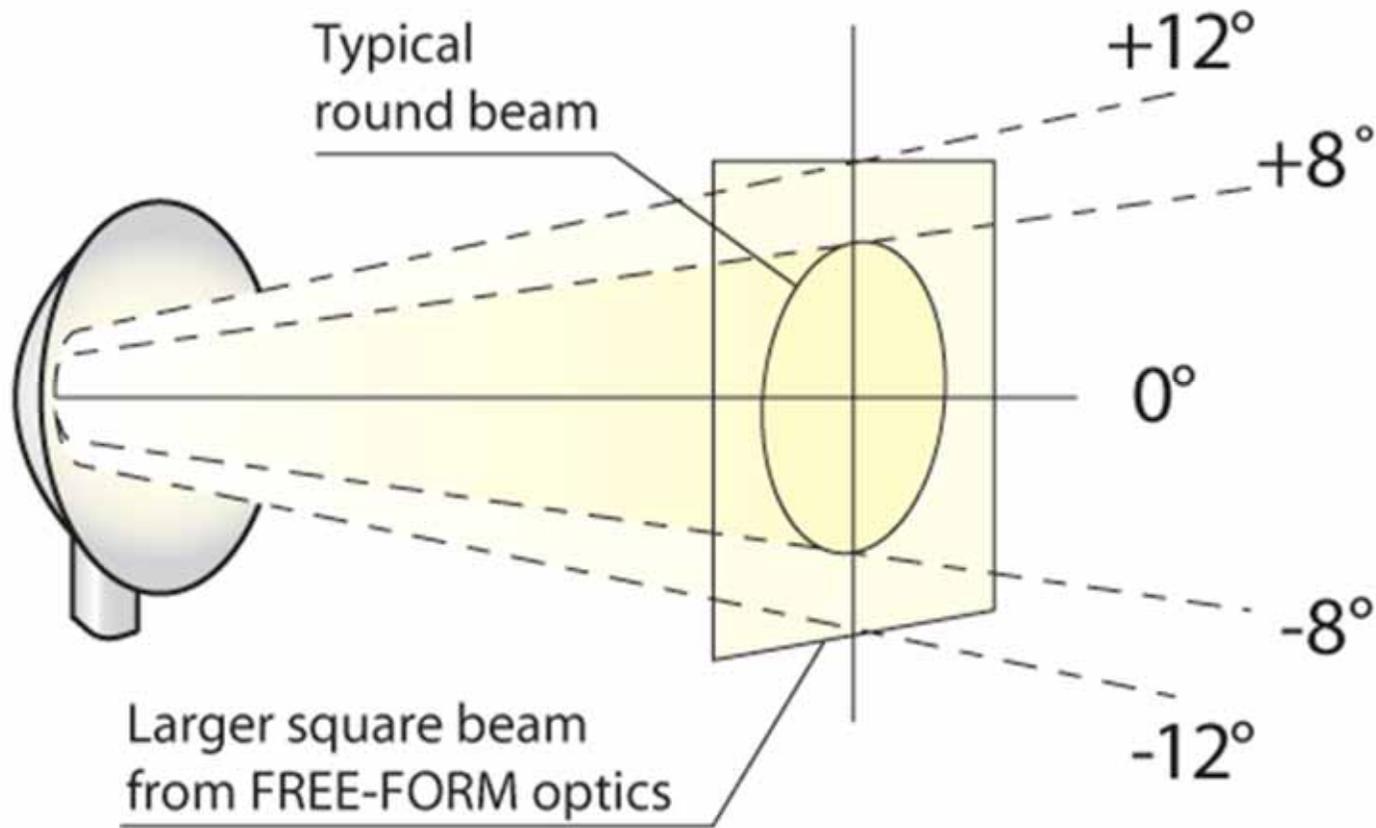


VISION ALERT



## Compliance to ECE R-65

This allows for the operator to choose between halogen and LED, and still have the required visibility depending upon the individual circumstance.



# ***Rotating LEDs***





# ***Lightbars***



**TOWING**



# ***Worklamps***











## N25 LED Worklamp

5x Z Power series LEDs.

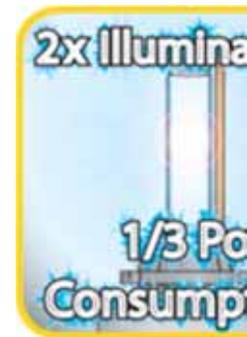
Multivoltage 10-80V.

Fully waterproof IP68.

Low current draw – 0.7A @ 24V.

Over voltage protected 110VDC.

Reverse polarity protected.



## HID Worklamps

Heavy duty 5000hr 35W Xenon discharge bulb.

Up to four different light patterns available on selected worklamps.

2x illumination, 1/3 power consumption.

Polarity protected ballast encapsulated body.

