CABLEFLOW™

Cableflow International Limited

The Wave™

Fully CIBSE LG2: 2008 Compliant

The success of our Award winning* Integra hospital lighting system demonstrates that in-patient room lighting in healthcare facilities requires specific attention to detail. **The Wave** has evolved from that experience and understanding of the unique and specific demands that healthcare environments place upon luminaires.

Equally at home as an in-patient room luminaire or, as a corridor option, **The Wave** epitomises distinguished luminaire design. In-patient accommodation, where the relentless environment calls for luminaires to deliver patient safety alongside clinical function, also requires energy efficient solutions and **The Wave** meets all of these objectives in a delicately flowing design concept.

The Wave is unique. No other luminaire on the market can achieve a light output to the same proportions whilst emitting the lowest level of viewed luminance (luminous intensity) to date from a compliant healthcare uplighter. **The Wave** can light an entire patient bedroom without the need for additional room luminaires** and thus reduces the number of fittings required, resulting in reduced power consumption.

Mounted at an optimum height of 1.8m **The Wave** achieves a multitude of illumination criteria in the simplest of forms whilst ensuring CIBSE LG2:2008 performance compliance.

THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2005

Made in Great Britain

CE

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Increased Lifecycle

With increasingly stringent cleaning regimes adopted in every healthcare facility, largely to reduce the impact of HAI's, products which are easy to clean are paramount in product selection. A design philosophy that ensures 'form' is as important and 'function' has created soft radiused edges on **The Wave** that virtually eliminate dust traps. The luminaire is easy to clean with its smooth sealed surfaces and fixing free housing with no crevices or grooves to harbour bacteria, with ease of maintenance high on its agenda of key design features. Careful attention to detail offers continued performance output over time which increases the life expectancy and maintenance life-cycle costs of the installation.

Simple Installation

The Wave is also geared towards simple installation. **The Wave** comprises two significant parts, a Base and **The Wave** itself. Developed in this way so that the first fix Base can be installed at an early stage on site so that all incoming connections can be tested. **The Wave** is purpose designed as a self-contained second fix option, fully pre-wired to a 20A multi-pin connector for ease of site infrastructure wiring and connection thus designing out risk to the final fix component.

Healthcare accommodation must be illuminated in accordance with CIBSE LG2:2008 and BS EN 12464-1. Careful consideration of the clinical requirements, room size, ceiling heights and above all reflectance values of surfaces are key and should be carefully co-ordinated, specifically when a luminaire relying upon its upper flux fraction for effect, such as an uplight, are adopted.

Lighting Options

The performance characteristics of both the uplight and downlight portions of **The Wave** ensure a safe, relaxing yet workable clinical environment. Each luminaire portion is independently controlled by remote push-to-make momentary switching. Control between the patient nurse call system and the patient reading light is pre-wired, simply requiring connection of the incoming low voltage relay control cable to the multi-way connector. Relays are provided as a component part of the nurse call system. Using high frequency quick start TL5 lamps and ballasts this can reduce conventional energy consumption by up to 80% and provide flicker-free operation. Colour rendered lamps to 4000^0k means that the clinical environment has never been more co-ordinated.

Options of 54w and 80w fixed or dimmable output luminaires for the uplight are available as standard, with DSI or DALI interfacing optional.

Replaceable diffusers optimise the length of the luminaire to maximise light output which is carefully controlled by our own Award* winning* prismatic diffuser. The accuracy of the diffuser design, utilising carefully placed prisms, ensures correct and maximised directional luminance is achieved whilst eliminating shadowing which contributes to a vivid luminance of led than 700 cd/m^2.

A healthcare specific wall light which has been uniquely designed solely to meet the stringent requirements of CIBSE LG2:2008 is a rare product. **The Wave** can be used in a combination of configurations, as a combined up/downlight, a standalone uplight or simply a downlight. Whichever configuration is chosen its curvaceous lines soften the ambience of the healing environment, with no flat surfaces upon which items can be rested or placed it's design detail further reduces risks within the patient environment.

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Performance and Patient Safety

Reading, observation and minor examination lighting levels as defined in CIBSE LG2 are achieved by the downlight portion of **The Wave,** with a carefully designed glare limiting cut off. With the downlight available in either 28w or 35w outputs the general nursing care and reading illumination levels are comfortably achieved.

Luminaire performance is one of the many key features of **The Wave** that doesn't go unnoticed.

