

> CASE STUDY

NATIONAL COLLEGE FOR HIGH SPEED RAIL LIGHTING FOR A HIGH SPEED FUTURE



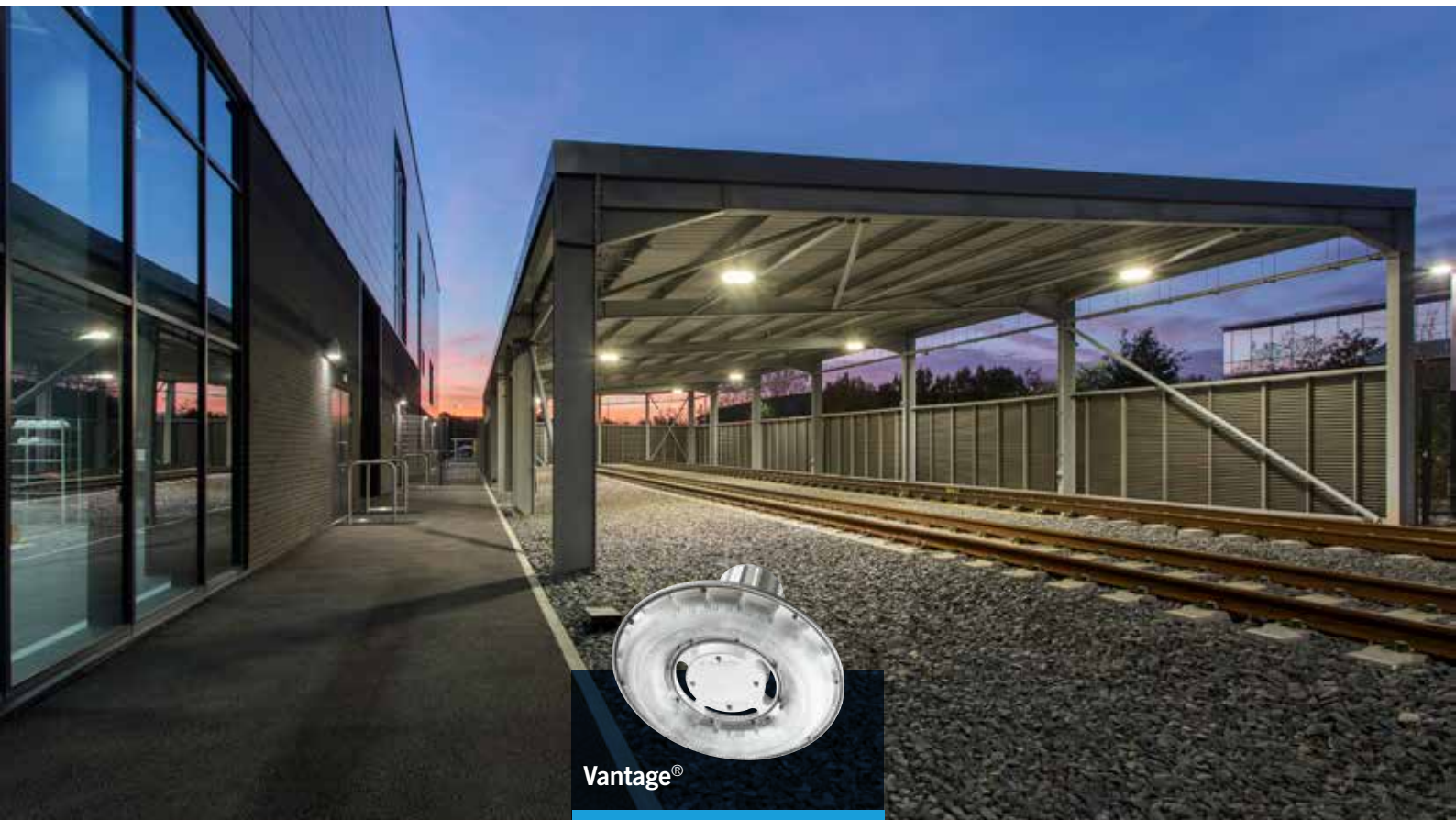
- Quick Facts**
- Exterior concourse lit with the award-winning CityMax
 - Upward light minimised
 - PrismaLED Technology

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CityMAX®



Vantage®

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BACKGROUND

The campus of the National College for High Speed Rail at Doncaster is the largest of five new national colleges created by the Government to help British workers to learn world-class skills. There is a further NCHSR campus at Birmingham and, at full capacity, the college will train 1,200 students a year. This is necessary because there is already a shortfall of new engineers in Britain. The rail industry, in particular, needs young engineers; currently 1 in 5 rail engineers is over 55.

This new National College for High Speed Rail is dedicated to providing the engineering, design, planning, manufacturing and construction skills that Britain needs for the future.

As an example, the Doncaster campus has been equipped with the very latest in rail technology, including virtual reality training on board a Eurostar power car, an augmented reality classroom, and a dedicated BIM (building information modelling) cave. This will help provide the skills required for the new high speed rail network.

The college was opened by the Secretary of State for Education in October 2017.

CHALLENGE

We tend to think of high speed rail as being a fairly new concept but trains which can exceed 300 kph have been in existence for over 30 years and are still running now. France and Japan have well established high speed rail networks.

As a consequence, the lighting at the college had to incorporate the latest optical, electrical and control technology whilst being robust and long lasting. You cannot promote an ethos of quality engineering if some of the lights have failed!



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THE SOLUTION



At this stage, it was decided that almost all the exterior lighting should be provided by Holophane. Since the company has been manufacturing high quality, long lasting products in the UK for over 120 years, it is an ideal example of the benefits of good engineering.

Holophane amenity lighting, bulkheads and highbays were used in a variety of external areas.

1 As you approach the front concourse, the pedestrian area is illuminated with the award winning CityMax. This is an attractive circular post top lantern mounted on an attractive 'V' bracket which emits minimal upward light. With a rated life of 100,000 hours the fitting is guaranteed to last for years to come. The individual LED optics on the CityMax provide excellent optical control with a high degree of uniformity at ground level.

2 The main car park and rear of the building are illuminated with the Holophane D-Series streetlight. The rated life of the LED light engine is of over 100,000 hours, so it is designed to last. The unique optics placed below each LED ensure even lighting with minimal light pollution.

3 There is a canopy over the train tracks towards the rear of the building and whilst, technically, the luminaires are under cover, they are exposed to all the elements. Here, the College has used the Vantage LED luminaire with PrismaLED technology. This is an IP65 highbay luminaire with a torus shape, low glare prismatic diffuser.

4 Close to the exit doors around the College are wall mounted Denver Elite Walls with PrismaLED technology. These have a fluid triangular shape (technically, it is trilobular). The internal prisms of the glass cover limit upward light to less than 3% and enable wide spacings around the perimeter of the buildings to be achieved with good uniformity.



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