



TYRI CATALOGUE

Full collection of TYRI products





TYRI ORIGINS

From humble beginnings to over 40 years experience in off highway lighting, TYRI is at the forefront of lighting technology.

As the world evolves and changes with technological advances, so must the way we see. TYRI continually strives to develop new technologies, to control lighting in completely new ways and to design industry leading concepts tailored to our customers needs.

TYRI was created by three partner companies based in the USA, UK and Sweden with extensive experience in the work lighting field. Initially, the company started out in mining and forestry, which offer a very unique set of challenges for both machines and lighting. They built on their legacy in these demanding industries and now develop lighting for a variety of applications with a main focus on the harshest environments of off highway, including Material Handling, Agriculture, Construction and Heavy Vehicles.

Alongside the three head-quarter locations, TYRI has additional sales offices around the world ensuring a mantra of Global Program, Local Engagement™.

TYRI has a dedicated Research and Development department based in Sweden with an on-site, state of the art, testing facility. Their work lights comply with all international safety standards and undergo rigorous testing to ensure they can hold up to the punishing

regimes of all off highway machines.

Boasting a large range of standard work lights, TYRI also works as a design partner alongside well known customers to bespoke solutions to exact customer requirements. They revel in the challenge of designing and developing new products using cutting edge techniques. The group is rich in specialist knowledge and experience, engaging with experts in optics, testing and design to create a quality product that delivers on performance and style.

TYRI works with some of the most recognisable names in the industry and is dedicated to providing effective lighting in all aspects of their function.

As an industry leader, TYRI's Research and Development department constantly monitors global trends in the industry and attempts to predict new innovations and technologies, adapting to their differing needs to ensure they continue their ground-breaking legacy.

THE QUEST FOR OPTIMAL LIGHT DISTRIBUTION

Optical engineering is a challenging profession. This is particularly true when optical solutions must be adapted to design preferences while retaining optimal light distribution. Per-Arne Torstensson is a Senior Optical Engineer at TYRI whose workday consists of integrating lens systems and technologies in lights with a specific visual design. He tells us a bit more about important things to consider when attempting to create optimal light distribution.

Per-Arne Torstensson has worked with optics for over 30 years, the last three of which have been at TYRI. "The reason I applied to work at TYRI was because they utilised LightTools, one of the most sophisticated software tools for optical design. This aroused my curiosity immediately and I felt it would be an exciting challenge. At TYRI I am able to further develop my optics expertise in lighting, and I am also able to learn how a light and its technology can be integrated in a specific visual design," says Per-Arne.

OPTICAL ENGINEERING

A large part of Per-Arne's work involves creating optimal light distribution around a heavy vehicle, which often has many different lights mounted that must be combined in the right way for the best possible illumination. Furthermore, the lights must also satisfy customer design preferences without compromising the quality of light distribution.

"A forestry industry harvester usually has 25 to 30 lights, which frequently have different properties and different light distribution. The lights must have different properties but still work together to achieve optimal light distribution around the vehicle. It's a fairly complex task getting this to work, and it is this knowledge that we at TYRI want to share with our customers. The correct lighting on a heavy vehicle is imperative for both safety and productivity," says Per-Arne.

LENS DESIGN

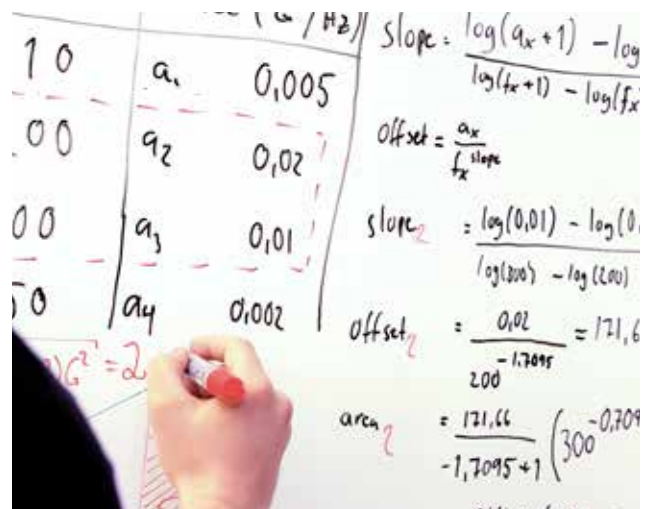
Design within lighting has become increasingly important