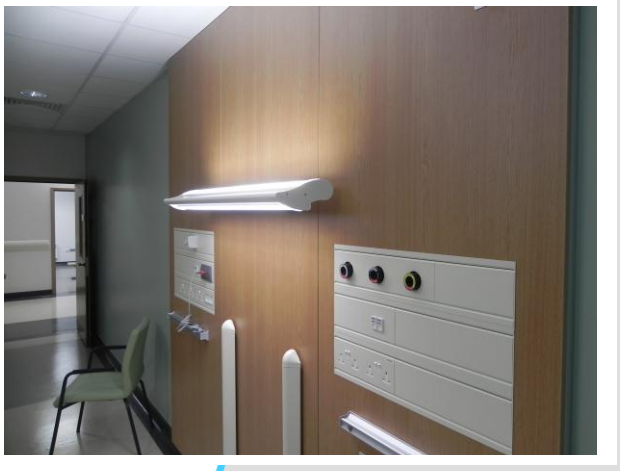
The ability to illuminate an entire room to levels determined within CIBSE LG2:2008** from a single luminaire sets this fitting aside from its competition. Patient comfort is also key and with viewed luminance kept within 700cd/m^2 the worries of discomfort glare for ambulatory or supine patients alike is eliminated.

Varying lamp sizes allow almost any configuration of in-patient accommodation to be suitably illuminated whether it's a basic treatment room, multi or single bed rooms or higher dependency areas.

The Wave is manufactured to meet the requirements of IEC 60598-2-25 for healthcare facilities. The product is extensively electrically and EMC tested for use within the medical environment and certified to EN 60601-1, and meets the essential requirements of the Medical Devices Directive 93/42/EEC.

High Grade Powder Coat Finish

Finished in a high-grade polyester powder coat we provide an Applicators Guarantee for 25 years to support our 25 year product warranty. The complete unit is coated as standard RAL 9010 On larger contracts where certain quantity limits are exceeded then these colour options may be varied.



- * Cableflow won a coveted Queens Award for Enterprise:Innovation in 2005 for our integra bedhead services trunking system with integrated patient lighting.

- ** Subject to room size and reflectance values of decoration used being within HTM & HBN guidelines.

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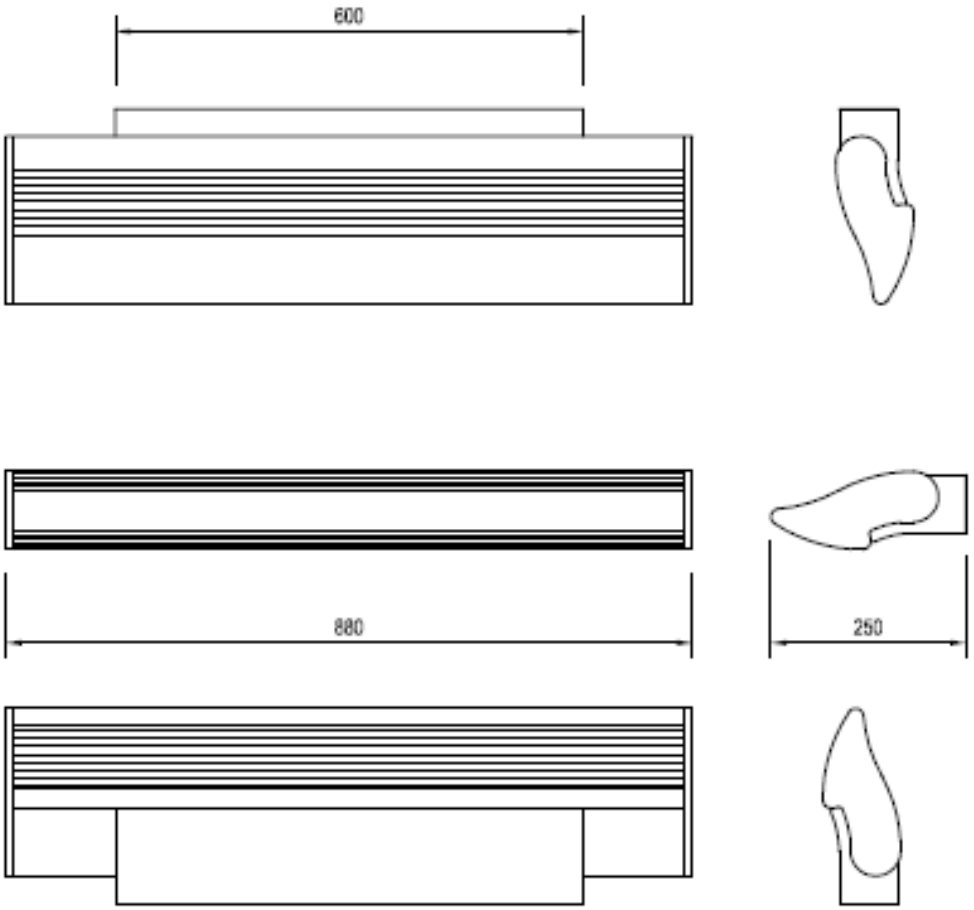
39w Uplight & **21w**Down



