

CASE STUDY



CLIENT: Lamb Weston/Meijer
LOCATION: Kruiningen, The Netherlands
PROJECT: Food-safe LED lighting for production factory



LED lighting increases visibility and safety in Lamb Weston/Meijer goods-in depot in Kruijningen

Producer of deep-frozen potato products Lamb Weston/Meijer recently provided its goods-in depot for potatoes at its site in Kruijningen with new LED lighting. 'A revamp was needed because the existing LED lighting proved to be incapable of coping with the extreme conditions in the factory area and was producing less and less light output', says William Hoek van Dijke, Technical Services E&I at Lamb Weston/Meijer. 'A trial of the Luci Series Industry LED luminaries from Bever Innovations' Industrial division demonstrated that their luminaries were up to the job of coping with the high temperatures as well as the fats released from the potato production process and water and cleaning agents, with no problems whatsoever. The new lighting was commissioned in December 2018, much to the satisfaction of all parties involved.'

It was more than three years ago that Lamb Weston/Meijer decided to replace all the mercury discharge lamps in its factory in Kruijningen. Not only because the lamps were to be phased out and banned, but also because the lighting output decreased by 50% by the end of their technical lifespan. 'What's more, the switch to LED tied in perfectly with our ambition to produce more sustainable', says Van Dijke. 'We asked various suppliers to tender, including Bever Innovations' Industrial division. We ended up selecting LED luminaries from a third party, though, as these were more food-safe and easier to clean and had a more favourable TCO.'

However, the LED luminaries proved to be incapable of coping with the extreme conditions in Lamb Weston/Meijer's goods-in depot, where potatoes are brought in, sorted, washed and transported. 'The light output had halved in only 18 months and wasn't sufficient to ensure a pleasant and safe working environment. That's why we reconnected with Bever Innovations, which by that time had developed a food-safe, easy-to-clean stainless steel cover for its Luci luminaries. Above all, a pilot with the Bever luminaries in the French fries oven demonstrated their resilience in extreme conditions.' In the oven space, the Luci luminaries are suspended low to the ground and against a hot oven wall that produces a lot of vibration, for instance. Furthermore, this space is regularly subjected to intensive cleaning in order to remove fats and stop dust from building up.

COMPREHENSIVE PROGRAMME OF REQUIREMENTS

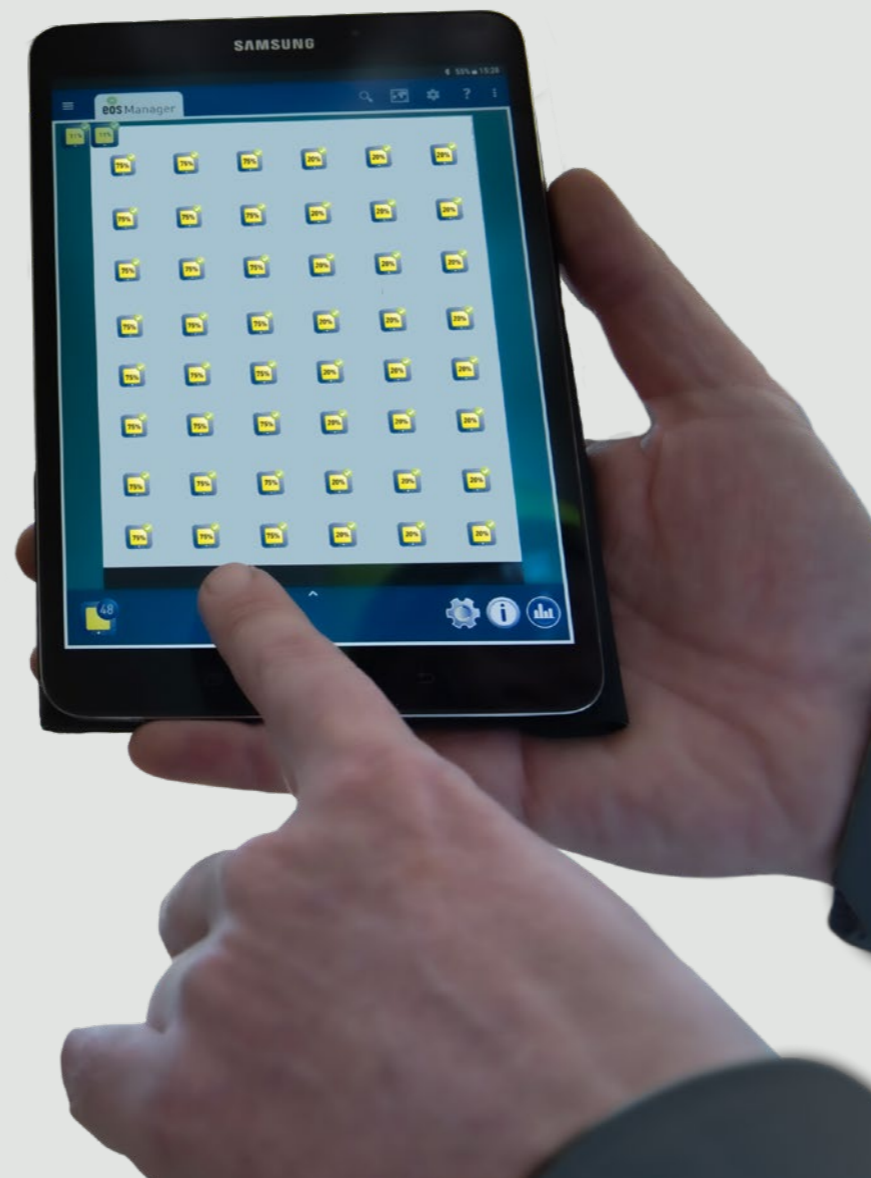
'The LED luminaries in our factory in Kruijningen not only needed to cope with extremely high (60-70°C) and low (-30°C) temperatures, but also had to guarantee a higher



