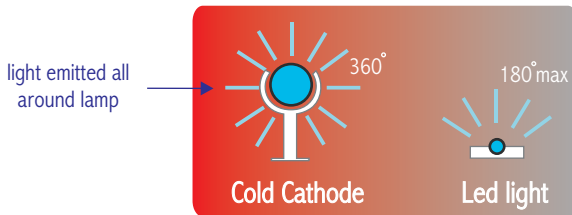
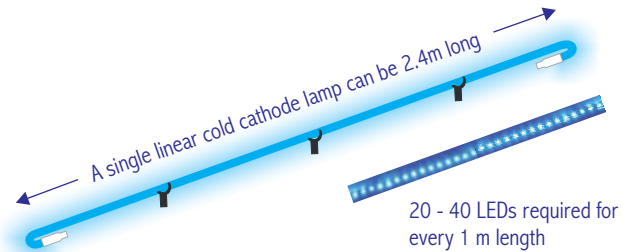


# Introduction to Cold Cathode Luminaries 4

Fiber Optic Luminaire  
Masonlite Cold cathode

## Cold Cathode vs LED lights

LEDs, Fluorescent and incandescent lighting are typically available in pre-determined sizes, lengths and colors, while Cold cathode lighting (which has been in existence for decades) are custom bent 'light tubes' they can be crafted to conform to any shape or size, straight or curved. Even as advances are made in LED technology the lamps require regular replacement which may not be practical in difficult access areas. Incandescent lighting although warm in color is limited in its color palette and requires regular bulb changes along with higher energy consumption. LEDs which are relatively new have limited light output with limited color palette and can become quite expensive for this application.



Unlike LEDs, cold cathode lighting are tubular in cross section, light emanates in all directions along the length of the lamp even at the electrode ends thus avoiding hot spots. Many options are available for light output or intensity ranging from 30 milliamp power supplies for accent lighting to 200 milliamp power supplies for larger diameter cold cathode lighting used for room lighting.

LED lights are typically designed to exceed rated light output (candela) for a particular light specification. This is because within the first 500 hours of operation a percentage of LED light reduces. Although the LED does not fail, over a period of time the light output continues to dim below design specifications. Long before their 100,000 hour claimed life expectancy occurs, the light fixture falls below specified light requirements. This is quite evident in LED illuminated signs where dotted LED lights becomes visible over time. The 100,000 hours of claimed operational life of the LED light fixtures is not consistent with written specifications. Note: 100,000 hours = 10 hours of operation per day for 27 years. LED lights have only been on the market for about 5 years. These claims cannot be substantiated. While the LED light continues to operate it can give a false landing cue for pilots, causing significant safety concerns, including Night Vision Device (NVD) incompatibility and leaves an after-image in the eye contributing to the induction of spatial disorientation.

Unlike LEDs, Cold Cathode Lighting is the perfect choice for internal and external architectural lighting applications, they are weatherproof and can be made to follow any contour specification. The operating principal for this lighting relies on cold ignition which creates an extremely long life span. Some lamps we have removed from cathedrals for re-working were still operative after 30 years. This life span becomes very favorable when lighting has to be installed in areas which have difficult access after initial installation. LED lights color can sometimes be inconsistent and are still a very directional light source.

## Cold Cathode Transformers

Wire wound transformers have been used for almost fifty years. They are simple in design and construction, have high electrical losses (which is reflected as heat), dependable, reasonably priced, but very heavy and bulky suitable outdoor or high rise areas. This type of technology is used on the vast majority of cases where dimming is not required, or weight and heat are not an issue.

Newer advanced solid state electronic converters have also made cold cathode lighting very efficient. They are light weight, dimmable which incorporate the facilities to dim, flash and chase, multi coloured systems using analog dimmers, 0 - 10 volt output units or the entertainment industry standard DMX512 protocol. Though they are more expensive than the wire wound transformers, offer a far superior performance, compact, light weight and offer a high degree of electrical protection. Since their internal electronic circuits adjust the output voltage to maintain the rated current, they do not need to be matched to the tubes such as wire wound transformers. In addition the more advanced units isolate the outputs in the event of short or open circuit on the high voltage cables. This feature is helpful in avoiding damage to the transformer itself, in the case of a short circuit, and to prevent dangerous situations arising in cases of open circuits due to disconnected HT wires or electrodes that are exposed following the breaking or tampering of the glass lamps.

It is important to note, light should be measured in lumens (a measure of light intensity) per watt of power consumed.

When a light source is said to require low wattage, care must be taken to evaluate how much light is being generated "per watt".

## TiME Luminaries sdn bhd

Tel : +603-9282 9096 Fax : +603-9282 5875

<http://www.neon-lighting.com> <http://www.fiberlight.com.my> email : [sales@neon-lighting.com](mailto:sales@neon-lighting.com)

This catalogue cancels and replaces all previous catalogues of the same product ranges. TiME Luminaries Sdn Bhd reserves the right to make technical, formal or dimensional modification at any time, without prior notice obligation.

© Copyright Reserved No images, articles and illustrations in part or whole are allowed to be reproduced or duplicated in any form without written permission from TiME Luminaries Sdn Bhd.