The Benefits and Usage of Fibre Optics

Permanence

The best quality glass fibre optic lighting remains the only entirely permanent lighting solution for situations where access for maintenance is an issue. Because the light projecting heads at output need never, ever be accessed for maintenance, fibres will always provide a completely trouble-free solution for:

- high level lighting (canopies, atria and high level exterior lighting),
- wet area lighting (fountains, swimming pools, etc.),
- chandelier lighting, and
- lighting that is built into the architectural fabric of a building.

Maintenance of a single lamp in an accessible source box will always be quicker, easier and cheaper than maintaining, say, forty individual lights. It also means that the lit environment can be permanently sealed and secured for the genuine preservation of some of the most precious or fragile objects.

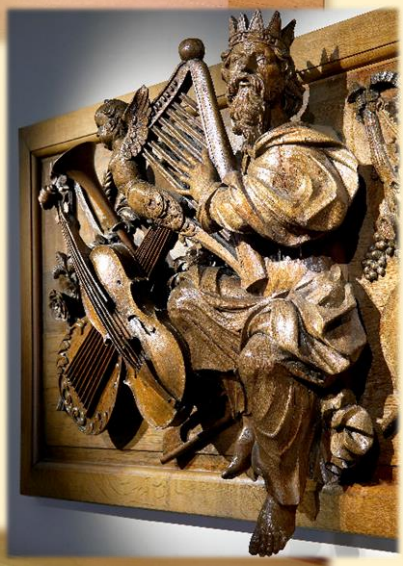
For instance, **The Hope Diamond** was lit in 1997 using a bespoke fibre optic lighting system that was designed and installed by Absolute Action Ltd … and the very same system is still in use today almost two decades later. The metal halide light source (which produces a 4,000 degree Kelvin of white light) is discreetly housed in the soffit space above the reinforced display vitrine so that the security of The Hope Diamond's display case never needs to be compromised when changing a lamp.

The technology of fibre optic lighting is proven, reliable and repeatable – and therefore maintainable into the foreseeable future and beyond.

Energy Consumption

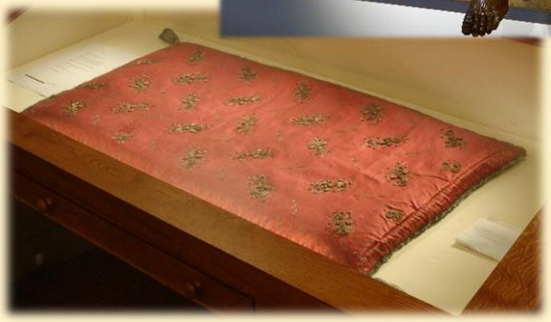
Energy consumption is known to be low, as a single lamp really can generate extremely powerful light output from a large number of individual light heads. Very few other high-performance lighting technologies are so energy efficient.

Conservation



Fibre optic lighting also has **no heat at output** – unlike LEDs, which are very highly dependent on heat sinks to draw heat away from the lamp – and therefore result in a much safer and more reliable means of lighting antiquities and works of art and heat-sensitive perishable items (such as wine, cosmetics and food). Even with improved performance from lower wattages LEDs, there is still some thermal emission that needs to be dissipated.

