


Lighting for Healthcare



We want to
enlighten people
with the right light

5 YEAR WARRANTY

Warranty:

Mechanical components of LUXO products are warranted to provide the original owner 5 (five) years of service free from defects in material and workmanship. The warranty does not cover light-sources or transformers/ballasts, except in special circumstances with project lighting where ballasts may be eligible for the same warranty. This warranty applies unless otherwise stated in writing.

For warranty on project lighting products, please refer to our project catalogue under the technical section.

Conditions:

1. This condition will be granted only when the original invoice or sales receipt is presented together with the product. LUXO reserves the right to refuse free-of-charge warranty service if the above documentation cannot

be presented or if the information contained is incomplete or illegible.

2. This warranty will not apply if the type sign or lot-number on the product has been altered, removed or made illegible.

3. This warranty does not cover alterations, adaptations or adjustments made to the product to conform to the national or local technical/safety standards in force in any country other than the ones for which the product was originally designed and manufactured.

4. Lights for service under warranty must be returned to the location instructed by your LUXO sales company or the authorized LUXO dealer where the product was purchased, where they will be replaced or repaired free of charge.

5. This warranty does not cover the following:

- Periodic maintenance and repair or replacement of parts due to normal wear and tear.
 - Any adaptation or change to upgrade the product from its normal purpose without the written consent of LUXO.
 - Abuse or misuse of the product.
- Repair done by non-authorized service stations, dealers or the customer himself.
- Accidents, lightning, water, fire, improper ventilation or any cause beyond the control of LUXO.
 - Defects of the system into which the product is incorporated.
- 6.** This warranty does not affect the customer's statutory rights under applicable national laws in force, or the customer's rights against the dealer arising from their sales/purchase contract.

A HISTORY OF QUALITY

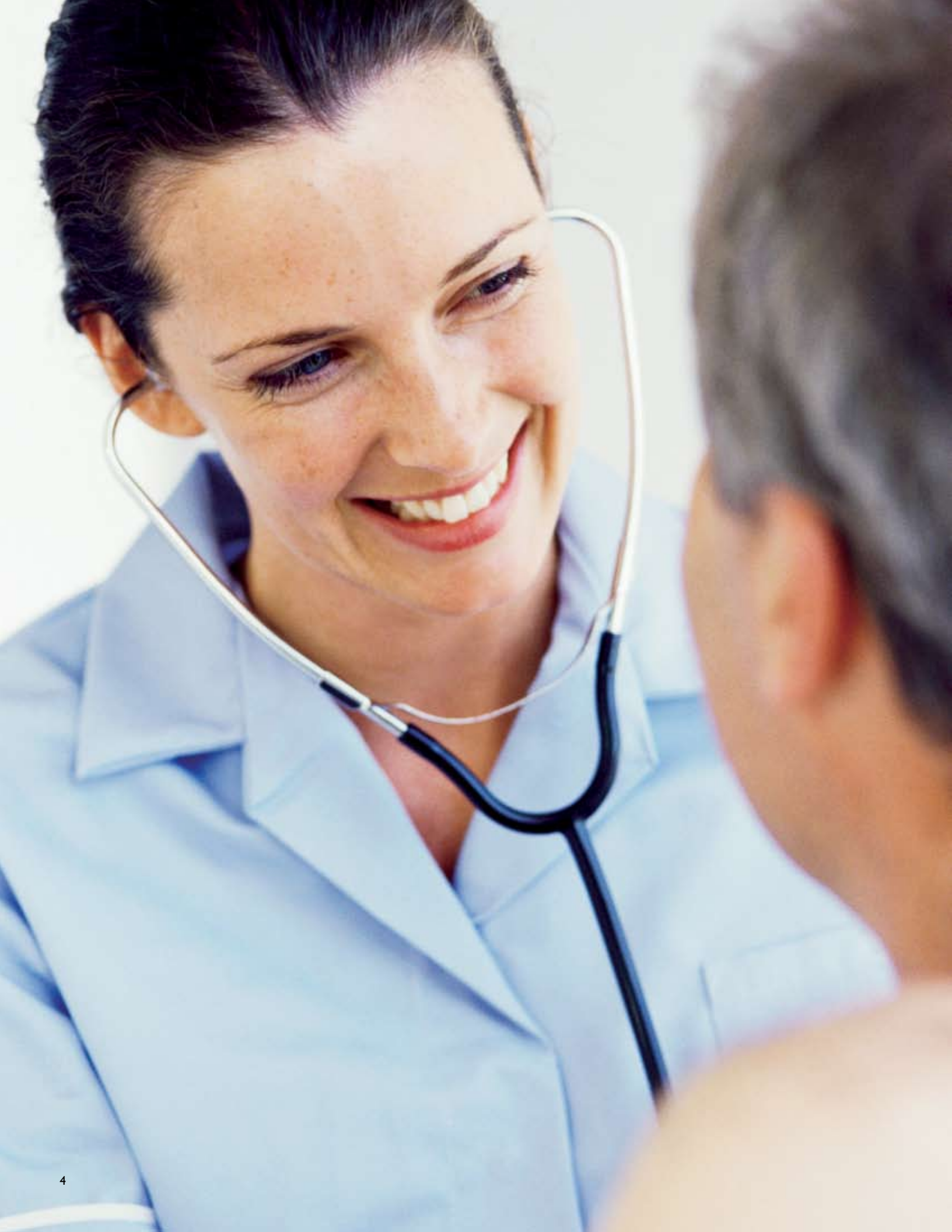
Our history of lighting for the individual begins with our development of the L-1 task light luminaire in 1937. The freedom of movement and the ability to place the light exactly where it was needed changed the way task lights worked forever. Soon L-1 found its way into healthcare premises.