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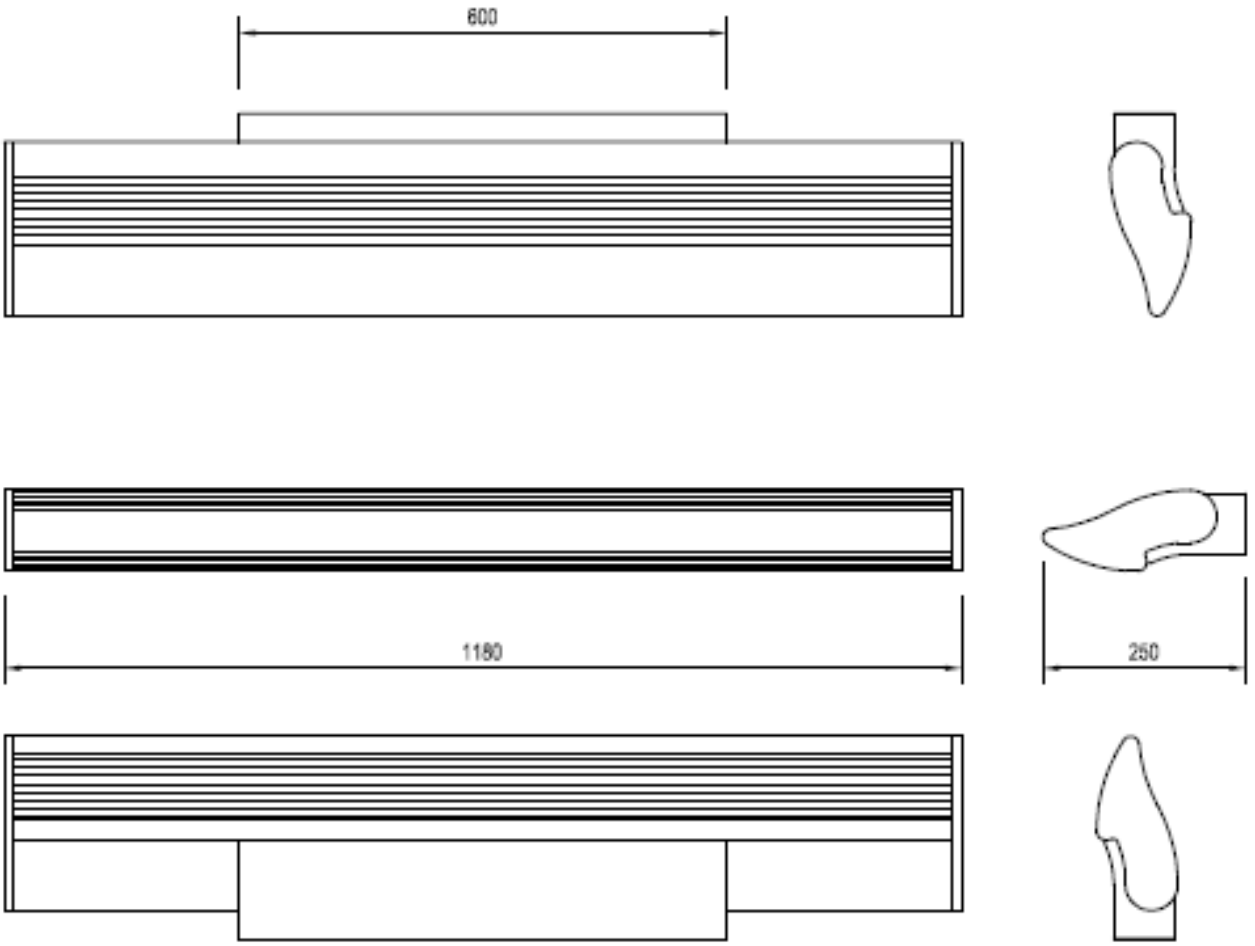
54w Uplight & **28w**Down