# N460 LED Worklamp

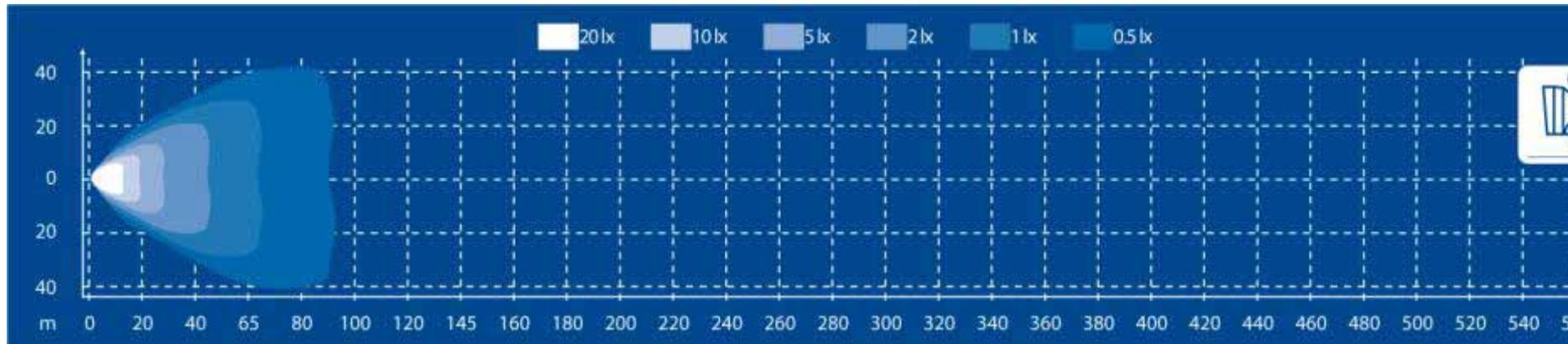


## Nordic N460 LED Specifications

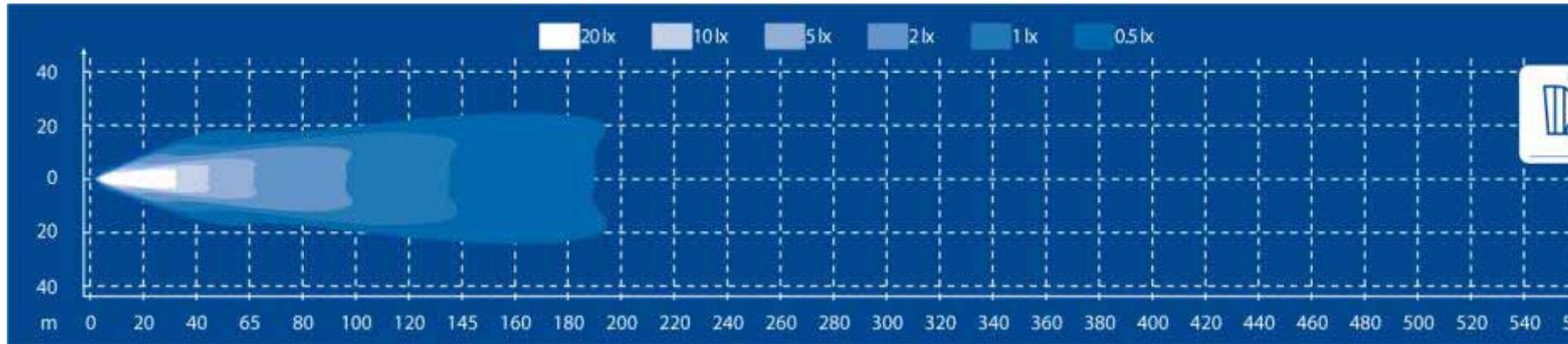
Voltage :	24V
Input Current :	2.5 Amps @ 24V
Max Power Consumption :	60 Watts
LED Lifetime :	50,000 Hours
Connector :	Deutsch DT Series 2 Pin
Mount :	Single Bolt Mount
Shock :	60G
Vibration :	20G <sub>rms</sub> 24 - 2000 Hz
Lens :	Polycarbonate
Body :	Aluminium
Weight :	2.9kg
IP Rating :	IP67
Salt Mist :	ISO 9227
EMC :	ISO 13766, ISO 14980, ISO7637
Operating Temperature :	-40°C to +50°C
Colour Temperature :	6000K
Light Source :	6 x Cree® MC-E (4 chip) LEDs

