

Case Study: Improving Lighting Reliability on Hitachi Hydraulic Mining Shovels

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Problem

Extreme temperatures, humidity, and dust were causing premature failures of LED work lights on hydraulic mining shovels operating 24 hours a day in open pit coal mines in an equatorial climate.

The most notable issues included yellowing lenses, melting optics, failed diodes, and lamp failure due to extreme heat buildup during mining operations.

Solution

Working closely with the mining company and factory, APS identified the ABL SHD5000-500F LED Work Light as a solution for these demanding operating conditions.

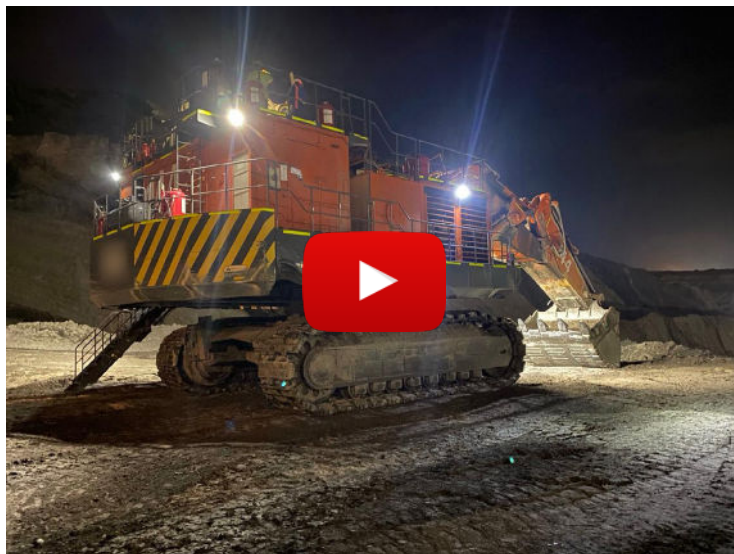
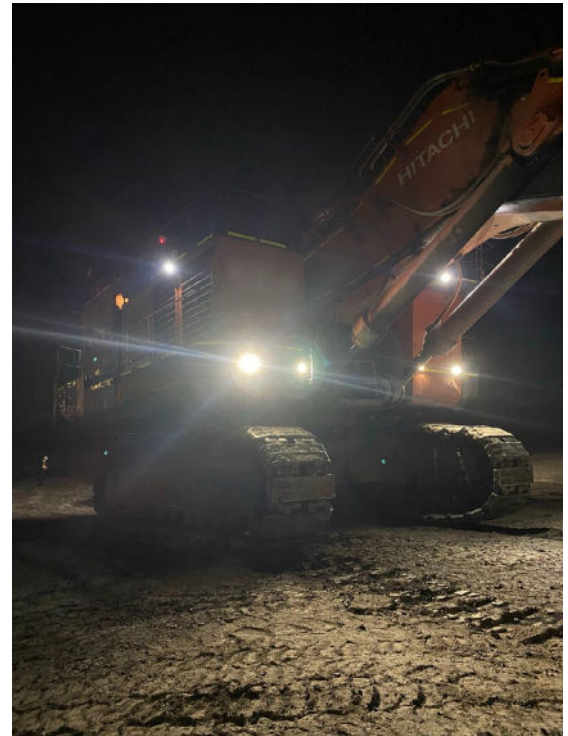
This new fixture offers an improved reflector design, increasing the melting point from 160°C to 280°C. The fixture is also class-leading with Class 5 EMC protection, while producing 5,000 effective lumens with just 48 watts of power.

Proven Performance

For more than 18 months, these lights have been installed on a Hitachi hydraulic mining shovel without failure.

This has eliminated all unscheduled maintenance due to light failures and improved visibility for operators.

Please [contact APS](#) to see how these same improvements in lighting technology can help your operation.



ABL SHD LED5000 Heavy-duty Work Light



The ABL SHD LED5000 is a highly vibration-resistant high-output work light specifically designed to operate on dozers, excavators, shovels, RTG's, and haul trucks.

Specs

- Voltage: 12-24V DC
- Wattage: 48W
- Amperage: 2A @ 24V DC
- Lumens: 5000 Lu
- Dimensions (D x W x H): 3.852 x 4.016 x 3.858 in (91 x 102 x 98 mm)
- Connector: AMP 2 pin, DT 2 pin
- Color Temp: 6000 K
- Beam Patterns: Flood, Long Range, Wide Flood and Asymmetric Flood
- Mounting: Pedestal, suspended
- IP Rating: IP68, IP69K
- EMC: ISO 13766 - ISO 14982 - ISO 12985 - CISPR25 Class 5
- Operating Temp: -40°C to +85°C
- Shock Resistance: 80G
- Vibration Resistance: 20 Grms, from 24Hz to 2000Hz
- Warranty: 5 years

Applications: Heavy equipment, mining, construction, road and utility equipment, forestry, agriculture



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