


OLDHAM

SETTING NEW STANDARDS FOR PERFORMANCE AND LONGEVITY:
D-SERIES (LED) LAMPS

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EnerSys
Power/Full Solutions

The heart of the totally new D-series of mining lamps is the 3-Watt side-emitting power LED that is run at a genuine 3 watts. The light from this source is focussed by a unique duo-reflector that gives a spot of 5000 lumens at 1 metre and 10 Cd over 120 degrees, surpassing performance levels of all competitor LED powered lamps.

Internal control keeps the light output constant throughout a normal shift, unlike the conventional incandescent bulb. If used for longer than a full shift duration, the light output gradually and noticeably drops, giving the operator plenty of time to leave the mine and put the lamp back on charge.

The headpiece is bright nickel and acts as the heat sink for the light source. This reduces the junction temperature of the power LED, enabling the LED to optimise colour temperature and life.

This robust lamp is based around the rugged design of the G series lamps that have been the market-leading mining lamp for the last 50 years.

Outstanding lighting performance, ease of maintenance and low cost of ownership have been the major factors influencing the design of this lamp. The lamp is ATEX and IEC Ex certified for use in Coal mines and other hazardous environments.



The unique feature of the Oldham D-type led lamp is the 2-part reflector. Because of the nature of light emission from an LED, Oldham has developed this unique reflector to specifically direct the light in a way that matches the industry standards set by the Oldham G-type headpiece.

The D Lamp can be married up to the new high performance Lithium-ion battery (type L16) and is also fully compatible with the world-renowned lead-acid T5 battery.

LITHIUM-ION BATTERY, TYPE L16:

This ultra lightweight battery (just 500gms) has a working capacity of 16 Ah to provide high performance lighting for a full 12-hour operational shift. With a dual internal charge control circuit, the battery has higher levels of operational safety during charge and discharge than any other battery offered in the market today. The battery must be recharged on a charger that is specifically programmed for this technology.

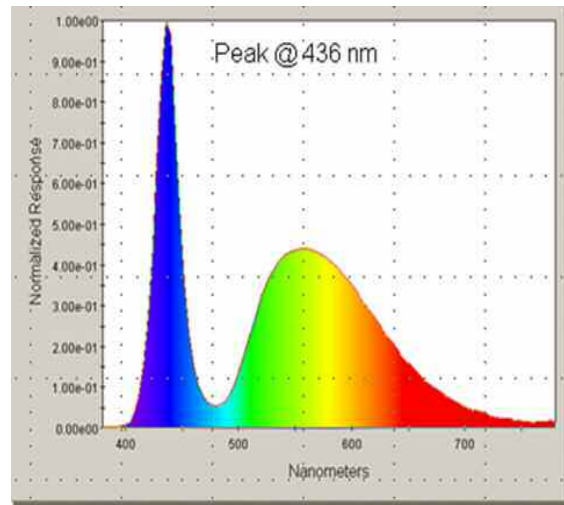


LEAD-ACID BATTERY TYPE T5:

The robust 16 Ah T5 battery has been the mainstay of mining lamps world wide, and has provided miners with consistent and reliable high performance lighting for full 12-hour working shifts since its development from the T2 in 2002. The battery gives a 3-year life and is rugged enough to survive the arduous rigors of the mining environment.

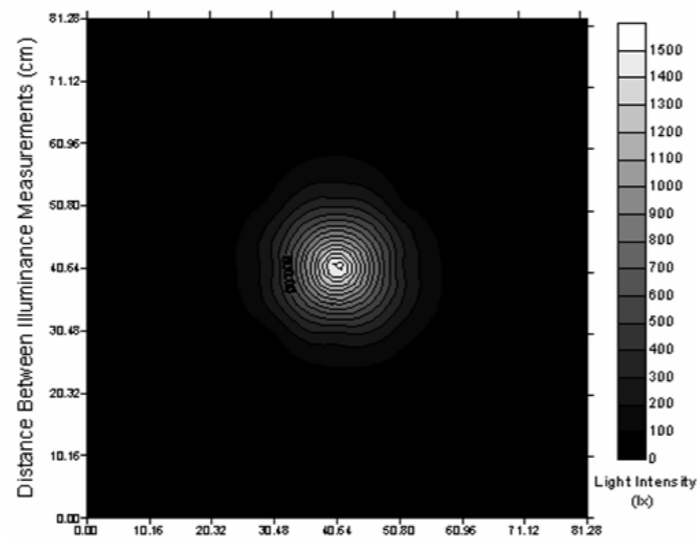


SPECTRAL POWER DISTRIBUTION



Spectral power distribution of the Oldham "D" caplamp

LIGHT DISTRIBUTION GRAPH



Distance Between Illuminance Measurements (cm)
Oldham "D" beam profile at a distance of 6 feet.
Note the maximum scale of 1500 lux for illuminance.

At daytime light levels, the eye's cone photoreceptors dominate vision. As light levels decrease the rod receptors of the eye, which have greater short-wavelength spectral sensitivity than cones, play an increasing role in vision. Research indicates that at low-light conditions, a short-wavelength spectral content can improve visual performance. The spectral power distribution analysis indicates the short-wavelength content of the Oldham "D" caplamp, demonstrating clearly that the lamp is conducive to improving visual performance in typical mining / tunnelling conditions.

Photometric tests show the Oldham "D" caplamp lighting intensity profile in the isocandela plot. The tight spot profile shows the precise nature of the "D" caplamp focus, making it ideal for viewing distant objects or for conducting fine detail work tasks that require high illuminance.

BATTERY AND LAMPTOP DESIGN:

Intermodality has been deliberately designed into the Oldham range so that lamptops and batteries from each technology are compatible with all other Oldham products. This means that different battery and lamptop technologies are interchangeable with each other, enabling easier adoption of, and lower cost of transfer between technologies.