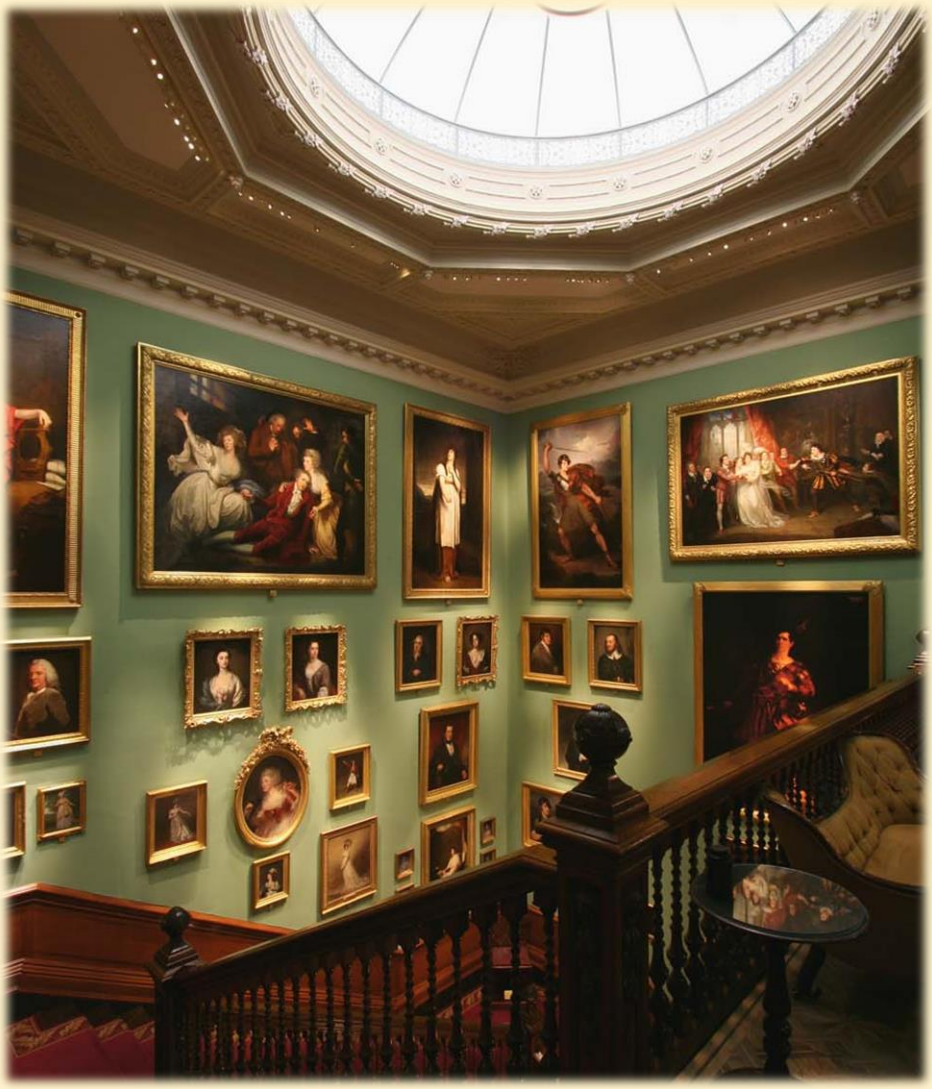
The photo above illustrates the use of fibre optic lighting by Absolute Action to illuminate a stunning wine display at The Fortnum and Mason Wine Bar in London whilst the picture above right is of an intricate ancient wood carving at Saint Botolph's Church, Aldgate. The colour and fabric of the three dimensional wood carving will continue to be perfectly conserved since the light has no heat at output and no ultraviolet emissions.



To the right is a display cabinet at Hardwick Hall Audit Room which houses a delicate silk, embroidered pillow case, fully protected against heat and UV damage by the use of fibre optic lighting … and with perfect colour rendering.

Colour Rendering

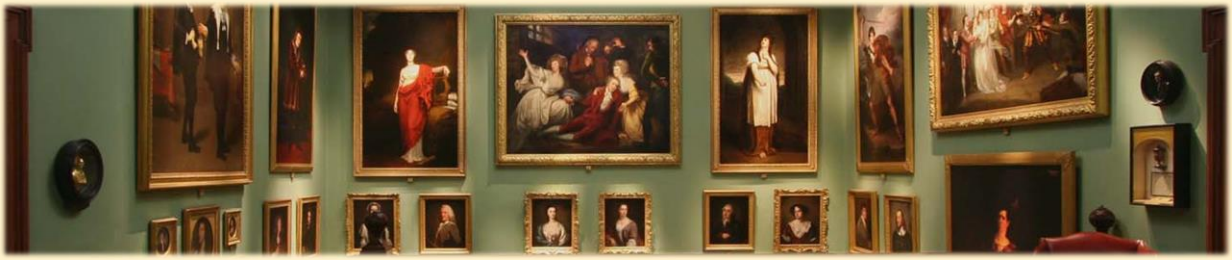
True colour rendering is also something that halogen lamps can achieve in a way that LEDs simply cannot, although there are new breakthroughs in this area now. Colour rendering is a very important consideration when lighting works of art. A full spectrum of light brings out the best of the colour hues intended by the artist. The basis for comparison is daylight, as it enables the distinguishing of subtle shades of colour and sets the benchmark for what looks natural around us. Lamps that have traditionally been rated as having the best Colour Rendering Index (i.e. CRI of 100) are in the Tungsten Halogen Range. We therefore recommend the use of tungsten halogen lightsources when lighting art.



