

DL16 CAPLAMP – FEATURES & BENEFITS:

Extreme lightweight of the Lithium-ion battery:
Reduced weight for user to carry, less fatigue.

Lithium-ion battery does not suffer from "memory effect":
Full capacity available every time after recharge.

Lithium-ion battery has low self-discharge rate:
Long shelf life if stored during mine down-time.

Rugged battery and headpiece design:
Longer life expectancy, even in the harshest environments.

Maintenance-free battery design:
Reduced lamproom maintenance requirements.

Maintenance-free "D" headpiece:
No downtime due to maintenance or failed light source.

53 lumen output focussed over 4.5 degrees angle:
High intensity light concentrated in the operator's field of vision.

Dual reflector technology:
Optimum focus of LED for precise and intense illumination.

Genuine 3 Watt LED main light source:
Greater light output intensity, superior to any competitor.

Inter-modular battery and lamptop design:
Fully compatible & interchangeable with other Oldham product.



OLDHAM
Lithium Battery

| DL16 LAMP CERTIFICATION | DL16 Mining |
|----------------------------|--------------------------|
| ATEX Certification | EPSILON 07 ATEX 2151 |
| IECEX Certification | IECEX ITS 08.0019 |
| Certification Type Code | EEx1 (Ta = 0°C to +40°C) |
| Temperature Classification | T5 with 3 watt LED |

| BATTERY & CAP LAMP PART NUMBERS | |
|---------------------------------|---------|
| L16 Lithium-Ion Battery | M456323 |
| DL16 Lamp (53 Lumen main LED) | M261551 |
| Single Lamp Charger | M656501 |
| 10-Lamp Charger | M656601 |

| "D" HEADPIECE AND CABLE SPECIFICATION | |
|---|---|
| Number of LEDs | 2 (1 main, 1 auxiliary) |
| Main LED rating | 4.1V-3W 53 lumens ~ 12 hour shift |
| Auxiliary LED rating | 0.08 watts |
| Type of cable | Flexible twin core short lay polychloroprene sheath |
| Max. beam intensity over 4.5° | 10,000cd |
| Angle over which intensity is not less than 1 candela | 120° |
| Burning time with auxiliary light | 500 hours |
| Fuse rating | 3A |
| Length of battery (at base / at lid) | 111 / 152 mm |
| Height of battery terminals / cover | 95 / 125 mm |
| Width of battery | 55 mm |
| Battery case & cover material | Polycarbonate |
| Nominal battery voltage | 4.20 v |
| Number of cells | 8 |
| Working Capacity to 3.7v | 16 Ah |
| Total Lamp Weight | 0.960 kg |
| Maintenance | NONE – maintenance free |

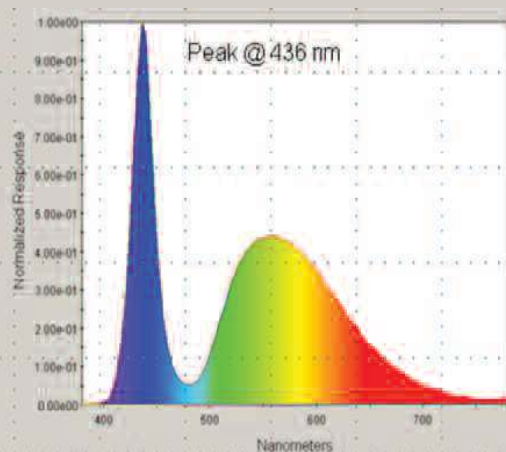
The unique feature of the Oldham D-type led lamp is the 2-part reflector. Because of the limited side emission of light from an LED, Oldham has developed this unique reflector to specifically direct the light in a way that matches the industry standards set by the Oldham G-type headpiece.

There is no competitor LED powered safety lamp with this precision of focus.

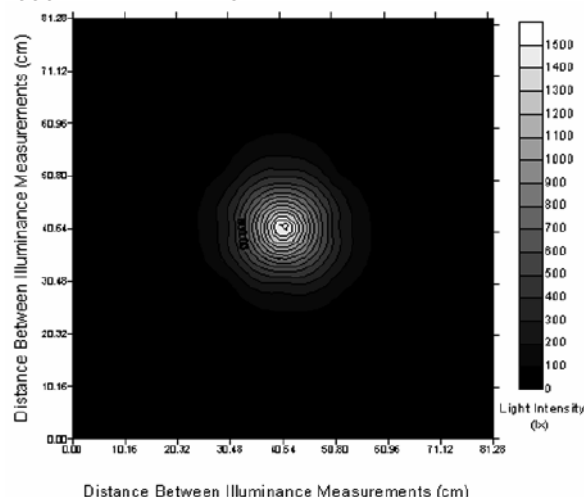
At daytime light levels (photopic conditions), the eye's cone photoreceptors dominate vision. As light levels decrease, the rod receptors play an increasing role in vision. The spectral content of visible light can be characterised by the spectral power distribution. Lighting research indicates that at low-light conditions where rods and cones both contribute to vision, a short-wavelength spectral content can improve visual performance. The spectral analysis clearly 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.



SPECTRAL POWER DISTRIBUTION



ISOCANDELA BEAM PROFILE

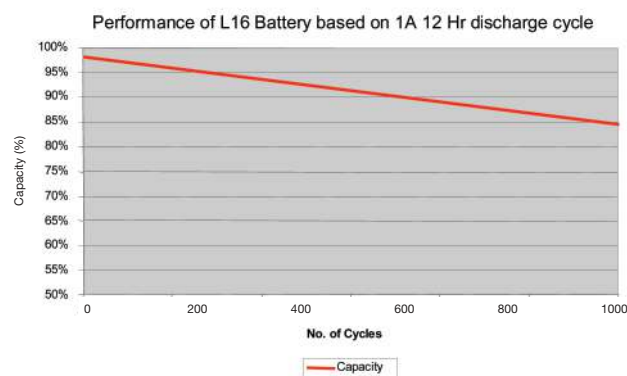


Photometric testing was conducted in order to identify illuminance and uniformity. Hot spots or uneven light distribution can cause excessive discomfort and disability glare, which can be detrimental to peripheral visual performance. The Oldham "D" caplamp lighting intensity profile is depicted in the 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.

L16 BATTERY PERFORMANCE:

A measured 12-hour discharge of the battery shows the high performance characteristics of the lithium-ion technology.

Cycle performance tests indicate that even after 1000 shifts, the lamp will still achieve more than 85% of the original rated capacity. Thus ensuring that the operator has excellent lighting performance from the lamp even at the end of its operational life.



IMPORTANT NOTE:

L16 LI-ION BATTERIES MUST BE RECHARGED ON "OLDHAM" MULTI-STAGE MICRO-PROCESSOR CHARGERS IN ORDER TO ACHIEVE MAXIMUM LIFE AND PERFORMANCE.