



2018



CASE STUDY

ENERGY SAVING LED LIGHTING, SPECIALLY ADJUSTED FOR
A PORCELAIN PRODUCTION FACILITY

ZPS "KAROLINA"
www.luxon.pl



ZPS "KAROLINA"

ESTHETICS
AND FUNCTIONALITY

The Karolina production facility is a company with a 150 year old history of delivering porcelain serveware. The organization is ranked high among European manufacturers and their wares are widely recognized not only in the EU but also in the USA and Egypt. The company is a workplace for a few hundreds employees assigned to various departments. Individual workspaces, the quality control department, furnace rooms, the surrounding outdoor area, and the office spaces - all of them needed a proper lighting system.





CHALLENGE

SPECIFIC NATURE OF PORCELAIN MANUFACTURING

The manufacturing process demands a lot of attention and precision. The key lies in illuminating each workspace in a manner that enables employees to work in a safe and comfortable environment, allowing them to notice even the smallest decorative details. Good visibility is mandatory at the workplaces in the Quality Control Department - the temperature and intensity of the light determine if the smallest defects or imperfections will be left unnoticed. Choosing the right fixture for each section of the facility was very important. The furnace rooms played a crucial role, due to the extremely high ambient temperature reaching up to 60 degrees Celsius. The main requirements stated by the customer was to

adjust the production area to the recommended light levels and foremost to reduce the electricity bill.



We paid particular attention to the complex needs of the client, we approached the project in a personalized way to meet all of its expectations - reducing energy consumption below 50% and increasing the lighting intensity at workplaces.

Łukasz Grzyb
Key Account Manager
LuxonLED





SOLUTION

INDIVIDUALLY TAILORED LIGHTING SOLUTIONS FOR EACH PRODUCTION SECTION

We started our task by conducting a thorough audit, which allowed us to determine the lighting levels standards. By doing this we helped the customer to achieve an energy performance certificate - white certificate - issued throughout energy savings generated as a result of a modernization. The Quality Control Department has been equipped with more than 100 Industrial:LED 4.0 luminaires. The installation was preceded by careful test of various types of cold temperature lights. Due to the nature of the conducted work, the 5700K temperature was chosen as the best suited for the task, it allowed the workers to notice the slightest flaws or blemishes.

In the key section of the production halls, workspaces and communication passageways over 1000 hermetic Baltic:LED luminaires have been installed. The outdoor lighting system has also been upgraded: the luminaires in the near proximity of the facility and the ones at the parking area have been exchanged with modern Cordoba:LED 2.0 fixtures. The furnace rooms have been equipped with Ultima:LED PRO fixtures, which are able to operate in an ambient temperature of 65 degrees Celcius and deliver excellent light levels.



EFFECTS

- Reliable Ultima:LED PRO fixtures which can withstand higher temperatures up to 65 degrees Celcius, enables a prolonged lifespan and optimal light levels at workspaces.
- An adequate light temperature in the Quality Control Department allows to carefully evaluate each batch, lowering the possibility of potential claims.
- Reduced electricity costs by 43%
- Adjustment to current standards - which granted the customer an energy performance certificate.
- Maintaining a steady flow of the manufacturing process during the modernization.



