This results in reduced energy consumption, monetary savings, and shrinking the company's environmental footprint!



## LIGHTING ERGONOMIC TIPS

These four lighting tips will make your workday more comfortable!

### **Glare can cause back strain?**

Yes it's true! When your office lighting is at the wrong angle, you may adjust your posture to get a better view. Be mindful of how you're sitting and why.

### **Shed some light on the subject.**

Incorporate a task light to mitigate any shadows. Position it 15 inches above your worksurface.



### **Take 10, no make it 20.**

To give your eyes a much needed break, optometrists recommend following the “20-20-20” rule. For every 20 minutes you stare at a computer, look at a distant object at least 20 feet away for 20 seconds.

### **Take natural light on the side.**

To avoid window glare on your screen, position your desk to the side of the window - not in front or behind it.





# TASK LIGHTING MYTHS DEBUNKED

## **MYTH: I don't need a task light because...**

- **I sit by a window.**

Sunlight changes in intensity, location, and color through the work day, which can result in glare, shadows, and an insufficient amount of light. By raising, lowering, and tilting a task light, the user is able to adjust the amount of light needed.

- **My computer screen omits light.**

Rapid eye fatigue occurs due to the excessive contrast from computer screens in relation to ambient lit rooms. With extended exposure we experience dry eyes,

general discomfort, watery eyes, and even tension headaches radiating out from the temple area.

By using a task light, we are able to raise the overall ambient light level and control glare, both of which help with eye fatigue.

- **I have overhead lighting.**

Overhead ambient lighting alone is inadequate. 70 footcandles is the industry standard for comfortable light levels, ambient-only lit offices average a mere 35 footcandles on the work surface.

## COLOR YOUR PRODUCTIVITY

Set the color temperature for productivity in communal spaces around the office:

- Using a blue/cool light in **brainstorming spaces** keeps occupants invigorated and excited. Aim for a CCT of 4600K or higher.
- Choosing a light temperature in the mid-range (3100K-4600K) helps **training room** audiences feel alert and engaged.
- To invoke calmness or create a sense of trust, use a warmer light temperature, less than 3000K, in **meeting spaces**.

## ABOUT LIGHTCORP

Our name says it all. This singular focus on lighting fuels our drive to dig deeper, think longer, and push lighting to new boundaries.

### **WHERE IT'S MADE MATTERS.**

It might surprise you, but you'll find LightCorp rooted in the heart of West Michigan, at the epicenter of workplace design.

Off the shoreline of Lake Michigan is where we were born, and where advanced research, design, engineering, manufacturing, and our friendly service team calls home.







CONTACT US

For more helpful information on lighting topics or to view our product offering, be sure to visit our website at **LightCorp.com**.

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