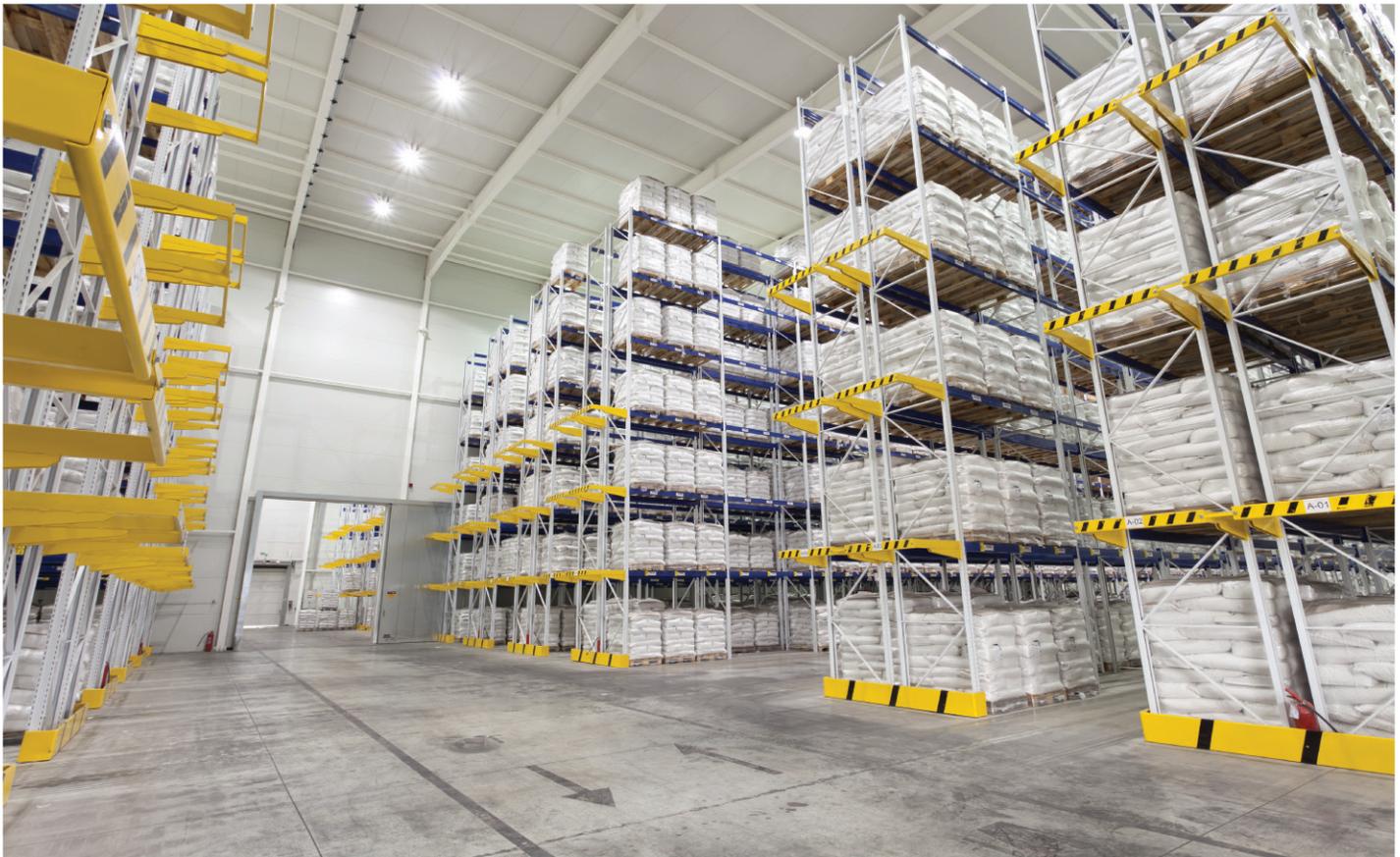


 **Warehouse Lighting Solutions**



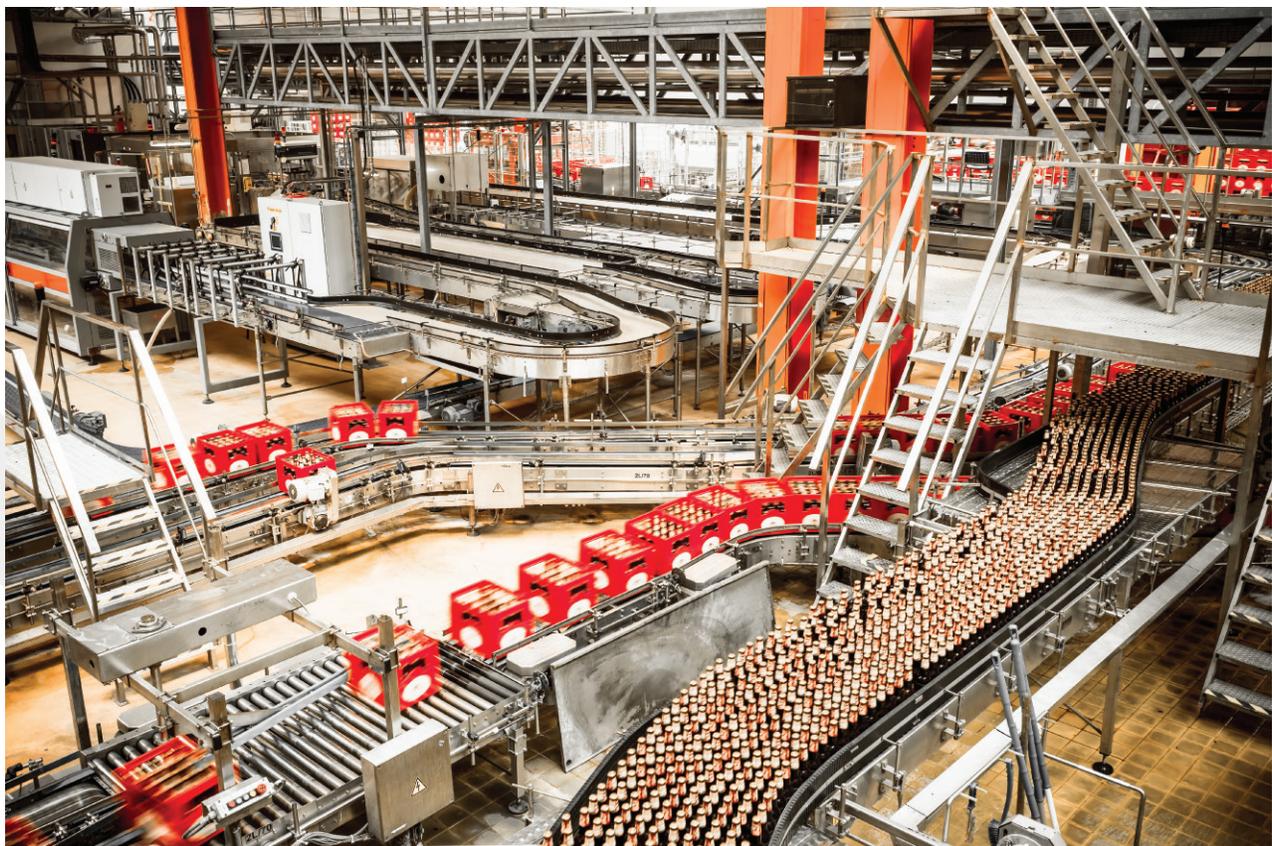
# Industry Leaders in LED Warehouse Lighting

Bright Solutions Inc. has become the industry leader in transforming today's warehouse environment with high performance LED lighting solutions, using unique optics and modern energy-savings technology. Welcome to smart lighting.

Our luminaires feature patented optics and cutting-edge LED options designed to provide outstanding presentation while dramatically reducing operating and energy costs.

Bright Solutions specializes in lighting for all warehouse environments, ranging from warehousing, food processing, refrigeration, distribution and assembly. We also take into consideration variation of ceiling heights and types. Bright Solutions with its vast knowledge of lighting design, will ensure that you are provided with the most viable option that is tailored to your individual requirements.

Customer satisfaction is a high priority not only during the decision making and installation stages but also post installation to ensure that performance exceeds expectations throughout the life span of the luminaires.