# ***N460 LED Worklamp***

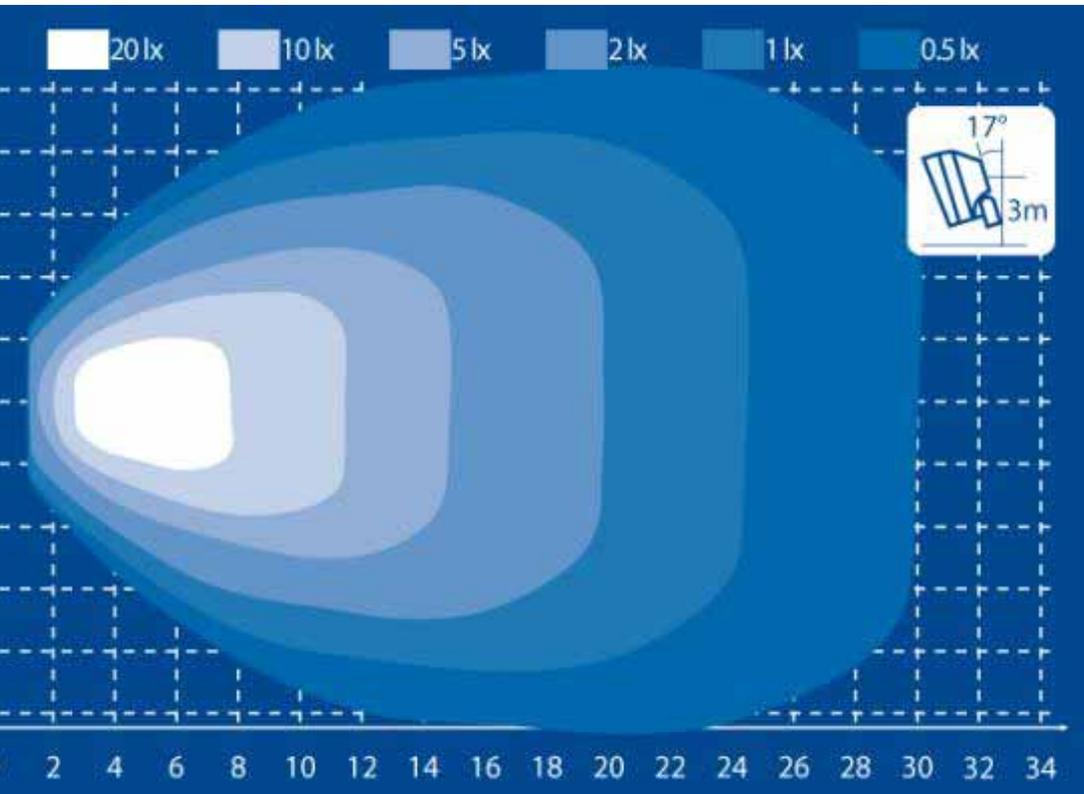
Low Beam



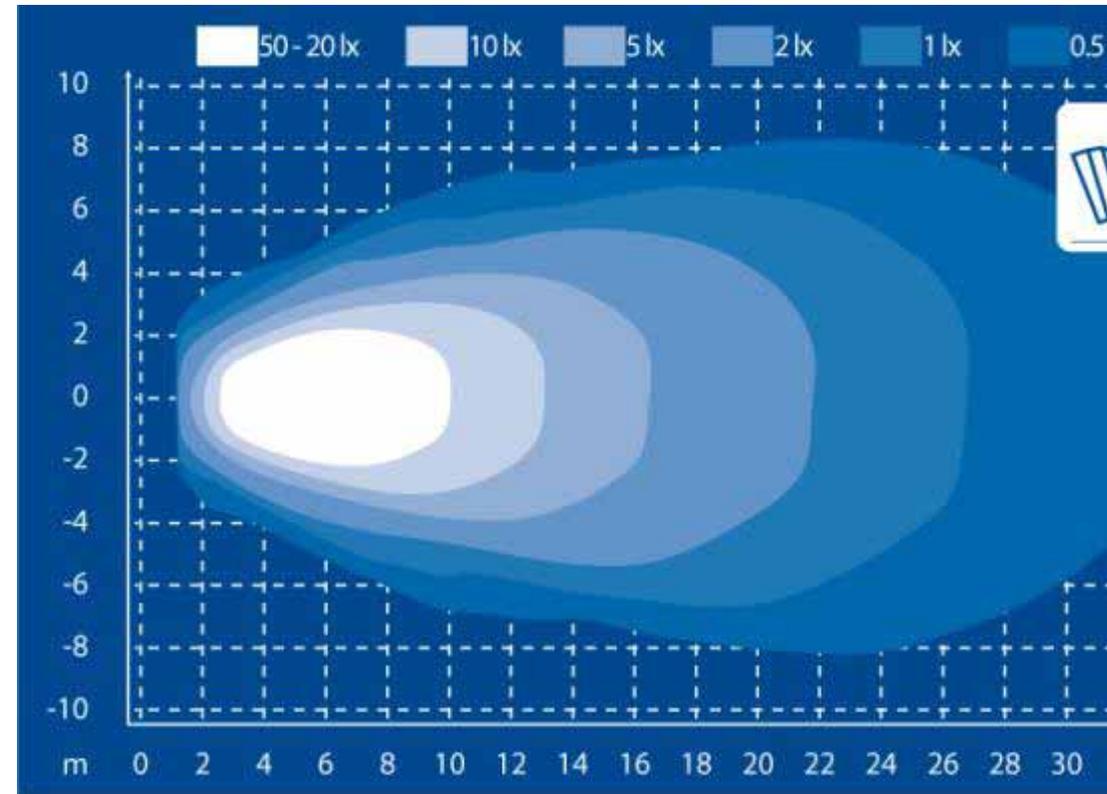
High Beam



# N460 LED Worklamp



Wide Flood



Flood

# N44 LED Worklamp

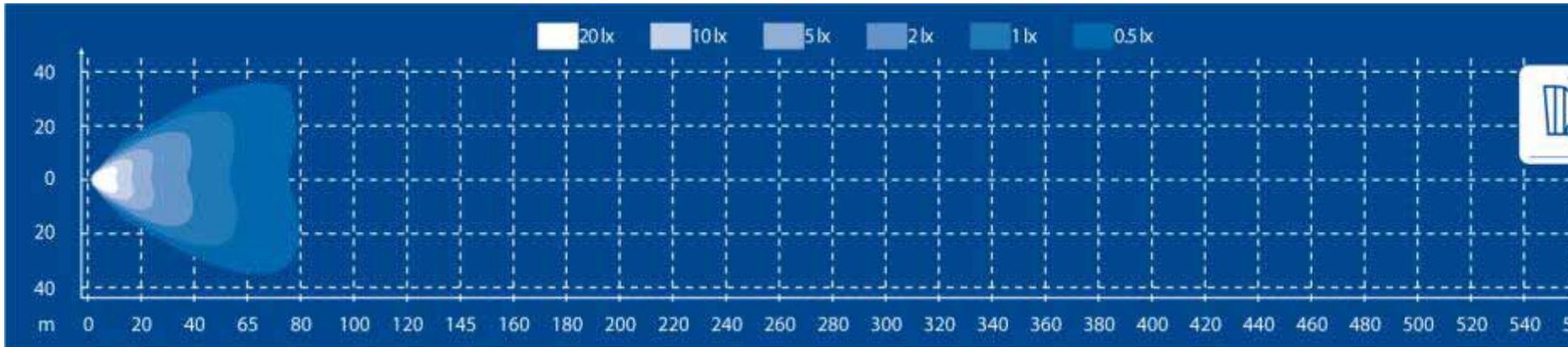


## Nordic N44 LED Specifications

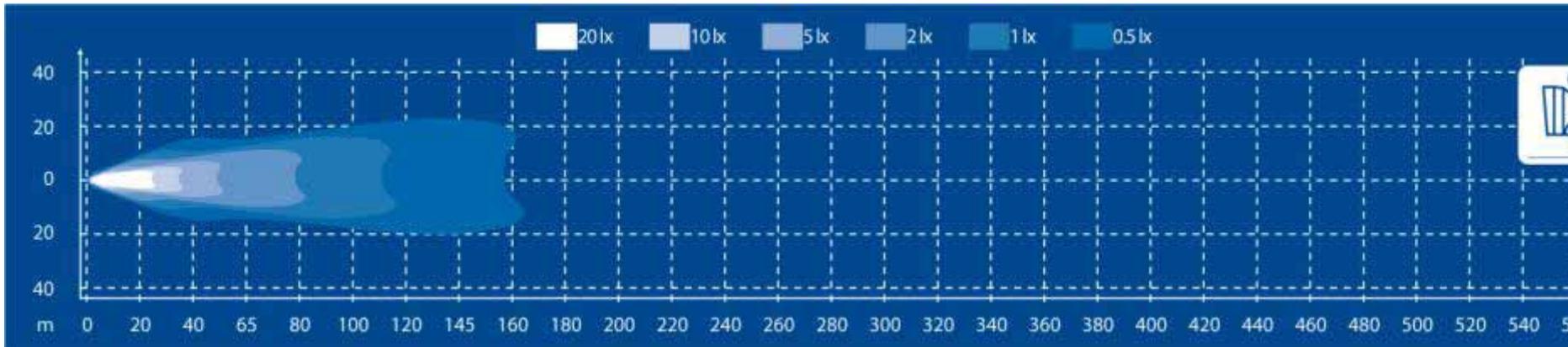
Voltage :	12-24V
Input Current :	1.7 Amps @ 24V
Max Power Consumption :	40 Watts
LED Lifetime :	50,000 Hours
Connector :	Deutsch DT Series 2 Pin
Mount :	Single Bolt Mount
Shock :	60G
Vibration :	20G <sub>rms</sub> 24 - 2000 Hz
Lens :	Polycarbonate
Body :	Aluminium
Weight :	1.6kg
IP Rating :	IP67
Salt Mist :	ISO 9227
EMC :	ISO 13766, ISO 14980, ISO7637-2, EN12893
Operating Temperature :	-40°C to + 50°C
Colour Temperature :	6000K
Light Source :	4 x Cree® MCE (4 chip) LED