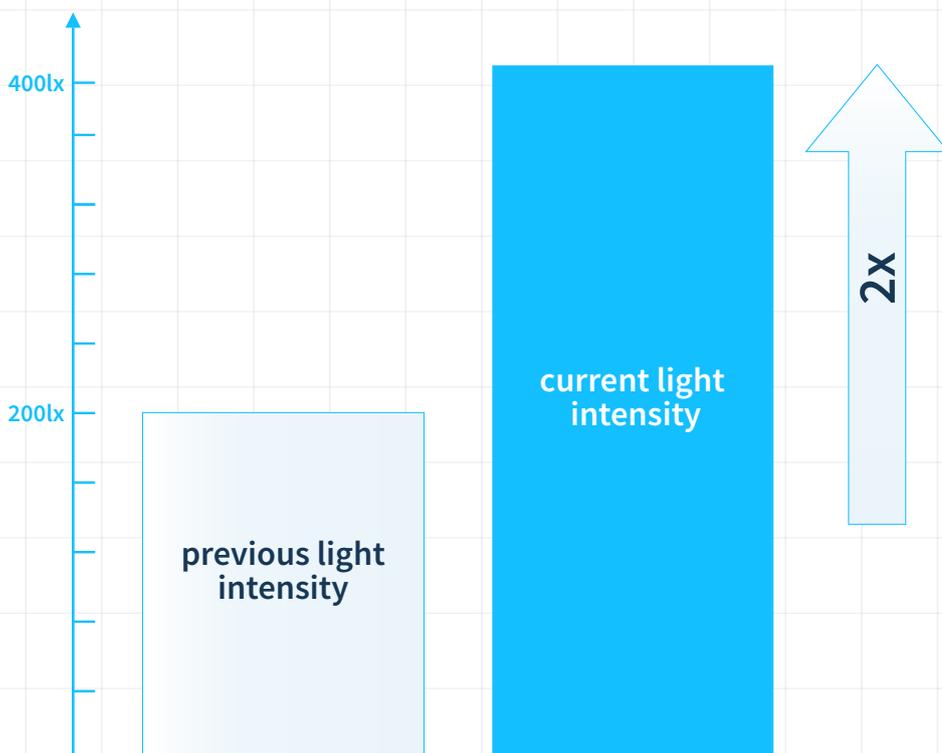
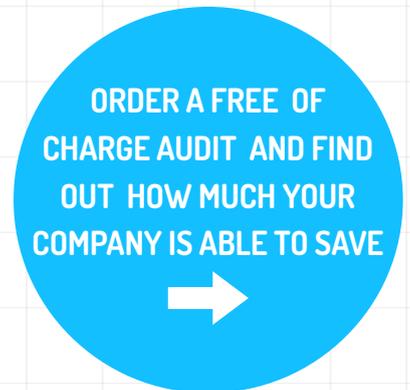
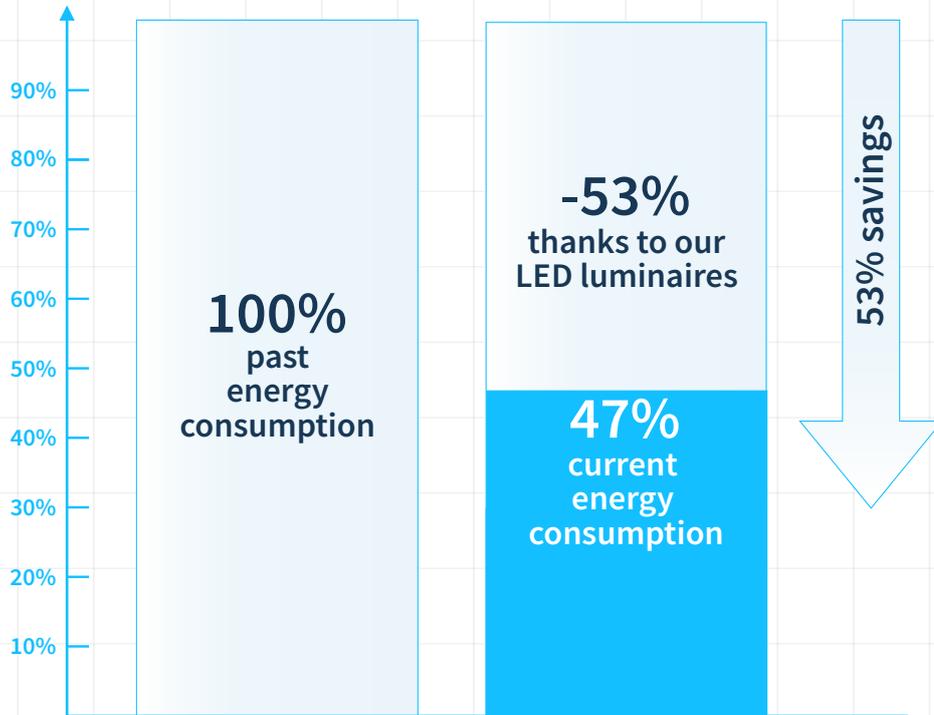
Ultima: LED Pro is equipped with a Smart Control system that prevents overheating of the luminaire at high temperatures. When the temperature of the room increases above the maximum specified by the manufacturer, the luminaire reduces its power, thus lowering its temperature.

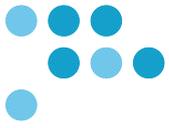
Patryk Głowacki
R&D Manager



IMPLEMENTATION SUMMARY

53% LESS ENERGY CONSUMPTION
26 355 EURO SAVINGS PER YEAR





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FURNACES IN
PRODUCTION HALL

