Press Information

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**Philips Lighting enables Dutch tulip grower Karel Bolbloemen to optimize its crop with new tunable LED lighting**

**Eindhoven, The Netherlands –** Philips Lighting (Euronext Amsterdam ticker: LIGHT), a global leader in lighting, announced today it has installed dynamic growth lighting at Dutch tulip grower [Karel Bolbloemen B.V.](http://www.karel.nl/) in Bovenkarpsel, the Netherlands. The system makes it possible to adjust the light recipes[[1]](#footnote-1) during the course of the growth cycle to promote specific growth characteristics, such as stronger stems for its tulips.

**Tulip friendly colors**

With the [Philips GreenPower Dynamic LED horticultural lighting](http://www.lighting.philips.com/main/products/horticulture/press-releases/philips-new-dynamic-led-grow-light.html) both the LED colors in the spectrum (far red, red, white and blue) and light intensities are individually adjusted using software controls. This level of flexibility in a lighting system is beneficial as research[[2]](#footnote-2) reveals that tulips respond differently to various LED-colors.

**Better insights with the right light recipe**

The new controllable system from Philips Lighting gives researchers and growers like Karel Bolbloemen B.V. more insights and options for growth optimization since an unlimited number of light recipes may now be used using the same light source. The lighting can be tuned with precision to improve the quality of the tulips and reduce failure-rates. The flexibility may also be used to better match production to satisfy peaks in demand.

“The new Philips GreenPower LED lighting system gives us the flexibility to adjust light recipes at any moment of the day which gives us new insights to optimize plant growth. With the new Philips LED lighting system it is possible to keep the tulip stems short and compact which makes the tulips stronger” says Bert Karel, owner of Karel Bolbloemen B.V.

**Vertical farming**

Karel Bolbloemen B.V., started in vertical farming in 2011, which makes them one of the first tulip companies in the Netherlands to adopt large-scale 'internal expansion' with multi-layer cultivation. In this multi-layer area of 3,000m2, the tulips are propagated from the start in four layers in containers with an ebb and flow system. The tulips remain in the dark for the first few days to germinate, before LED lighting is added.

“This is a breakthrough innovation. Now with just one lighting system, researchers and growers have the flexibility and precision to fine tune LED light spectra and intensities to steer specific growth characteristics of plants and crops. It gives tulip grower Karel Bolbloemen the flexibility to adjust the light recipe over the growth cycle of his crop to meet the perfect growth needs of its tulips.” says Udo van Slooten, business leader for Philips Lighting Horticulture LED Solutions.

Horti LED partner Van der Laan took care of the technical installation. Van der Laan and application engineers from Philips Lighting designed the custom-made solution for Bert Karel including the software and controls.

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**About Philips Lighting**

Philips Lighting (Euronext Amsterdam ticker: LIGHT), a global leader in lighting products, systems and services, delivers innovations that unlock business value, providing rich user experiences that help improve lives. Serving professional and consumer markets, we lead the industry in leveraging the Internet of Things to transform homes, buildings and urban spaces. With 2016 sales of EUR 7.1 billion, we have approximately 34,000 employees in over 70 countries. News from Philips Lighting is located at <http://www.newsroom.lighting.philips.com>

1. A light recipe is a combination of different light spectra, intensity and illumination timing [↑](#footnote-ref-1)
2. Research ‘Plant & Omgeving’, part of Wageningen University & Research, Business Unit ‘Bloembollen, Boomkwekerij & Fruit’, Stichting Dienst Landbouwkundig Onderzoek, <http://edepot.wur.nl/297061> published in 2012 [↑](#footnote-ref-2)