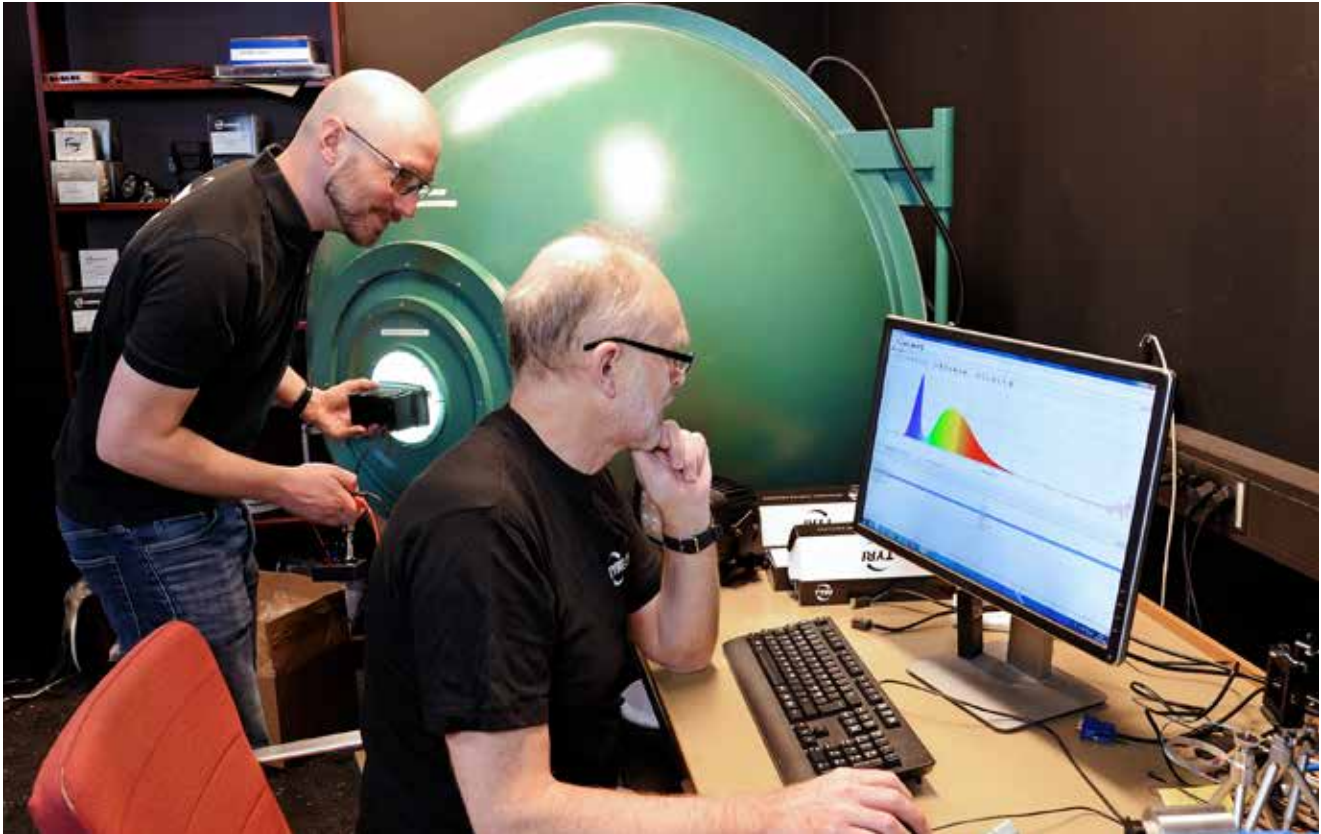
over the years, and vehicle lights are today a hallmark of many brands. TYRI works regularly with design development, and gladly develops new lights based on customer design preferences. Sometimes, however, a design specification from a customer has already been fully decided, which makes it difficult to achieve an optimal solution for the optical system. It is Per-Arne's job to tackle this challenge and try to find a lens design able to fit the criteria.

