

## Protecting staff and customers at City Electrical Factors Heathrow Branch

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.

CEF Heathrow North joined the Lightico Centre of Excellence programme in May 2022. Lightico onboard all centres with their own air quality audit and CleanLight installation so that staff and customers can see the benefits first hand. Located on the busy M4 corridor the Heathrow North branch serves hundreds of customers every day.

### The challenge

Electrical wholesale branches break down into 3 distinct areas, the trade counter, sales office and distribution warehouse. Each of these areas provide unique challenges in managing air quality and the risk of airborne transmission of disease. With the trade counter area being open to the public and staff from the warehouse and counter congregating in the sales office the risk to staff of airborne illnesses, such as influenza and COVID-19 is very high. **Therefore the potential loss of productivity and service levels is significant.**

The branch has limited provision for mechanical air handling other than the ability open external windows and doors. With the room in constant use there was minimal scope for managing poor air quality or increased CO<sub>2</sub> levels.

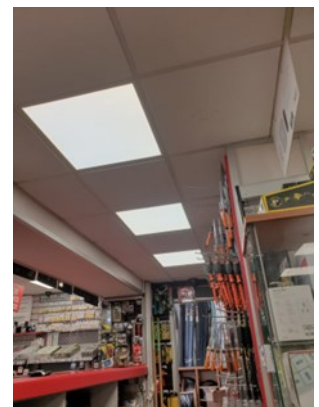
This was evident in the CO<sub>2</sub> level readings and bacteria collections carried out during the "before" phase of the Air Quality Audit. Throughout the testing period, CO<sub>2</sub> levels averaged 1,400ppm. **The HSE states that "CO<sub>2</sub> levels consistently higher than 1500ppm in an occupied room indicate poor ventilation and you should take action to improve it."**

Airborne bacteria levels were measured at over 500 CFU/m<sup>3</sup> throughout the branch. According to the sanitary standards of the European Commission for non-industrial premises, the permissible limits of bacterial load is  $\leq 500$  CFU/m<sup>3</sup>

### The solution

A lighting design was created that inline with CIBSE guidelines for working light levels. This also provided consistent coverage of CleanLight panels that Lightico calculated to deliver the equivalent of 6.77 ACH (air changes per hour) in excess of the 5 ACH, also recommended by CIBSE.

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



**"The Centre of Excellence programme is a great way for us as a branch to understand the benefits that CleanLight delivers because we can see it for ourselves every day. To have a live example of how the product can reduce CO<sub>2</sub> levels and provide a visible difference to air quality is so powerful when presenting CleanLight to our customers."**

**Arran Scott — Branch Manager, CEF Heathrow North**

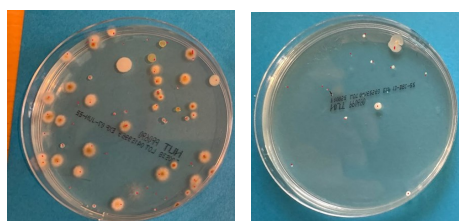
## The results

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 CO<sub>2</sub> 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 CO<sub>2</sub> 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.

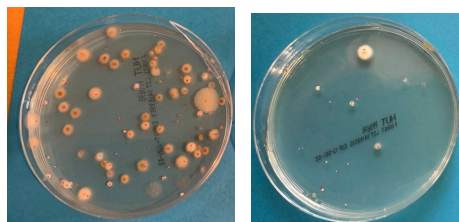
Plate location	Bacterial colony count (per plate) - CFU				% Diff
	Before Cleanlight	Before Cleanlight	After Cleanlight	After Cleanlight	
	CFU	CFU/m <sup>3</sup>	CFU	CFU/m <sup>3</sup>	
Location 1	53	562	22	233	-58%
Location 2	62	658	13	138	-79%
Location 3	97	1029	21	223	-78%
Location 4	38	403	15	159	-60%
<b>Average across the location</b>	<b>63</b>	<b>663</b>	<b>15</b>	<b>188</b>	<b>-71%</b>

According to the sanitary standards of the European Commission for non-industrial premises, the permissible limits of bacterial load is  $\leq 500$  CFU/m<sup>3</sup>. By reducing the level of CFU to 188 CleanLight has enabled the branch to adhere to these standards.



Before

After



Time	CO <sub>2</sub> PPM		
	Before Cleanlight	After Cleanlight	% Diff
0 min	1,273	787	-38.18%
15 min	1,384	823	-40.53%
30 min	1,402	892	-36.38%
45 min	1,379	895	-35.10%
60 min	1,562	923	-40.91%
<b>1 Hour Average</b>	<b>1,400</b>	<b>864</b>	<b>-38.29%</b>

## 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.