The pictures above the staircase at The Garrick Club, London were dramatically illuminated by Absolute Action's fibre optic lighting system, installed discreetly around five sides of the octagonal ceiling dome.

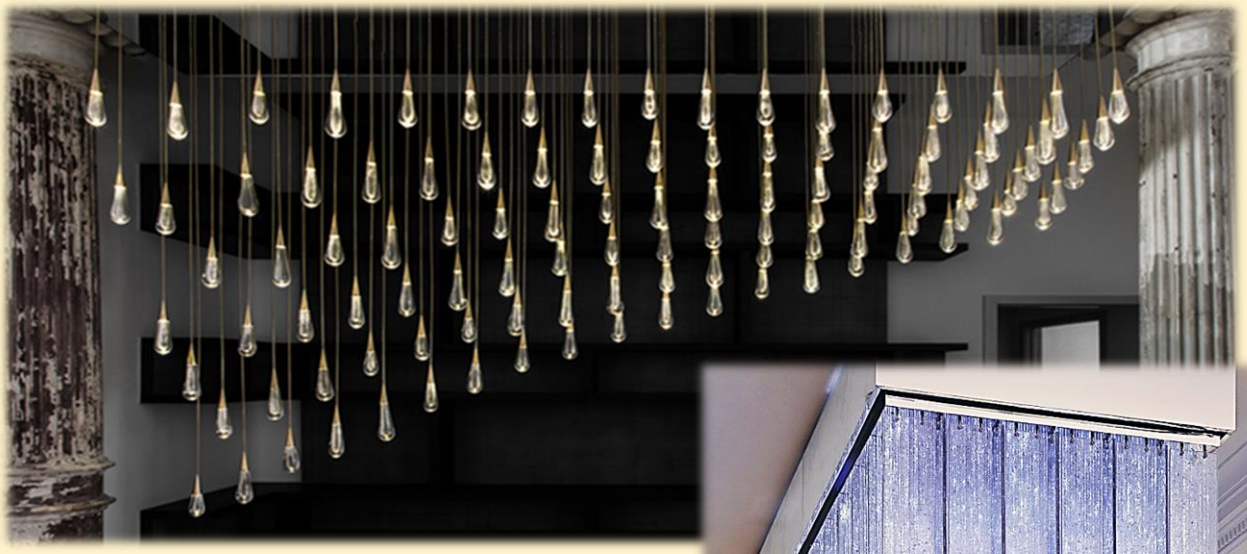
Each and every picture is individually illuminated using 200 fibre optic points of light sourced from only six 3000k lightsources.

The use of different lenses and a balanced focus for each painting enabled very precise illumination of each and every picture, with very little distracting spill, despite the sometimes extreme distances of throw.



Chandeliers that Sparkle

There is something about the quality of light emitted from halogen capsules that brings out the life and beauty of crystals in fabulous chandeliers, the like of which remains unrivalled. Absolute Action is currently working with DH Liberty on a **rain drop chandelier project** for a private client in New York, the beauty of which would simply not be possible without the use of fibre optic lighting. LEDs cannot make crystals glow and resonate in the way that fibre optic lighting can. The image below provides an example of the rain drop chandelier in context, and is used courtesy of DH Liberty. (http://www.dhliberty.com/raindropchandelier) It quite simply would not be possible to create a chandelier as intricate, powerful and as creative as this without fibre optics.



To the right is a chandelier designed by Dan Campbell Design and illuminated using Absolute Action's fibre optics for Harrods, Knightsbridge while the dramatic chandelier below (designed and fabricated by Deborah Thomas and also lit with the use of Absolute's fibre optics) adds a creative focal point to the Penthouse at the Four Seasons Hotel in New York.

Absolute ***Action***

Designers of Fine Fibre Optic Lighting

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