



# ERNEST DOE

ERNEST DOE POWER HARVESTS  
SUBSTANTIAL RETURNS WITH  
MAJOR ENERGY-SAVING LIGHTING  
UPGRADE.

## ABOUT THE CLIENT

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Leading agricultural equipment suppliers, Ernest Doe Power, invest in Dextra Lighting's energy-efficient products for their brand-new workshop in Framlingham, Suffolk. Following a series of successful trials, the team at Ernest Doe Power were enthusiastic about incorporating the popular Tracer LED Lowbay and an array of high-efficiency T5 luminaires, to the list of energy-efficient technology (including PV panels), to create a sustainable and eco-friendly facility, without compromising on look, comfort and performance.



Ernest Doe is a long established family firm with a network of 19 country stores and workshops in the South-East and East Anglia. The company is the largest agricultural, construction and groundcare machinery dealer in the UK. Managing Director Colin Doe is the fourth generation of the family to have run the business in its 100+ years of trading with his son, Angus Doe, who is presently the Service Director.

In 2015, its Framlingham branch underwent major renovation work, replacing the old workshop with a new 600m<sup>2</sup> state-of-the-art facility and a 100m<sup>2</sup> extended bulk store. The aim of the project was to increase the site's storage capacity to accommodate higher volumes of stock and provide more accessibility to work on the Case IH machinery, including tractors and combines, indoors. As the new workshop was being constructed, staff were relocated to a temporary facility to deal with the disruptions to service.

## THE BRIEF

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While low energy consumption was a top priority for the project, the new installation had to provide the highest levels of visibility and comfort to assist technicians working on machinery and other equipment. Low maintenance and quick and easy installation were also key factors in the lighting design, ensuring staff a swift return to their Framlingham site and minimising future interruptions to the workshop's busy schedule.

The lighting upgrade aimed to cover the main high-level workshop area on the ground floor, the mezzanine level and the branch's bulk store extension.

In addition to offering a fast return on investment in the form of reduced electricity and maintenance costs, the new luminaires were expected to be highly durable, capable of withstanding the rigours of heavy trade and industrial use. Emergency lighting also needed to be installed and checked by local fire safety authorities.

Following a series of successful trials, a detailed report including 3D CAD drawings, photometrics, illuminance, uniformity and LG3/7 ratio calculations was presented to Ernest Doe Power's managerial staff and appointed building contractors, Cadman Construction Ltd, for final approval.



## THE SOLUTION

### Main Workshop / High Level lighting – Tracer LED Lowbay

The Tracer LED Lowbay is designed to combine cost-effectiveness, energy efficiency and aesthetic appeal in a single attractive package. Engineered to minimise total cost of ownership with each installation, the luminaire was selected to save Ernest Doe Power money in terms of electrical consumption, installation, and maintenance. Available in a higher band of lumen outputs, the luminaire was supplied in a 30,000lm, 195w, and a 24,000, 204w 155w version, to efficiently replace the existing HID luminaires. The high-output versions allowed the installation to comfortably achieve improved light levels of over 500 Lux at high ceilings of 6.5m, whilst maintaining a uniform distribution throughout the open plan workshop. Operating at an impressive 130 luminaire lumens per circuit watt, the luminaire provided immediate energy savings of at least 45% thanks to its high-quality Lumileds LEDs and highly efficient optic design.

In addition to the significant reduction in power load for each luminaire, the Tracer LED accelerated payback rates for Ernest Doe Power by minimising the costs of routine maintenance.

Using high-quality LEDs with a typical lifetime of over 50,000 operating hours and extended lumen maintenance (maintained brightness of the source), the installation guarantees long-term savings for the company, as frequent lamp changes are no longer required to compensate for the higher failure and lumen depreciation rate of fluorescent and HID sources. The Tracer LED's practical polycarbonate cover also offers ease of cleaning, allowing the luminaire to perform at its best with minimal maintenance. By combining these two factors, each fitting is set to perform as it did from the moment it was installed for an extended period of time, without the hassle or extra cost of frequent re-servicing.

Money was also saved through cost-effective installation, with the Tracer LED's hinged covers for simplified access and wiring, and its attractive, slimline/low weight construction making it easier and quicker for appointed electrical contractors, Provide X, to suspend the luminaires from the workshop's high ceilings. In addition to the 2 point suspension system used at the workshop, the luminaire also offers suitability for surface mounting and trunking to suit a range of applications.



## Main Workshop (under mezzanine) / Low Level Lighting – EcoPack T5

Across the internal perimeter of the workshop and under the mezzanine, the EPK luminaire offered an effective replacement for the existing fluorescent battens, by combining the energy-efficiency of its high-performance T5 lamps with its high-transmission curved opal diffuser.

A large part of the EPK's success is owed to its cost-effective installation features. With a matching footprint to legacy fluorescent fittings for quick and easy one-to-one installation, and a practical two-part construction with separate rear spine, clip-on gear tray and diffuser for simplified mounting, the luminaire generated significant financial savings for the horticultural firm before the luminaires were even switched on.

Thanks to a comprehensive range of reflectors, body sizes, covers, single or twin body options and emergency lighting packages, the luminaire offers increased flexibility to tailor the design to the project's specific requirements. A wide selection of lighting controls including, HFR, DALI, DSI, Bi-level and Switch dimming functions are also available with this range, offering compatibility with an integral Reacta 21 sensor offering presence detection to harvest further energy savings.



## Mezzanine / Hydra T5

The durable and efficient Hydra T5 luminaire was utilised in the upper mezzanine storage area, to provide uniform coverage and achieve the required lux levels of 250. The surface mounted luminaire was selected for its high-efficiency T5 lamps offering significant energy reduction and a high MF of 0.80 on a typical installation compared to HID equivalents, and its IP65-rated, injection-moulded GRP body providing protection against dirt, dust and water ingress and light impact, as well as resistance to temperatures as low -20C°.

Ideal for a host non-hazardous industrial applications such as workshops, utility areas, factories and garages, the Hydra is offered with a range of options including 6 body sizes in single or twin lamp configurations, either a polycarbonate or acrylic diffuser, and a complete selection of dimming options for added control and increased energy savings.

At the workshop, the luminaire was supplied in both 1 x 49w and 2 x 49w lamp versions, with High Frequency dimming protocols to provide flexibility to adjust the lighting accordingly. The Hydra's quick slide-clips also allowed for a rapid ceiling installation, creating further savings for the farming supplier. To facilitate routine maintenance, the luminaire offers tooled access with stainless steel clips and tamper-resistant screws in compliance with current regulations. A range of integral emergency packages is also available with the Hydra to suit the building's safety requirements.

## CUSTOMER FEEDBACK

Following the extremely positive feedback from the initial trials, the completed installation received double praise for its energy-efficiency and premium performance, with a senior engineer commenting that "there is no comparison to the old fittings, no shadowing and almost like daylight".

## FEATURED PRODUCTS

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TRACER LED LOWBAY



HYDRA



ECOPAK



EXI