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Document Reference	Document Description
BS 476-10: 2009	Fire tests on building materials and structures
BS 2754: 1976	Construction of electrical equipment for protection against electric shock
BS 4533, BS EN 60598: 1989	Specification for fixed general purpose luminaries
BS 5266-10: 2008	Emergency Lighting Systems
BS 6496: 1984	Powder organic coatings for application and stoving to aluminium alloy extrusions
BS 6701: 2010	Telecommunications equipment and telecommunications cabling
BS 6972: 1988	Specification for General requirements for luminaire supporting couplers for domestic, light industrial and commercial use
BS 7671: 2008	Requirements for electrical installations. IEE Wiring Regulations (17th Edition inc amendments)
BS 8300: 2009	Code of Practice: Design of buildings and their approaches to meet the needs of disabled people.
BS EN 12373:2001	Aluminium and aluminium alloys. Anodizing
BS EN 12464-1: 2002	Light and lighting. Lighting of indoor work places
BS EN 13032-2: 2004	Light and lighting. Photometric data of lamps and luminaires for indoor and outdoor work places
BS EN 50081-1: 1992	EMC. Generic emission standard. Residential, commercial and light industry
BS EN 50081-2: 1994	EMC. Generic emission standard. Industrial environment
BS EN 50082-1: 1998	EMC. Generic immunity standard. Residential, commercial and light industry
BS EN 50083-2: 2006	Cable networks for television signals, sound signals and interactive services. EMC compatibility
BS EN 50085-1: 2005	Cable trunking systems and cable ducting systems for electrical installations
BS EN 50085-2: 2006	Cable trunking systems and cable ducting systems for electrical installations intended for mounting on walls and ceilings
BS EN 55015: 2006	Radio interference characteristics of fluorescent lamps and luminaries
BS EN 60439-5: 2006	Low-voltage switchgear and control gear assemblies. Particular requirements for assemblies for power distribution in public networks
BS EN 60529: 1992	Specification for degrees of protection provided by enclosures luminaires (IP code)
BS EN 60598-1: 2004	General requirements and tests for luminaries
BS EN 60598-2-22: 2008	Luminaires. Particular requirements. Luminaires for emergency lighting
BS EN 6060-1: 2007 (replacing BS EN 60601-1: 2004)	Medical electrical equipment. General requirements for safety. Collateral standard. Usability
BS EN 60601-1-2: 2007	Medical electrical equipment. General requirements for basic safety
BS EN 60669-1: 2000	Switches for household and similar fixed electrical installations
BS EN 61008- 1: 2004	Residual current operated circuit-breakers without integral overcurent protection for household and similar used (RCCBs)
HBN 00-03: 2010	Clinical and clinical support spaces (in preparation; to supersese Health Building Note 40 Common activity spaces: Volume 2 - Treatment areas and Volume 3 - Staff areas)
HBN 00-09	Infection control in the environment
HBN 04-01: 2010	Adult in-patient facilities
HBN 4, Supplement 1	Isolation facilities in acute settings
HBN 22: 2005	Accident and emergency facilities for adults and children

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HBN 28: 2006	Facilities for cardiac services
HBN 40: 1995	The patient environment – common activity spaces
HBN 57: 2003	Facilities for critical care
HTM 00: 2006	Policies and principles: best practice guidance for healthcare engineering.
HTM 01	Anti-static precautions
HTM 08-03	Bedhead Services
HTM 2011	Emergency Electrical Interference
HTM 2014	Abatement of electrical interference
HTM 2020	Electrical safety code for low voltage systems
HFN 30: 2003	Infection control in the built environment
CIBSE LG 2: 2008	Lighting guide - Hospitals and health care buildings
CIBSE LG 3: 2001	Lighting guide - The visual environment for Display Screen Use
CIE	European Lighting Guide
IEC 60364-7-710: 2002	Electrical installations of buildings. Requirements for special installations or medical locations (UK BS7671 Section 7-710)
NHS SPEC C49: 1997	Nurse Call Systems. Revision 3
72/23/EEC	Low Voltage Directive
89/336/EEC	EMC Directive

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