# Bright Solutions: Leader in Warehouse and Industrial Lighting Design

## Lighting Requirements

- A poorly illuminated warehouse is an environment ripe for errors and accidents. Most warehouse facilities have a variety of functions performed within their walls; such as logistics, packaging, shipping and receiving, light assembly and desk work. These multiple tasks make lighting design a challenge because more than one task may be performed within the same area, each requiring different lighting levels.
- The age of the workers is another consideration when determining the light levels required. As workers grow older, they require more light to compensate for degraded vision. Attaining retinal illuminance for older workers equal to that of younger workers requires greater illumination.
- Note that light levels will be affected by the reflectance of surfaces within the facility, such as the walls, ceiling, floor, racks, pallets and containers. A black coloured wall or ceiling will not be as reflective as a white wall. Keep in mind that shiny metal racks will reflect light while brown-coloured boxes and other containers will absorb light.
- Appropriate lighting levels is essential in a warehouse to promote worker safety and performance. O.H.&S. (occupational health and safety) and WCB (workmen's compensation board) rules and regulations must be met in order to maintain safety standards.

## Illumination Levels for Task Category

Task Category	Examples	Min.Illumination level in lux
1. simple orientation for short temporary visits	inactive storage, waiting areas, VDT screens, log loading and unloading	50
2. working spaces where visual tasks are only occasionally performed	stairways, freight elevations, truck loading, active bulk storage	100
3. visual tasks of high contrast or large size	bakery mixing rooms, hospital central (clean) linen rooms, locker rooms, reading good quality text, casual reading, simple assembly, hand or simple spray painting, rough lumber grading, rough woodworking and benchwork.	200
4. visual tasks of medium contrast or smallsize	hair styling shops, kitchens, vehicle repair garages, sawmill filing-room (work areas), reading poor quality text, prolongue or critical reading, medium bench or machine work, mail sorting, fine hand painting and finishing, fine woodworking and finishing	500
5. visual tasks of low contrast or very small size	difficult assembly tasks, difficult inspections, weaving, clothing alteration, finishing lumber grading	1,000
6. visual tasks of low contrast and very small size over prolongue period	very difficult assembly tasks, sewing, fine bench or machine work, extra-fine hand painting and finishing	2,000
7. very prolonged and exacting visual tasks	exacting assembly or inspection, extra fine bench or machine work, precision maual arc-welding	5,000
8. very special visual tasks of extremely low contrast and small size	very detailed cloth product inspection and examination	10,000

# Warehouse Smart LED Control System

**Bright Solutions introduces an innovative wireless control system that uses wireless radio frequency (RF) signal to network individual lighting fixtures for smart and control strategies.**

Each lighting assembly may contain a wireless receiver that controls the lighting level of that individual fixture and receives its information from a cloud manager controller.

Dimming delivers even further energy savings over the initial energy saved by retrofitting traditional lighting systems.

The life of the LEDs and their electronic components are also further enhanced by optimizing the operational levels at which they operate, i.e.; dimming at midnight, etc.

**CLOUD MANAGER:** Utilizing a web-based central management program, all your lighting can be programmed to dim to your required schedule and controlled from any location with Internet access, i.e.: your computer, iPad, smart phone.

## Vision-Net with Cloud Manager

The Cloud Manager is a web-based central management program that allows users to monitor and manage each individual lighting fixture or zone from any location with Internet access. Each Cloud Manager can link and control up to 250 lighting fixtures.

Multiple Cloud Manager systems can be combined to allow different facilities with additional fixtures to be connected.

- Display real-time energy usage by zone or for the entire network, along with light statistics
- Control modes include Sunrise-Sunset, Time of the Day, and Manual, allowing for timed dimming, switching and motion-control settings.
- Lights may be grouped together into independently controlled zones, based on user-defined strategies, to decrease energy usage and to increase safety.
- Programmed parameters are maintained throughout power outages.
- Automatic sunrise-sunset calculation based on GPS coordinates.
- Cloud Manager only consumes 4 watts of power.
- Power Input: 100-277, 347-480VAC
- Operating temperature: -40C to 70C
- Web-based user interface can be accessed by most computer, tablet and smart phones.