# ***N44 LED Worklamp***

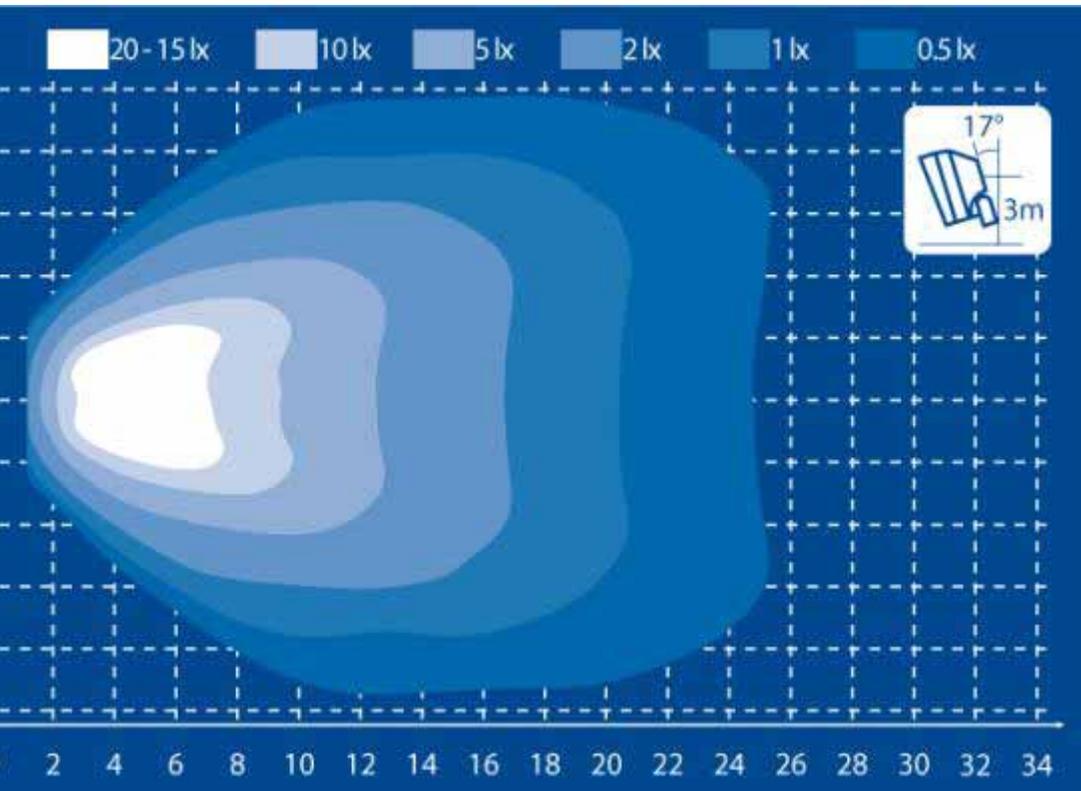
Low Beam



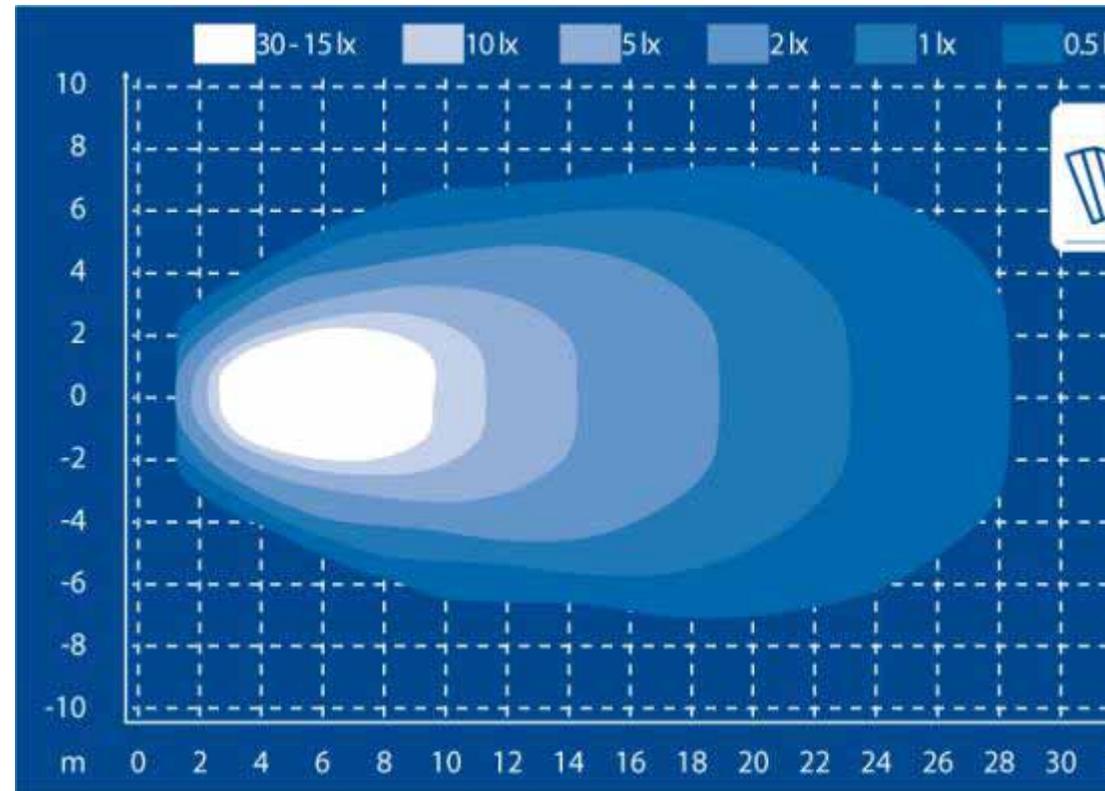
High Beam



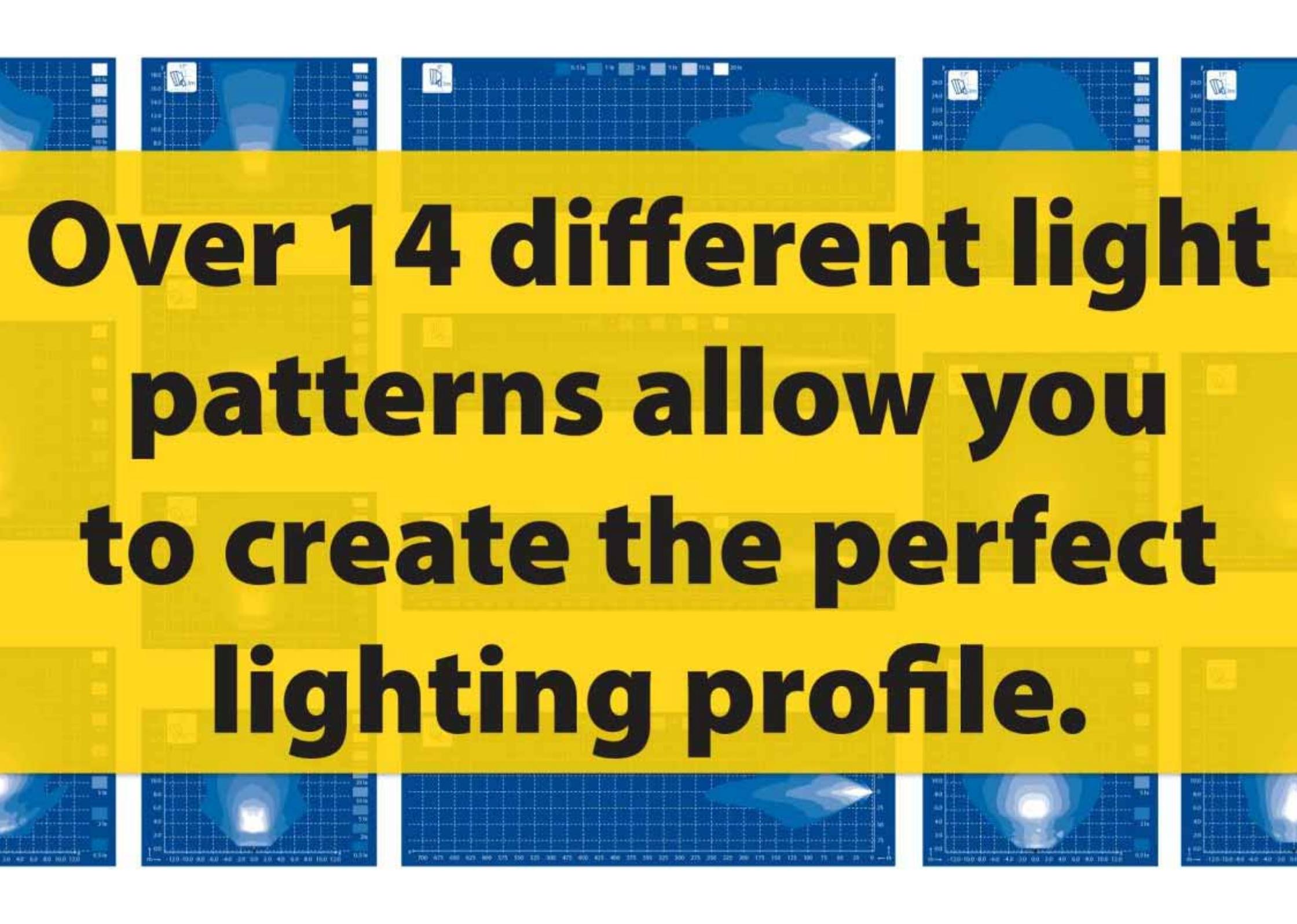
# N44 LED Worklamp



Wide Flood

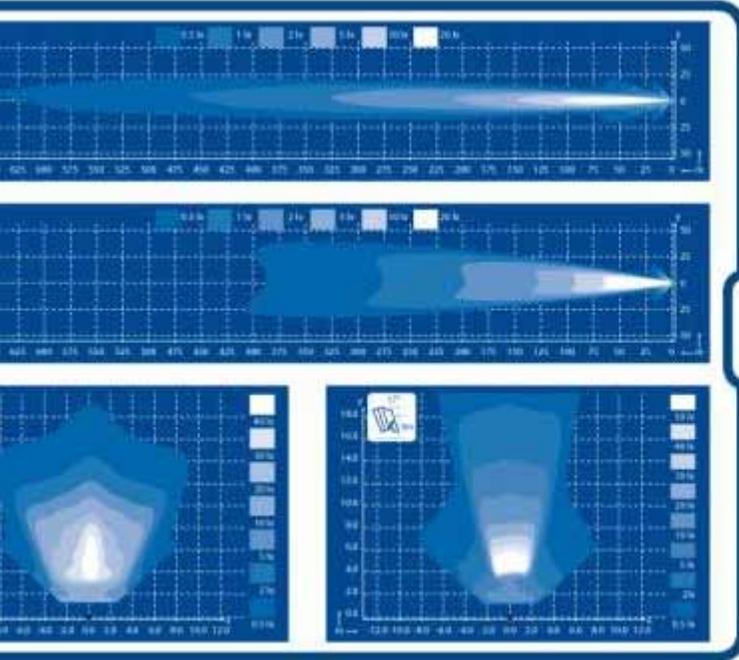


Flood

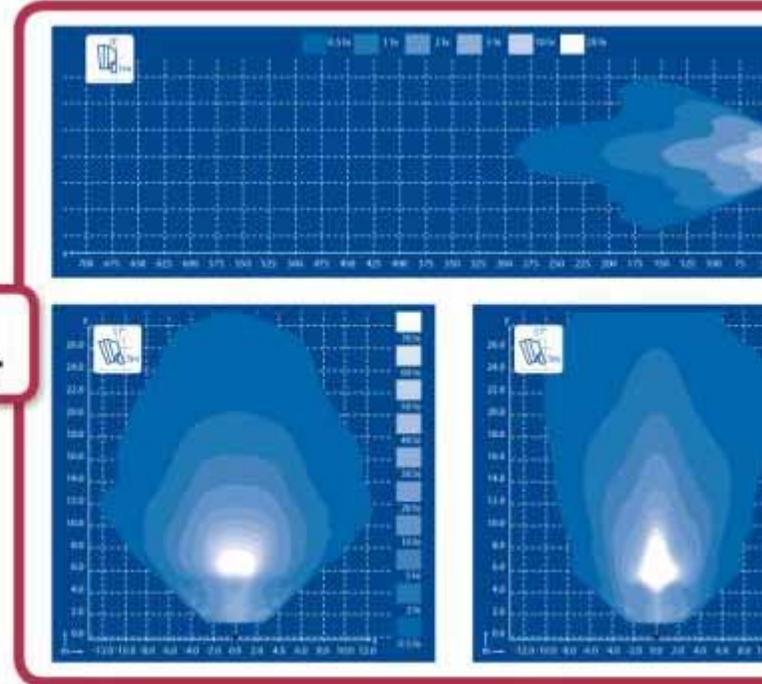


**Over 14 different light patterns allow you to create the perfect lighting profile.**

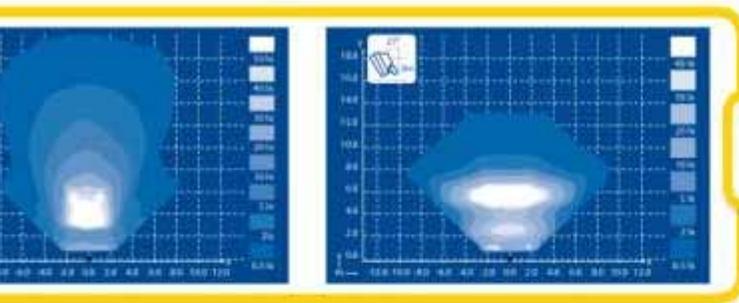
# HID Worklamp Light Patterns



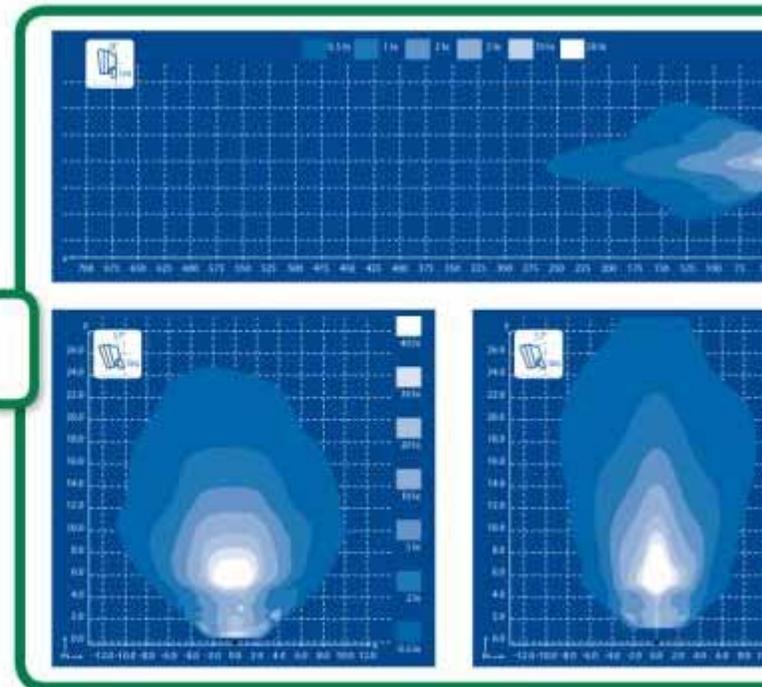
N200/  
N400



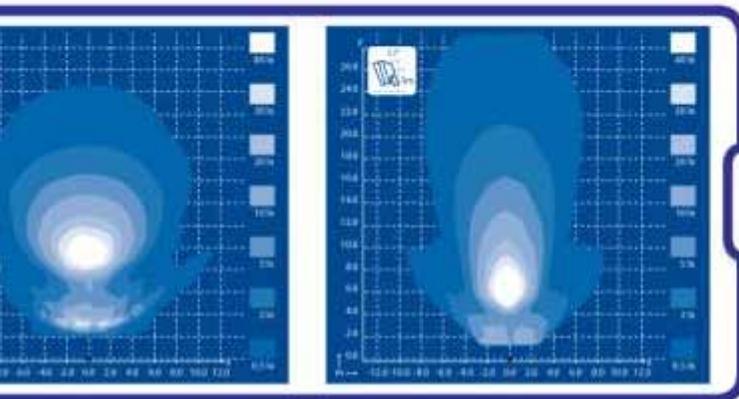
N25  
Booster



N100F



N25



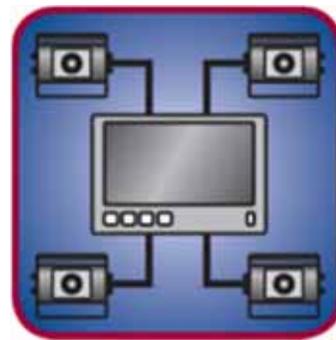
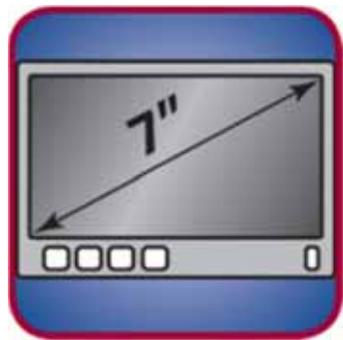
N45

TS TOTAL  
SOURCE



# ***CCTV Systems***





3 year warranty on all Backeye series products.

Dual voltage 12V to 24V operation.

Up to 7" screen LCD colour monitor.

LED backlit panel monitor – doubles the life.



Up to 4 camera inputs per monitor + 1 AV input (model specific).

Split, triple and quad screen functionality built in (model specific).

All cameras built for heavy duty applications.

Ultra portable, user friendly Digital Video Recorder.





# *Reversing Alarms*





**bbs-tek reversing alarms has three main advantages over conventional alarms:**

**Eliminates noise nuisance and complaints:** the sound is easier on the ear and dissipates at twice the rate of conventional alarms.

**Locatable:** Easy to tell which vehicle is reversing within a noisy environment.

**Directional:** The sound is concentrated on the danger zone.

Lifetime warranty on all bbs-tek alarms.

Tough, durable, guaranteed dustproof/waterproof IP68.

Solid-state, spark-free electronics, epoxy-sealed against mud, water and vibration.

The regulatory authority may review the information on feasible and reasonable work practices provided by the proponent, and compare the proposed practices against those applied on other similar projects. The regulatory authority may negotiate additional work practices that it considers may also be feasible and reasonable.