Complicated designs sometimes require more than one lens, which together direct uniform and powerful light around the heavy vehicle. The lenses are produced by injection moulding with different plastic materials such as polycarbonate. The calculated shape of the lens must be preserved throughout production, but since plastic shrinks when it cools after injection moulding, irregularities in the shape sometimes crop up which significantly change the properties of the lens. These irregularities can often be compensated for in the calculations prior to moulding, but, when working on multiple lenses, the irregularities can accumulate and complicate the work.

LIGHT GLARE

Another important aspect of working with optics is to try





Per-Arne Torstensson (Senior Optical Engineer) & Anders Johansson (Test Engineer)

to create light distribution that produces minimal glare. Instead of using moving components, we often work with the light's active illumination components. Per-Arne works to get different dispersion patterns in the light to switch on and off in order to 'reorient' light distribution. "In this, INTELLi^{light} is an effective tool able to handle glare well by means of automatic dimming using simple light sensors. One of our goals is to start using cameras as sensors in INTELLi^{light} lights, since this would provide more information about oncoming light and manage dimming more efficiently."

“

Design within lighting has become increasingly important over the years, and vehicle lights are today a hallmark of many brands.”

P.A. TORSTENSSON, TYRI SENIOR OPTICAL ENGINEER

can be much better than 4,000 lumen, since the latter can diffuse and have a greater risk of glare.

“What best describes a light's properties is its intensity distribution, in other words, how the light is distributed at different angles, not the LED light's maximum lumen. Many customers make the mistake of asking for the highest lumen total, but that does not necessarily provide the best light distribution. This can be compared to judging the performance of a car by only getting information about its horsepower, which says nothing about how fast the car accelerates or its top speed. Good light distribution is far more complicated than a high lumen total,” says Per-Arne.

Moreover, different companies and suppliers measure lumen based on different factors. Manufacturers in China, for example, frequently specify the theoretical lumen instead of the effective lumen retained after the light has passed through the lens system. In a best case scenario, approximately 75-80 percent of the LED light's theoretical lumen can be collected by a lens. In inadequate optical solutions, not even half of the light's theoretical lumen may be attainable.

LIGHT DISTRIBUTION AND LUMEN

An LED module distributes light in different directions, and the lens system must then direct the light to achieve the desired light distribution. It's important to remember that the lumen total cannot describe good light distribution alone. Light distribution of 2,500 lumen



ARE ALL LED WORK LIGHTS BORN EQUAL?

Choosing the correct light for your application can be confusing, so the choice is often decided by price. Unfortunately, not all LED work lights are the same; low cost LED's are frequently manufactured with low cost components and a lack of quality control. This could mean that the level of brightness, colour spectrum and expected lifespan may not meet your expectations for the application. TYRI manufactures work lights to the highest quality, so you have the utmost confidence that our lighting will stand up to punishing regimes.

LUMEN OUTPUT

Often listed as theoretical, but only effective/measured output must be taken into consideration.

IP Rating

IP ratings classify the degree of protection provided against ingress from dust or water.

IP 69K – protected from total dust ingress and high pressure/steam-jet cleaning.

FALSE QUALITY STATEMENTS

Some work lights claim they use premium LEDs or other well-known parts, to give you a false sense of superiority. Low cost lights are made with low cost components and this is reflected in the price.

ELECTROMAGNETIC COMPATIBILITY (EMC)

All work lights emit an electronic field which can interfere with other systems. Testing to ensure your work light's electronic field remains at a near undetectable level is essential to ensure all electronic devices on your vehicle function correctly. TYRI work lights have the highest EMC rate in most cases.

HOUSING

The worst enemy of an LED work light is the heat that is generated by the LEDs. Large cooling fins are therefore required to dissipate the heat.

