

**THORN**  
LIGHTING

# ABBEY WOOD, UK

Case Study



# CROSSRAIL ABBNEY WOOD STATION

Thorn Lighting has supplied a variety of luminaires for the new Crossrail Abbey Wood Station in South East London. Zumtobel Group has worked in partnership with Balfour Beatty and Anderson Green Building Services Consultants to deliver the perfect lighting solution. Thorn's Rob Pearce worked with Jens Hugaard from Anderson Green to complete numerous designs that would support the project and its complex requirements. Thorn's concept design was chosen to include the company's Contrast, Aeraflood PRO, Mica, College, Chalice, Voyager, Eyekon and Impactforce luminaires.

The project is being delivered by Crossrail Limited, a wholly owned subsidiary of TfL (Transport for London), and is jointly sponsored by the Department for Transport and TfL. Balfour Beatty, who managed the £363m development in South East London, has led the scheme since the contract was awarded to them by Network

Rail, transforming Abbey Wood into Crossrail's southern terminus. This demanded a meticulous and multi-disciplined approach in both design and construction. The opening of the new station complex at Abbey Wood is an important milestone, bringing the massive project one step closer to the introduction of the Elizabeth line services in autumn 2019. Abbey Wood will be one of ten new Elizabeth line stations and the route will pass through 41 stations from Reading and Heathrow in the west, through new twin-bore 21 km tunnels to Shenfield and Abbey Wood in the east.

The Abbey Wood station has been dubbed The Stingray or Manta Ray as from above, the station is shaped like a ray, its zinc-surfaced "wings" extending into canopies sheltering staircases on either side. Thorn's IP66 rated [Contrast 2 LED](#) large and medium fittings have been utilised to highlight the arched/bow wooden roof structure above the concourse area, alongside [Aeraflood Pro](#) fittings





which are providing indirect lighting to the granite paved concourse area from either side on top of offices.

Contrast 2 is a compact architectural floodlight range combining high output LEDs of predefined beams that offers complete flexibility. It has an innovative, compact design with integral gear for the medium and large sizes (static or dynamic versions) and provides exceptional modularity with LED colours, light distributions, accessories and light outputs in various body sizes. Areaflood Pro is an LED, IP66 rated, general purpose area floodlight with superior optical performance, control and efficiency. Its optimal control of light (Ocd at 90°, minimal spill light) is ideal to provide visual comfort for users of the station. Areaflood Pro also requires virtually no maintenance due to its 100,000 hrs rated lifetime on both drivers and LEDs. DALI controls have been used throughout.

For the office areas, Thorn's [College](#) curved profile linear fluorescent luminaires and [Chalice](#) high performance LED downlights are providing the illumination. College has a clear prismatic diffuser

in tough polycarbonate for specific light control, vandal – proofing and high impact resistance. Chalice downlights have been engineered to offer a high efficacy of >100Llm/W for ultra low energy consumption and a low maintenance lifetime of 50 000 hours. The high performance optic and light mixing chamber provide a uniform appearance which, combined with a unified glare ratio <19, CRI 80 and CRI 90, makes Chalice perfect for high quality lighting.

Thorn's [Mica Slim](#), a series of circular, shallow, in-ground 'drive over' luminaires have been used to provide guidance lighting for the external bench areas along with energy efficient, robust and impact resistant [Eyekon LED](#) bulkheads that are illuminating the exterior with no dark areas. Impactforce LED luminaires, specifically designed for low energy lighting in aggressive impact or corrosive environments, have been utilised in the plant room and the high performance LED exit signs are from the [Voyager Sigma](#) range with self or central automatic test options.



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