LEDLights4You

ONLINE GUIDES

Free Guide: Warehouse Microwave LED Refit

Specialists in microwave sensor lighting systems

Contact

sales@ledlights4you.co.uk or call now on 0333 344 6084

AQUALISA

RHENUS LOGISTICS

GWP Group

INFLITE THE JET CENTRE

DAY AGGREGATES

Cablecraft

iosh

ILP Institution of Lighting Professionals

RecOllight Recycling light

CHAS® Accredited Contractor CHAS.co.uk

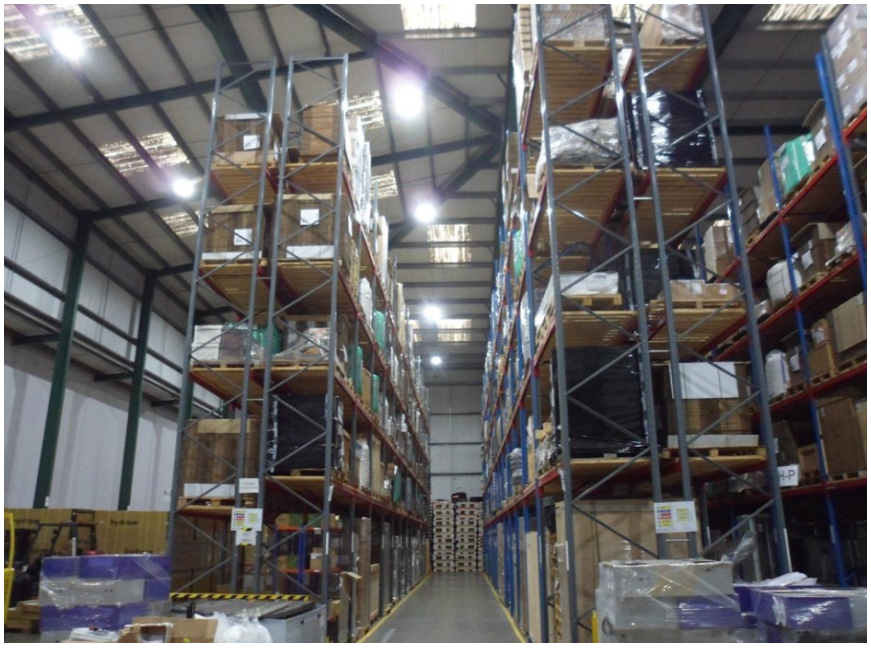
Warehouse & Factory Lighting Refit

This guide provides a professional overview of the electrical and lighting installation process for a new warehouse. It's designed to help you understand the key stages and considerations involved. This is for informational purposes and should not replace consultation with qualified lighting engineers and contractors.

Pictures show the before (top) and after (below) at Rhenus High Tech Ltd



Before



After

Commercial and industrial lighting frequently constitutes a significant portion of overall energy consumption – often as high as 70%, particularly in buildings with extended operational hours.

Energy-efficient lighting

Firstly, upgrading to energy-efficient lighting technologies is crucial. LED lighting, for example, consumes significantly less energy than traditional incandescent or fluorescent bulbs, offering substantial long-term savings.

Intelligent lighting controls

Secondly, implementing intelligent lighting controls, such as occupancy sensors and daylight harvesting systems, can drastically reduce energy waste. Occupancy sensors automatically switch lights off when a space is unoccupied, while daylight harvesting systems adjust artificial lighting levels based on the availability of natural light. These technologies ensure that lights are only on when and where needed.

Regular maintenance

Thirdly, regular maintenance is vital. Dirty or improperly maintained lighting fixtures can reduce light output, necessitating higher energy consumption to achieve the desired illumination levels. A proactive maintenance schedule can ensure optimal lighting performance and energy efficiency.

Reduce long-term lighting energy consumption

Finally, incorporating energy-efficient design principles during new construction or renovations can significantly reduce long-term lighting energy consumption. This includes optimising window placement for natural daylight and employing reflective surfaces to maximise natural light penetration.