CONNECTORS

Some low cost LED work lights will have a spade connector rather than a Deutsch connector. The spade connector is less expensive but also less reliable than a Deutsch connector. It can allow water to ingress the connection and therefore prevent the light from working. All TYRI lights are supplied with Deutsch connectors.

LIGHT PATTERN

Light patterns are not a one size fits all solution; they make a variety of different diffusion options possible. TYRI offers an average of five different light patterns per model to create a professional lighting solution for different machinery. Using our expertise, TYRI advises our customers on the best light patterns for their application. We ensure you have the most effective light to meet your needs.

TESTED & APPROVED

All you need to know about TYRI testing



EMC EN55025 / CISPR 25

It is of vital importance, especially on emergency or military vehicles, that lighting does not effect control systems, cameras, on-board computers and other radio sensitive equipment. This is why TYRI lights are scrutinised to ensure they do not interfere with EMC functionality.



IP 69K

IP 69K ratings offers complete peace of mind that the work light you are installing has undergone rigorous tests to ensure it is both durable and conforms to the highest standard on the scale of protection against water, moisture and dust ingress.



VIBRATION TESTING

TYRI lights undergo extensive vibration testing, for up to 8 hours on all axes, above 10 Grms at a frequency range from 5 – 2000 Hz. This simulates the forces applied to the lights once mounted on off highway machines.



ENVIRONMENTAL TESTING

TYRI lights tested in hot and cold temperatures, as well as humidity, for a minimum of 35 days. They are tested in conditions up to -40°C to + 85°C and up to 90% humidity.



SHOCK TESTING

As well as vibration testing, TYRI lights undergo shock testing to a force of 50G. This ensures that TYRI lights will withstand punishment from your work environment.



SALT SPRAY TESTING

TYRI lights undergo rigorous salt spray testing to ensure they are approved to ASTM B117 standards. This ensures that even in corrosive environments, TYRI lights will continue to perform.



POLARITY / OVERHEATING / OVER-VOLTAGE PROTECTION

TYRI lights have built in temperature sensing circuits which reduce the output to regulate the temperature of the light. This prevents damage to the LED's that can result in premature failure. TYRI LED lights are also reverse polarity protected in the event of incorrect installation. Should the wires become crossed during connection, TYRI lights will not turn on until the wires have been connected in the correct configuration, protecting the LEDs and associated circuitry.

TYRI TEST LAB

Unique, practical & efficient



TYRI's lights must withstand harsh stresses in the toughest environments. To guarantee that the lights perform in environments where they are subjected to impacts, high salt content, moisture, water, dust, and extreme cold or heat, all products are tested in TYRI's own test lab. Anders Johansson, Head of Quality Testing, takes us on a tour of the lab.

"Many lighting manufacturers send their products away for testing, but TYRI has an in-house laboratory. This enables us to quickly and easily examine new products and make modifications to existing products. When we develop new innovations, it is highly practical to have access to our own lab. It allows us to perform tests at an early stage and determine whether we are investing in the right technology, instead of being surprised by faults and shortcomings far into development. Furthermore, it goes much faster when we produce customised lights with clear requirement specifications for what the lights must be able to cope with," says Anders.

VIBRATION TESTING

To ensure that the lighting is able to withstand the impacts and vibrations to which it is subjected in heavy equipment, the lights are tested in a shaker. It shakes the light with different accelerations at different frequencies in order to check that nothing breaks. Vibrations in the light's various materials are also analysed in the shaker to identify any resonance frequencies.

"If we discover that a material in the light starts to oscillate, we will have to address the design in order to eliminate this," says Anders.

SALT SPRAY CHAMBER

In the salt spray chamber, the lights or their components are sprayed with a mist of distilled water mixed with salt. This is done to test how TYRI's materials withstand corrosion.

"White rust normally appears in this type of test, and is completely harmless. What we watch out for is the emergence of iron oxide rust, which can affect the

quality of the light. We have recently started using a new kind of coating on our light housings, which has shown significantly better corrosion resistance than the coating previously used. We could confirm this after hard testing in the salt spray chamber,” says Anders.

