

Providing clean air and reduced CO₂ levels in a busy distribution office.

CleanLight is a powerful LED panel, proven to clean the air by destroying viruses and bacteria, including COVID-19 wherever it shines.

Approved by eminent microbiologist Dr Carl Edwards and extensively tested in laboratories as well as real-world trials, CleanLight has been proven to eliminate the problem of bacteria, viruses, pollutants, and odours in the air across all indoor environments.

AIR QUALITY AUDIT



Our Air Quality Audit is a precise, scientifically verified process that accurately measures airborne pathogens and shows where the potential for onwards transmission of disease is greatest.

As part of Lightico's Centre of Excellence program the Leeds distribution hub of UK electrical wholesale Rexel was chosen as a test site for the utilisation of CleanLight. This busy distribution office manages the fulfilment of orders across the North of England with a high volume of staff coming in and out throughout the day.

The challenge

This busy office contains not just administrative staff but also needs to accommodate staff from both the trade counter and fulfilment warehouse. This constant heavy footfall means that social distancing is impractical. In a business heavily reliant on the manual processing of orders the potential for cross transmission of airborne illnesses, such as influenza and COVID-19 is very high. **The potential loss of productivity is therefore significant.**

The area had no provision for mechanical air handling with no fresh air intake or extraction installed. With the room in constant use and only one window there was no real solution for managing poor air quality or increased CO₂ levels.

This was evident in the CO₂ level readings and bacteria collections carried out during the "before" phase of the Air Quality Audit. Throughout the testing period CO₂ levels were in excess of 1500ppm. **The HSE states that "CO₂ levels consistently higher than 1500ppm in an occupied room indicate poor ventilation and you should take action to improve it."**

The solution

Following the completion of the Air Quality Audit a lighting design was created that replaced the existing lighting configuration ensuring lighting levels were delivered inline with CIBSE guidelines. This ensured consistent coverage of CleanLight panels that Lightico calculated to deliver the equivalent of 7.32 ACH (air changes per hour).

Through the simple replacement of the existing lighting the CleanLight panels are now providing clean air without the need for the business invest in the installation and operation of mechanical ventilation,

"We are delighted with the results of this case study! At Rexel Lighting Solutions we pride ourselves on being at the forefront of new and emerging technologies and these results prove that Lightico have a fantastic innovative product that WORKS! It's great to be working in partnership with Lightico to bring this technology to market to help keep both our Rexel colleagues and their customers safe and healthy"

REXEL

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Steve Britton—Rexel New Product Development Manager

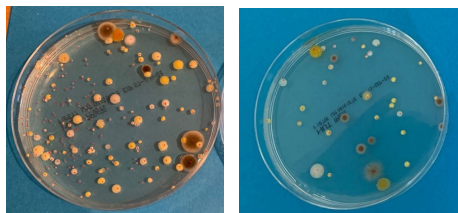
The results

Following the installation of CleanLight the “after” stage of the Air Quality Audit was completed. From this a significant improvement in air quality was identified when measuring both CO₂ level and bacteria counts. This not only will reduce the potential risk of the transmission of airborne pathogens but also means that the business will no longer need to act on high levels of CO₂ causing short term impact to productivity.

By not being forced to install mechanical air handing to maintain air quality the business has saved both a large, upfront capital investment as well as an increase in operating costs and carbon emissions.

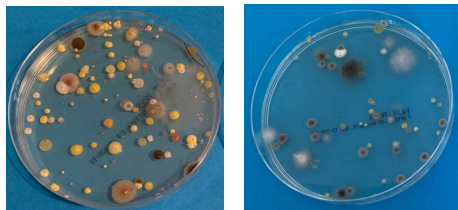
Plate location	Bacterial colony count (per plate) - TVC		% Diff
	Before Cleanlight	After CleanLight	
Office Position 1	60	38	37%
Office Position 2	87	40	54%
Office Position 3	201	51	75%
Office Position 4	102	70	31%
Office Position 5	117	35	70%
Total	567	234	59%

Bacteria collected after CleanLight was installed was 59% lower



Before

After



Time	Fixed CO ₂ Monitor	
	Before CleanLight	After CleanLight
Start	1547ppm	642ppm
15 mins	1522ppm	685ppm
30 mins	1571ppm	667ppm
45 mins	1603ppm	685ppm
60 mins	1628ppm	551ppm

The bigger picture

CleanLight from Lightico provides a solution where your staff’s work would be compromised, by adding protocol and extra processes to better protect them.

The starting point is always an accurate assessment—using our Air Quality Audit. Once the danger areas have been identified, our CleanLight LEDs can be fitted quickly and take immediate effect. By killing airborne bacteria, viruses, pollutants, and odours with nothing but light, CleanLight provides, non-intrusive, instant and highly effective protection.

Switch CleanLight on, and switch on a new level of protection, with almost no disruption and no increase to your energy bill.