Task oriented lighting in hospitals demanded other solutions than those used in offices. Through close cooperation between hospital staff, patients and LUXO R&D, new models tailored to meet healthcare demands were made. This close cooperation continues today and makes sure new technical innovations are transformed into user benefits. Our range of products has been vastly expanded since 1937 and is no longer limited to just arm-based products. However, the philosophy and knowledge from L-1 are being maintained in our products today with the same goal: "The Right Light".

Luxo is committed to quality. Our products are made in our own factories in Scandinavia and North America. We specify, design and build our own products and control every step of the process. Quality is not left to suppliers in another continent to define.

Our factories are **ISO 13485** approved as a producer of medical equipment. Our production system is **ISO 9001** approved. Environmental considerations are an integrated part of our business, and we hold the **ISO 14001** environmental approval.

All our medical products are approved according to **IEC 60601-1** medical safety. They are tested for electromagnetic interference and are approved according to **IEC 60601-1-2** electromagnetic compatibility. All our examination luminaires, diagnostic luminaires and minor operating luminaires are approved according to **EN 60601-2-41**, safety of surgical luminaires and luminaires for diagnosis. All products carry the **Medical CE mark**.



HEALTHCARE

Healthcare premises are very demanding environments for lighting planning. The wide variety of tasks being performed and the vast differentials in physical abilities of those using the premises demand a number of different lighting solutions. New drugs or treatments are given much attention, while good lighting is down on the priority list. We should not underestimate the effects of lighting on human health, well-being and ability to perform, especially in view of the increased use of light therapy.

At Luxo we have the know-how and products to supply you with “the right light”. While governing standards and building regulations provide guides to minimum light conditions, they are no substitute for proper planning and know-how. From our point of view, the ideal situation is when we are invited to participate in planning the lighting from the beginning. This gives us the possibility to create a total lighting solution where lighting does more than just provide the necessary lux to the task area. With our expertise we can supply a scheme that harmonizes the requirements of the staff with the needs of the patient.

This approach to a well-planned lighting scheme is not necessarily more expensive than a poorly planned one. In fact, considerable savings can be made in the long-term. Efficiency also means low energy consumption which is a main consideration in every luminaire we bring from the drawing board to the end user. In hospitals this is of extra importance, as it will affect the sizing of emergency backup systems, and, because many areas within the hospital are in use 24 hours a day, energy efficiency is of greater importance than in many commercial applications. With the continued focus on conservation as well as balanced lighting, evidenced with the growing acceptance of the LEED program, LUXO has positioned itself as a solutions provider for these programs.

OFFICE



ARCHITECTURAL LIGHTING



HEALTHCARE



RECEPTIONS / WAITING AREAS

For waiting room areas, lighting plays a major role in creating a relaxing and calming atmosphere. The lighting scheme can provide a different feel to varying parts of the space. There may be bright zones or subdued zones to create interest. Lighting can be used as a tool to provide these different effects without necessarily having to alter the physical attributes. The effects can even be manipulated via lighting controls according to the varying individual needs, daylight availability, or simply by occupancy.