DUST TESTING

In mines, on farmlands, and in essentially all environments where heavy vehicles are used, there is dust. To ensure that TYRI's lighting can cope with all extreme environments, it must be able to withstand fine-grained dust. In dust testing – which is carried out to determine how well the lights are sealed – the lights are exposed to vacuum and dust is dispersed.

“We work from international guidelines for dust testing. The guidelines describe, among other things, the required size of the dust grains and the degree of vacuum. This test is incredibly efficient to conduct in-house instead of engaging with external testing institutes, which often have relatively long waiting times,” says Anders.

GONIOPHOTOMETER & INTEGRATING SPHERE

An important part of the testing process is when the distribution and character of light are tested.

“In our goniophotometer we can precisely measure the width and length of the light beam from different angles in order to obtain a representation of the light beam's

propagation. From these measurements we also glean information about the luminous flux, luminous intensity and half-value angle. In the integrating sphere we measure the colour temperature of the light as well as the colour rendering index, and we can compare how closely we are able to emulate sunlight, since sunlight is usually considered optimal,” explains Anders.

AN EVOLVING LABORATORY

“Today we subject our lights to extreme heat and cold in our environmental chamber to make sure that the products perform in all conditions and the toughest environments. And we measure luminous flux in another device. Our hope is that we will soon be able to test both temperature and luminous flux simultaneously, which will both streamline the testing process and enable us to study other results. That would allow us to see how illumination is affected when the light is extremely cold or overheated,” says Anders.

“Many lighting manufacturers send their products away for testing, but TYRI has an in-house laboratory. This enables us to quickly and easily examine new products and make modifications to existing products.”

A. JOHANSSON, TYRI HEAD OF QUALITY TESTING

Following TYRI's development of INTELLiLight – intelligent lighting controlled via an app – the need arose for new types of tests in the lab.

“We don't yet know exactly which tests will be required from my side going forward, but we anticipate increased standard tests in the lab to ensure the sustainable development of the wireless INTELLiLight. Since we are now introducing new technology with which to work, we will start to regularly conduct software testing and be sure to maintain the app,” says Anders.





LED LIGHTING TECHNOLOGY

LED (Light Emitting Diode) Technology offers enormous benefits in a variety of areas. The long life, durability, and efficient lumen to watt ratio of LED lights provide significant savings in service cost and power consumption. LED work lights, designed by TYRI, emit a light with 5500°K which is near the colour spectrum of the mid-day sun, and so allows the human eye to function and view objects better. Since the design capabilities are more flexible; LED lighting can be placed in compact and restrictive areas for better illumination. For unique applications, TYRI is also able to offer an alternative, warmer 4000°K or 3000°K for mining applications or concrete spraying where a white light may cause glare.

0606

The 0606 LED work light packs plenty of power despite its small size. It is suitable for confined spaces and used on forklift trucks, floor scrubbers, sweepers and other small machinery. The 0606 can also be mounted on truck mirrors due to its small stature. Subjected to rigorous vibration testing and EMC class 4 according to EN55025 / CISPR25.

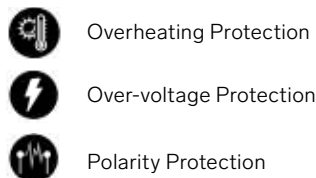
SUGGESTED APPLICATIONS

The 0606 range is highly adaptable and can be used across numerous applications worldwide, including:

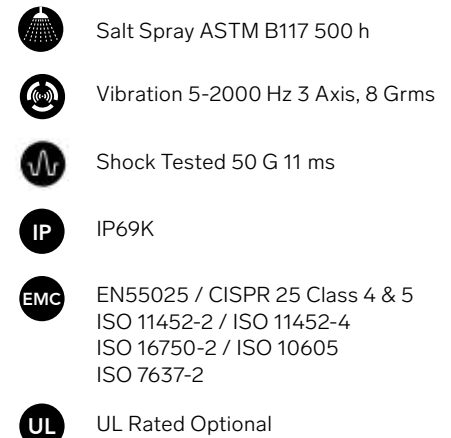


TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +75 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	280 g / 0.62 lb
Light Patterns:	Wide Symmetric Narrow Symmetric (spot)