lux level, better colour accuracy and uniform illumination on the floor. We were also looking for reliable, easy-to-clean luminaries with a long lifespan', explains Van Dijke. 'Our production in our factory is round the clock. Any downtime due to faulty lighting is out of the question, as is loss of light. The LED luminaries from Bever Innovations feature various technologies that compensate for this loss.' Jeroen de Jonge, Sales Director at Bever Innovations, Industrial division: 'When the temperature of the LEDs on the PCB rises above 80°C, the Luminaire Intelligent Protection System (LIPS) engages automatically. Thanks to the LIPS, the luminaire automatically dims and is given optimum protection, without making concessions in terms of the stated lifespan. Every segment of the circuit board is continuously monitored for voltage spikes, short circuits and temperature breaches. In addition, the luminaries feature a Light Normalizer that continuously measures reductions in light output and, if necessary, automatically compensates for them.'

STRAIGHTFORWARD, PLUG-AND-PLAY EQUIPMENT

The Luci luminaries were installed by Paree B.V. Elektro Telecom. 'We've been Lamb Weston/Meijer's business advisor and supplier with regard to the electrotechnical equipment (industrial automation) for many years now', says Frank Traas, Manager Industrial Automation. 'In recent years we've guided such processes as the switch from mercury discharge lamps to LED lighting, with our focus being on product quality and TCO. When the quality of the LED luminaries in the goods-in depot fell drastically, we asked Bever Innovations' Industrial unit to develop an alternative lighting plan.' De Jonge: 'The request was for one-to-one replacement of the existing LED luminaries. Consequently, our lighting plan advised using around 100 Luci luminaries. A light colour of 4,000 Kelvin (neutral white) was selected, thus ensuring optimum colour accuracy. Moreover, the lamps guarantee uniform illumination'. Traas: 'All luminaries were supplied plug-and-play, making replacement straightforward. Even at significant heights and in hard-to-reach places'.



DYNAMIC CONTROLS

The Luci Series Industry LED luminaries have been in use for several months now. Lamb Weston/Meijer is not only delighted with the luminaries' robustness and light output but also really taken with the dynamic control options (EOS connectivity). 'At present, we're only using the motion sensors, with several selected luminaries dimming automatically to 50% of their capacity when no staff are around', explains Van Dijke. 'We're intending to make more of these options in the future. For example, by dynamically controlling the lighting with the movements of the forklifts. We're also investigating the possibilities in terms of using the luminaries as a Wi-Fi network. This will make it easy for our (maintenance) engineers in the field to see not only what equipment requires maintenance through the visualisation software but also what process flows are running in each space. Based on this it will be possible for the lighting plan to be further optimised.'

Furthermore, the possibilities for Bever Innovations' LED lighting in the cold storage warehouse and in Lamb Weston/Meijer's outdoor area are being explored at the moment, as is the possibility of using it in the new-build premises being constructed adjacent to the existing factory in Kruiningen.



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