Rooms for general use

Type of interior, task or activity	E _m /lux	CRI
Waiting rooms	200	80
Corridors: during the day	200	80
Corridors: during the night	50	80
Day rooms	200	80

We recommend:

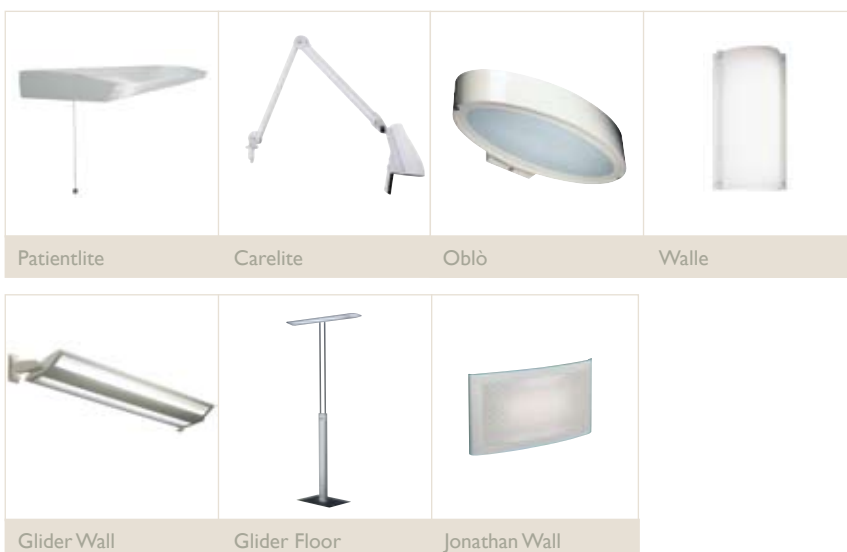


PATIENT ROOMS / WARDS

For general lighting, uplighters are the right choice for a ward. Downlighters should be kept to corridors to prevent the patient from looking directly into the luminaires, and when downlighters are used it is always preferable to use asymmetric reflectors to avoid any glare while patients are transported. Trunking systems are a common way of integrating electrical and communication systems including gases in the ward. For ease of access to these services, the trunking needs to be situated approximately 1.4M or 4.6 ft above floor level, while an uplighter needs to be positioned at 2 meters or 6.1 ft to avoid direct glare and provide total room illumination. This is why a separate wall-mounted bedlight above a trunking system is the better solution as both the trunking system and uplighter are then positioned at their optimal height and perform their best to either bedside switching or nurses stations. Ensure that the fixtures have the possibility of being wired for this purpose. All modern bedlights should also be able to be wired to work as an emergency lighting system. For reading and optimal examination, an arm-based luminaire fixed to the wall is the best choice. Unlike a reading light in a trunking system, an arm-based luminaire can be positioned wherever light is needed. In wards with many beds, what one patient does affects others in the room. When used as a reading light, an arm-based luminaire will not disturb the patient nearby but will create a "private" zone. An arm-based luminaire will also provide the staff with a supplementary light when attending to the patient. Modern arm-based bedhead luminaires use highly efficient compact fluorescent lamps with good color rendering as an alternative to reading lamps. High frequency ballasts provide flicker-free lighting, extending lamp life and lowering power consumption.

Wards, maternity wards

Type of interior, task or activity	E _m /lux	CRI
General lighting	50	80
Reading lighting	300	80
Simple examinations	300	80
Examination and treatment	500	90
Night lighting, observation lighting	30	80
Bathrooms and toilets for patients	300	80



CORRIDORS

Corridor lighting has the prime objective of illuminating "transportation" areas. When patients are being transported, great care should be taken to avoid direct glare from the luminaires. This can be done by luminaires that "wash" the wall with light, ceiling-mounted direct light luminaires with asymmetric light distribution, wall-mounted luminaires or other solutions depending on the individual design and construction of the corridors.

Correct lighting also works as signs, highlighting doors and giving indication of direction and depth. Even illumination is counterproductive as people with impaired vision need contrast and highlights to navigate.

Corridor lighting should be dimmable for night time use.

Corridors

Type of interior, task or activity	Em/lux	CRI
Corridors during the day	200	80
Corridors during the night	50	80

We recommend:

			
Jonathan Wall	Oblò	Walle	Glider Wall

OFFICES

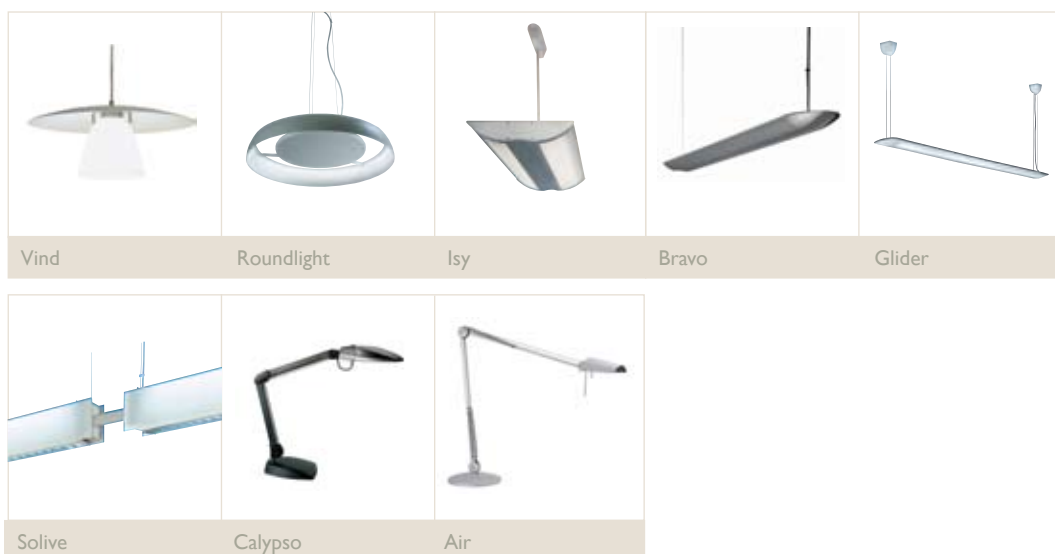
We recommend a lighting solution that consists of indirect lighting in combination with an ergonomic task light. This solution is both ergonomically correct and individually adapted and takes into account the need for glare-free lighting and energy efficiency.

Doctors' offices often combine tasks found in a regular office with tasks found in an examination room. Indirect lighting combined with a task light gives the optimum working environment for all paper and computer work. Doctors offices are regularly used for consultation with the patient and decorative pendant luminaires can create a more intimate less clinical environment. For examinations, a wall-mounted arm-based examination luminaire provides the correct illuminance and color rendering for diagnosis.

Rooms for general use

Type of interior, task or activity	Em/lux	CRI
General lighting	300	80
Examination of the outer eye	1,000	90
Reading and color vision tests		
with vision charts	500	90
Ear examination	1,000	90

We recommend:





Medical product or not:

The manufacturer's intended use of the product defines if it is a medical product or not.

If it is intended to be used on humans for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease, then it is a medical product. If it is intended for general illuminance or as a reading-lamp, it is not.

Medical CE mark:

Products that hold the medical CE mark are in compliance with the common European medical directives (MDD). They are tested for safety, quality, traceability and the manufacturer's ability of risk management. Products without a CE mark are not allowed to be sold and could potentially be a hazard for the patient or staff.

ISO 13485

ISO 13485 is a Quality Management Standard for Medical Devices. This international standard specifies requirements for a quality management system where an organization needs to demonstrate its ability to provide medical devices and related services that consistently meet customer requirements and regulatory requirements applicable to medical devices.

European standards:

Operating Room Luminaire:

- EN 60601-1 (1990) General requirements for safety of medical electrical equipment
- EN 60601-1-2 (2001) Electromagnetic compatibility (EMC) of medical electrical equipment
- EN 60601-2-41 (2000) Particular requirements for the safety of surgical luminaires and luminaires for diagnosis.
- Medical CE mark

Examination/Diagnostic luminaire:

- EN 60601-1 (1990) General requirements for safety of medical electrical equipment
- EN 60601-1-2 (2001) Electromagnetic compatibility (EMC) for medical electrical equipment
- EN 60601-2-41 (2000) Particular requirements for the safety of surgical luminaires and luminaires for diagnosis
- Medical CE mark

Illuminated magnifier used for examination:

- EN 60601-1 (1990) General requirements for safety of medical electrical equipment
- EN 60601-1-2 (2001) Electromagnetic compatibility (EMC) for medical electrical equipment
- Medical CE mark

Bedside reading luminaires:

- EN 60598-1 General requirements and tests of luminaires
- EN 60598-2-1 Fixed general purpose luminaires or EN 60598-2-4 Portable general purpose luminaires
- EN 60598-2-25 Luminaires for use in clinical areas of hospitals and healthcare facilities.
- EN 55015 Electromagnetic compatibility (EMC) for luminaires.
- CE mark

General purpose luminaires:

- EN 60598-1 General requirements and tests of luminaires
- EN 60598-2-1 Fixed general purpose luminaires or EN 60598-2-4 Portable general purpose luminaires
- EN 55015 (2000) Electromagnetic compatibility (EMC) for luminaires.
- CE mark

The right light



Luxo Corporation

200 Clearbrook Road
Elmsford, New York 10523
Tel (800) 222-5896
Fax (800) 648-2978
www.luxous.com
office@luxous.com

Luxo Lamp Ltd

1957 Le Chatelier
Laval, Quebec
Canada, H7L 5B3
Tel (800) 361-3993
Fax (800) 567-9215
www.luxo.ca
office@luxo.ca