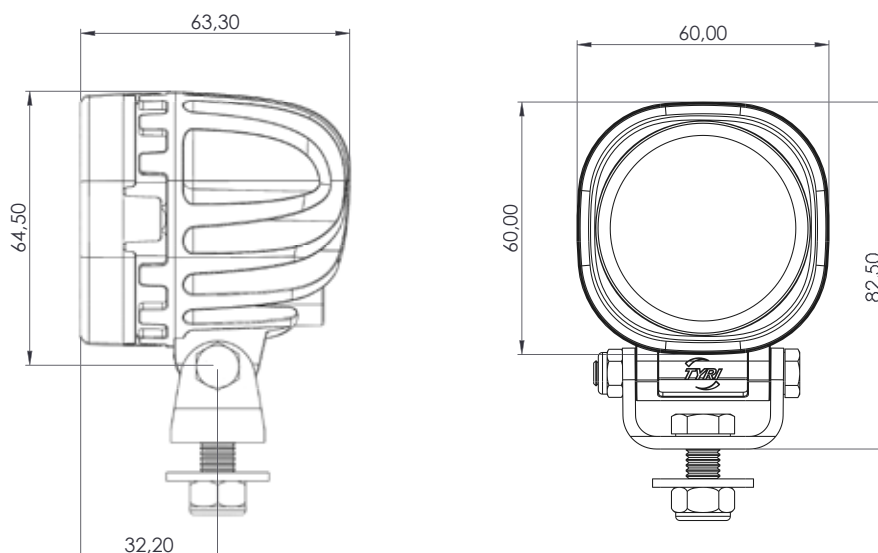


TEST STANDARDS



Consult www.tyrlights.com for additional lens & mounting options

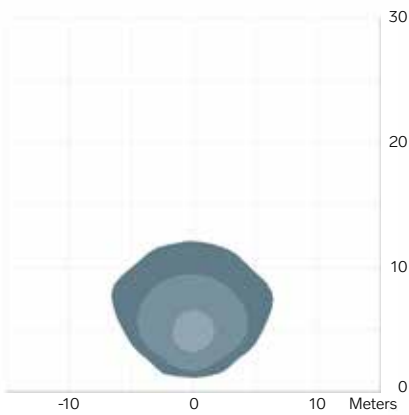
TYRI's testing standards can be found at: www.tyrlights.com



LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	12 V	24 V		Watts	K	EN55025 / CISPR25	ECE Rating
720 lm	12-48 V	9-60 V	1.2 A	0.6 A		13 W	5700	4	R10
750 lm	12 V	9-16 V	1.1 A			13 W	5700	5	
750 lm	24 V	18-32 V		0.6 A		13 W	5700	5	

