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Hospitality/Leisure

Ground-breaking optics debut in £365 million art gallery

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INNOVATIVE lighting optics developed by technologists in the US are being used for the first time in new £330 million (US\$450 million) art gallery.

QuarkStar's radical Edge-X technology has been specified by top lighting design practice L'Observatoire for the newly opened Kinder Building, centrepiece of a massive expansion to the Museum of Fine Arts in Houston.

The expansion was the largest fine art gallery project in North America in 2020, designed by US 'starchitect' Steven Holl.

QuarkStar's Q-Wall asymmetric linear lights with the Edge-X optics have been installed in nearly all galleries that use artificial lighting as their primary source of exhibit illumination.

The luminaire has an optic of under of 2 cm wide yet illuminates 5m-high walls with a high degree of uniformity. It also uses colour tuning of its LEDs to match the prevailing daylighting environment.

Edge-X doesn't use a waveguide as a light-emitting surface. Instead, it acts solely as a guide and mixing chamber. The 'light shaping' lens guides the output from LEDs and 'sculpts' the distribution of light in a space.

The benefit is that one can achieve distributions superior to traditional luminaire designs with the added bonus of colour mixing from a much smaller fixture.

'All of these capabilities are bundled into a fixture so small, when the museum saw it placed in a ceiling mockup, they chose to redesign the cove to take advantage of the empty space that was left behind,' says QuarkStar CEO Louis Lerman.

By shaping the optic at the edge of the waveguide, Edge-X is able to produce precise distributions that can't be accomplished by conventional waveguides.

Thus, it can either be recessed completely, or can be in full view without any glare issues. As a completely clear optic, it virtually disappears into an installation.



The MFAH expansion, the largest fine art gallery project in North America in 2020, was designed by US 'starchitect' Steven Holl.

'Glare is caused by large amounts of light directed at undesirable angles,' says Lerman. 'If the light is directed correctly outside of these glare-zones, then no glare is produced, no matter how bright the LEDs.'

'This means that even as LEDs continue to become brighter and smaller, luminaires designed with Edge-X technology can continue to produce comfortable, beautiful illumination'.



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