By combining these strategies, significant reductions in energy consumption and cost savings can be achieved. A comprehensive energy audit can help identify areas for improvement and tailor solutions to specific building needs.



Handheld remote/ programmer



Using the combination of LED lights with microwave sensors can make **energy savings of up to 90%**. This means the payback is often just less than 24 months.

This proposal outlines a cost-effective and efficient plan to retrofit your warehouse lighting system with energy-saving LED microwave sensors.

This upgrade will significantly reduce energy consumption, lower maintenance costs, and improve overall workplace safety and productivity.

Existing lighting systems, even if LED, likely consume substantial energy – especially with potentially outdated, obsolete technologies. High energy costs and frequent bulb replacements contribute to increased operational expenses and potential downtime.

Replacing your current lighting fixtures with energy-efficient LED lights incorporating microwave occupancy sensors is the recommended solution. This technology provides several key advantages:

Energy Savings



LEDs consume significantly less energy than traditional lighting options, reducing your electricity bill considerably. The microwave sensors ensure lights only operate when needed, further minimising energy waste.

Recent advancements in LED technology have significantly improved lighting efficiency and design. Newer LEDs boast substantially higher lumens per watt, resulting in a wider, more effective light spread. This allows for lighting redesigns using fewer fixtures while achieving superior illumination.

A prime example is Stansted Airport's hangar (pictured), where a redesign utilising the latest LED technology reduced the number of light units from 72 to 56, while simultaneously tripling the LUX levels.

This demonstrates the considerable potential for energy savings and improved illumination through the adoption of advanced LED lighting solutions.

Fewer fixtures mean reduced installation and maintenance costs, leading to lower overall lifecycle expenses. Moreover, the improved light spread contributes to a more evenly lit and comfortable environment—crucial in applications like airports, where safety and visibility are paramount.

This case study highlights the significant advantages of incorporating cutting-edge LED technology in lighting projects. Businesses and organisations can achieve considerable cost savings and improved performance by adopting these innovative solutions.

Reduced Maintenance

LEDs boast a much longer lifespan. The build life can now be 100,000+. With some warehouses operating 24/7, this is a big plus in both energy saving and maintenance.

Improved Safety

Well-lit workspaces minimise safety hazards, reducing the risk of accidents. Consistent illumination provided by the sensors ensures optimal visibility throughout the warehouse.

Enhanced Productivity

Improved lighting enhances worker comfort and focus, potentially boosting productivity.

Implementation

A phased approach can minimise disruption to warehouse operations. The process includes a detailed assessment of your existing system, procurement of suitable LED fixtures with microwave sensors, and professional installation.

We can provide a comprehensive project timeline and budget accordingly.



Return on Investment

The substantial energy savings and reduced maintenance costs will rapidly yield a significant return on your investment.

We'll provide a detailed ROI calculation based on your specific warehouse parameters – often less than 24 months.

We're confident this LED microwave sensor retrofit will deliver substantial benefits to your warehouse operations. Contact us for a free consultation and tailored proposal.



Installation

Ledlights4you, with our dedicated team, will complete a warehouse within 3–5 days, transforming a vacant warehouse into a fully operational facility in just five days. This will include all the necessary electrical testing.

Our expert team of qualified electricians and installers are well versed in this type of operation, working to safety standards such as CHAS, NICEIC, and IPAF.

Remember, proper electrical installation is crucial for safety and operational efficiency. Consulting with experienced professionals is highly recommended throughout the entire process.

Video Links: https://youtu.be/ODlObUKcEPk



External Flood Lighting

LED floodlights, while energy-efficient, suffer from premature failure due to a phenomenon called osmosis. Fluctuations in internal air pressure, caused by temperature changes, create pressure differentials that force moisture past seals, damaging low-voltage circuits. This results in significantly reduced lifespan, often within 12–24 months.

This issue is illustrated by Day Aggregates Ltd. in Avonmouth, Bristol, which experienced consistent failures within this timeframe. Their experience highlights the significant operational and financial impact of unreliable lighting.