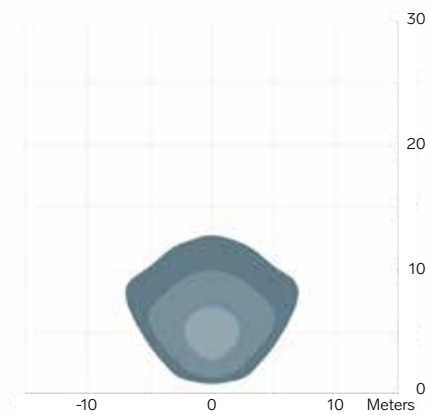
TYPICAL LIGHT PATTERNS

Examples for 0606 | For further light patterns visit www.tyrilights.com



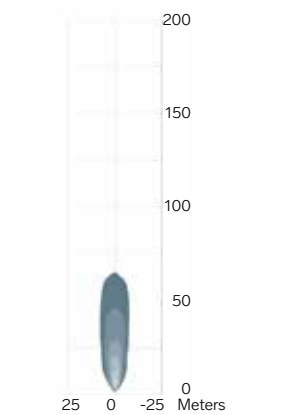
0606 / 720 lm

Wide 45°+
3.0 m / -15°
Symmetric



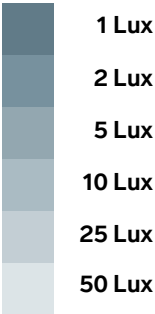
0606 / 750 lm

Wide 45°+
3.0 m / -15°
Symmetric



0606 / 750 lm

Spot
1.0 m / 0°
Symmetric



0606 DIFFUSED

0606 Diffused has an extremely wide light distribution, both horizontally and vertically and is used for very short distances only, giving no reflections. This light can be used for a variety of applications in mining and construction and is suitable for engine compartments, illumination of hydraulics, axles, couplings amongst other applications.

SUGGESTED APPLICATIONS

The 0606 Diffused is highly adaptable and can be used across numerous applications worldwide, including:



MINING

TRUCK & TRAILER



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +75 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	280 g / 0.62 lb
Light Patterns:	Diffused



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



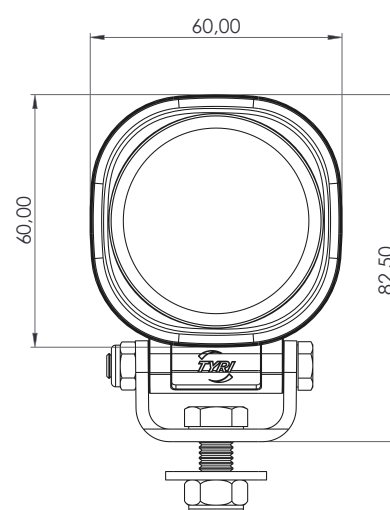
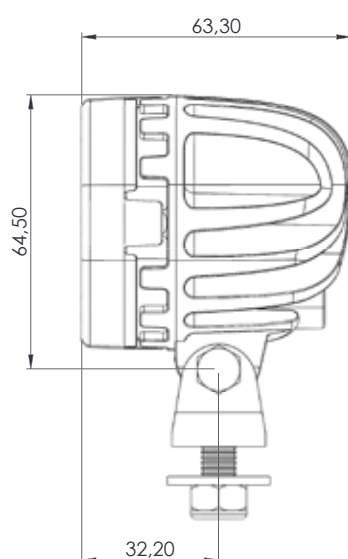
IP69K



EN55025 / CISPR 25 Class 4
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

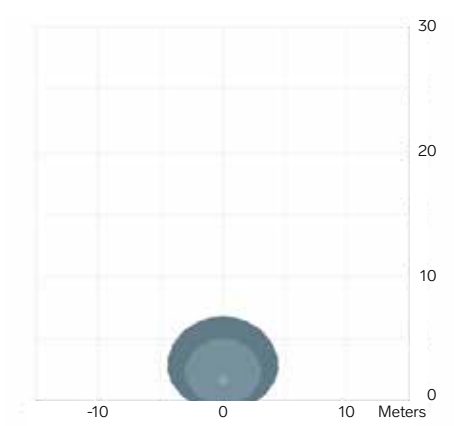


0606 DIFFUSED

LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	ECE Rating	
500 lm	12-48 V	9-60 V	1.2 A	0.6 A	13 W	5700	4	R10	

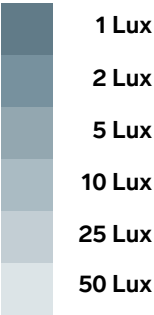
TYPICAL LIGHT PATTERNS

Example for 0606 Diffused / 500 lm | For further light patterns visit www.tyrilights.com



0606 Diffused / 500 lm

Extreme Wide 100°+
3.0 m / -15°
Symmetric



D8

The D8 range stands out through elegance and enhances the design of forklift trucks, construction machines and tractors. Outstanding optical features to guarantee a homogeneous illumination of the work area. Provided with standard bracket.