Some examples of feasible and reasonable practices applied on construction projects are:

- **A new large pipeline** – construction methods and the best pipeline route were chosen to minimise noise for residents and businesses. Two construction methods were used: ‘microtunnelling’ together with temporary noise barriers in residential areas, and ‘trenching’ in non-residential areas. Also, where possible, the pipeline was laid in industrial areas or reserves away from sensitive land uses.
- **Construction project near a waterway** – the contractor trialled three different types of piling: impact piling, push piling and secant piling. Secant piling, which involved installing reinforced concrete piles by drilling a hole into the ground and then filling with concrete to interlock with the neighbouring pile. Secant piling was chosen over impact or push piling, due to its lower vibration impact on the community, although it was not considered the most effective construction method.
- **A new pedestrian bridge over a main road** – the bridge footings were constructed during standard hours and night-time works were limited to two non-consecutive nights of operating a crane to lift the pre-fabricated bridge sections into position.
- **Use of alternatives to ‘beeper’ style reversing alarms** – to minimise noise impacts from reversing alarms, especially during out of hours, a major infrastructure constructor required contractors to supply and use mobile equipment fitted with reversing alarms that are not the ‘beeper’ style alarms. An example is a broadband style alarm, sometimes referred to as a ‘quacker’ alarm.

## Strategy 4 On site

Barriers and acoustic sheds are most suited to longer-term fixed works, as in these cases the associated cost is typically outweighed by the overall time savings.

### Location of plant

- Place as much distance as possible between the plant or equipment and residences and other sensitive land uses.
- Restrict areas in which mobile plant can operate so that it is away from residences and other sensitive land uses at particular times.
- Locate site vehicle entrances away from residences and other sensitive land uses.
- Carry out noisy fabrication work at another site (for example, within enclosed factory premises) and then transport to site.

### Alternatives to reversing alarms

- Avoid use of reversing alarms by designing site layout to avoid reversing, such as by including drive-through for parking and deliveries.
- Install where feasible and reasonable less annoying alternatives to the typical 'beeper' alarms taking into account the requirements of the Occupational Health and Safety legislation; examples are smart alarms that adjust their volume depending on the ambient level of noise and multifrequency alarms that emit noise over a wide range of frequencies.
- In all circumstances, the requirements of the relevant Occupational Health and Safety legislation must be complied with. For information on replacing audible warning alarms on mobile plant with less annoying alternatives, see Appendix C.

### Maximise shielding

- Reuse existing structures rather than demolish and reconstruct.
- Use full enclosures, such as large sheds, with good seals fitted to doors to control noise from night-time work.
- Use temporary site buildings and materials stockpiles as noise barriers.
- Schedule construction of permanent walls so that they can be used as early as possible as noise barriers.
- Use natural landform as a noise barrier – place fixed equipment in cuttings, or behind earth berms.
- Note large reflecting surfaces on and off site that might increase noise levels, and avoid placing noise-producing equipment in locations where reflected noise will increase noise exposure or reduce the effectiveness of mitigation measures.

# Appendix A: Case studies

A range of case studies illustrates various ways to manage noise impacts from construction works by applying the recommendations in the Guideline. The approaches illustrated in each case study are summarised in Table 12.

**Table 12:** Summary of case studies

Case study	Approaches illustrated
1. Targeted community consultation	<ul style="list-style-type: none"> <li>• consultation with community</li> </ul>
2. Night-time 'in-tunnel' blasting	<ul style="list-style-type: none"> <li>• consultation with community</li> <li>• notification prior to works commencing, providing respite periods</li> <li>• using temporary barriers</li> </ul>
3. Managing ground-borne noise	<ul style="list-style-type: none"> <li>• noise prediction</li> <li>• complaint handling</li> <li>• ongoing consultation with community</li> </ul>
4. Major road construction	<ul style="list-style-type: none"> <li>• installing permanent barriers as soon as possible</li> <li>• using quieter plant or equipment, using alternative construction methods</li> <li>• consultation with community</li> <li>• using 'smart' reversing alarms</li> <li>• locating plant as far as possible from residences and other sensitive land uses</li> </ul>
5. Major infrastructure upgrade	<ul style="list-style-type: none"> <li>• consultation with community</li> <li>• less annoying alternatives to audible movement alarms</li> <li>• organising deliveries and access</li> <li>• temporary relocation of noise-affected occupants</li> </ul>
6. Night-time essential maintenance works	<ul style="list-style-type: none"> <li>• qualitative impact assessment</li> <li>• implementing work practices set out in section 5.2</li> <li>• community notification letter</li> </ul>



A loader fitted with a broadband reversing alarm rather than a beeper alarm (Abigroup Contractors Pty Ltd)

- 1 An example of the sound of a broadband alarm can be found at [www.environment.nsw.gov.au/noise/constructnoise.htm](http://www.environment.nsw.gov.au/noise/constructnoise.htm)

## Low Technology Led Lighting

Due to increased compliance to work safety practices and in particular, to lighting requirements for vehicles working on major roads and freeways has led to an ever increasing load on vehicle electrical systems, I.E. current draw and also environmental concerns.

This can be dramatically reduced with the use of Led lighting technologies, other compelling reasons for Led true rotating beacons that comply with the SAE R-65 include:

Longer lifetime for LED'S (50,000 Hrs) against halogen bulbs (600 Hrs) lowers maintenance and increases reliability.

Lower current draw allows for the beacons to be placed at the extremities of vehicles and remain working at full output.

Lower current draw allows for more beacons to be used without straining the vehicle electrical system.

Lower current draw allows for stationary vehicles to turn off their engines, without fear of flattening batteries; saving fuel, engine wear and reducing both air and noise pollution.