LEDlights4you addresses this problem with sustainably manufactured floodlights featuring sealed electronics and vent valves. This design mitigates pressure build-up, preventing water ingress and extending operational life.

The success of this solution is evidenced by Great Western Packaging Ltd., who have enjoyed over seven years of trouble-free operation using these lights.

Replacing unreliable floodlights with a robust, sustainable alternative offers significant long-term cost savings and operational efficiency. The integrated vent valve technology provided by LEDlights4you is a proven solution for overcoming the limitations of standard LED floodlights.

Self-Test Emergency Lighting

Self-test emergency lighting saves valuable staff time on regular monthly testing, as this innovative technology ensures that all emergency lights will carry out a 3-hour test every month.

Saving you valuable staff time and ensuring your company meets compliant safety standards.



Pricing & Lighting Report

It couldn't be simpler. With over a decade of experience, a warehouse refit requires an on-site survey to consider existing connections and layout improvements, often reducing fittings and ultimately overall project costs.

We provide a full specification, plus energy savings and payback rates.

Finance is also available for the whole deal, so you can ease your initial finances for up to 5 years or more.

For a quick online price, send us your building location, number of lights for replacement, with photos and racking plan to: **sales@ledlights4you.co.uk or call now on 0333 344 6084**



Essential Documentation

Health and Safety documents are essential before and after installation. Detailed records of all installations include:

- Energy Saving Forecast
- Specification and Costs
- Risk Assessment & Method Statement
- Works Schedule
- DiaLUX Plans
- Schematics
- Electrical Testing Results
- Inspection Reports

LEDLights4You

ONLINE GUIDES

Case Studies

Inflite Jet Centre – Stansted Airport



Project Cost:	£20,975
Payback:	18 months
Energy Saving:	89%
5-Year Saving:	£58,782
Carbon Saving:	78 tonnes CO_2e

Existing Technology

Because Stansted Airport owns the infrastructure, Inflite were paying a premium for their electricity of 50p per kWh.

The hangar had 72 x Metal Halide 400W (453W load) units using 32kW per hour, costing around £120 per day.

Issues

Many of the units had overheated and failed, with bulbs sometimes exploding – causing extreme concern for the expensive jet-powered private jets below. The damage could have easily run into millions or caused an airborne incident.

Maintenance had become an issue, with units failing. The LUX levels were barely 100 LUX.

Solution

The Ledlights4you team installed just 56 x LED smart high bay lights in a new design plan – saving Inflite Engineering Ltd of Stansted a massive £58,782 over the next 5 years!

Using individual microwave occupation sensors on LED lighting, we can program the lights to react to daylight, sensitivity, duration, or hold time.

Often, while the hangar holds up to 3 Learjets, the technicians are only at one end of the hangar.

LUX levels throughout the production area were increased from 100 LUX to over 300 LUX on average.

Burch Valley Plastics – Plymouth

Cablecraft

Project Cost:	£18,626
Payback:	23 months
5-Year Saving:	£42,459
Carbon Saving:	63 tonnes CO_2e



Existing Technology

Production used T5 Quad High Bays. The warehouse lighting was Metal Halide 400W (453W load) units, with other areas and mezzanines.

Issues

Maintenance had become an issue with units failing. Production lighting barely met H&S standards on the late shifts.

There were also areas in production, warehouse, and communal spaces where it was unnecessary to have lighting on all day. Therefore, savings could be made using individual occupation microwave sensors.

Solution

The Ledlights4you team were able to reduce the production lighting while significantly improving the light quality by over 100%.

Using individual microwave occupation sensors on LED lighting, we can program the lights to react to daylight, sensitivity, duration, or hold time. In production areas, the hold time is extended to ensure operators have adequate light when operating or adjusting machinery. As a safety measure, these lights dim for one minute before switching off automatically.

Microwave sensors have two main advantages: they have multiple settings and will scan an area of up to 15m, ensuring instant switch-on when the area is occupied.

LUX levels throughout the production area were increased from 120 LUX to over 320 LUX on average.