SUGGESTED APPLICATIONS

The D8 is highly adaptable and can be used across numerous applications worldwide, including:



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	475 g / 1.05 lb
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



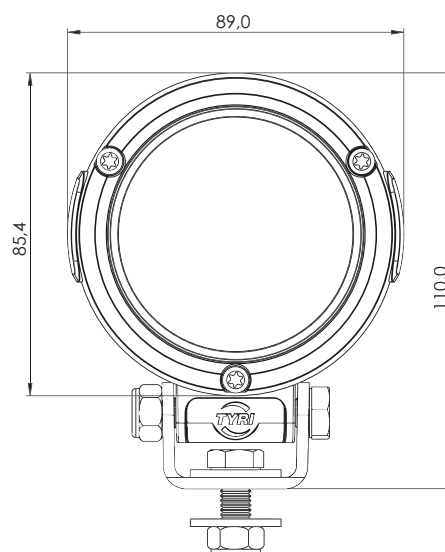
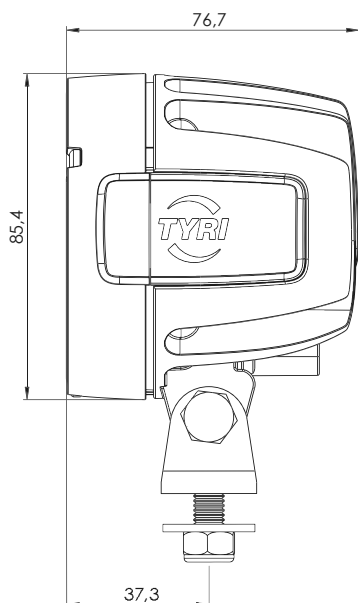
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EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

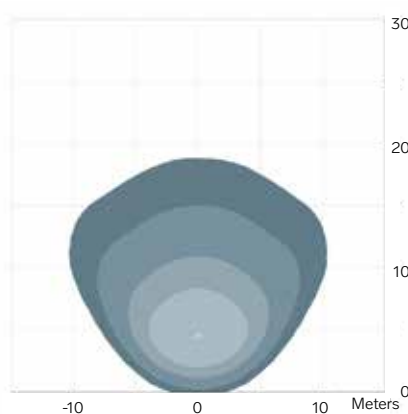
TYRI's testing standards can be found at: www.tyrilights.com



LIGHT OUTPUT	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
	Machine	Operating Range	12 V	24 V			EN55025 / CISPR25	ECE Rating
1200 lm	12-48 V	9-60 V	1.1 A	0.55 A	13 W	5700	3	
1400 lm	12 V	9-16 V	1.8 A		22 W	5700	5	R10
1400 lm	24 V	18-32 V		0.9 A	22 W	5700	5	R10
2500 lm	12 V	9-16 V	2.4 A		29 W	5700	5	
2500 lm	24 V	18-32 V		1.4 A	33 W	5000	5	

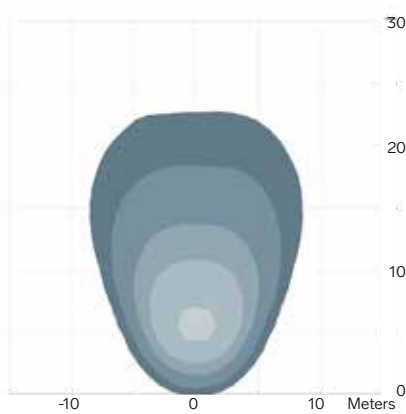
TYPICAL LIGHT PATTERNS

Example for D8 / 2500 effective lumen | For further light patterns visit www.tyrlights.com



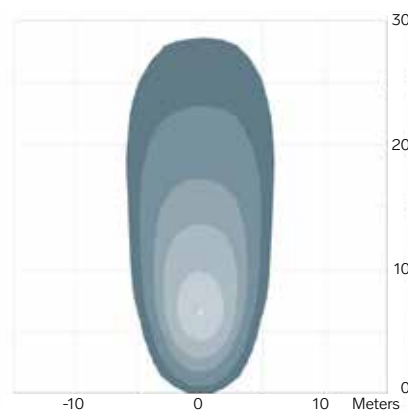
D8 / 2500 lm

Wide 45°
3.0 m / -15°
Symmetric



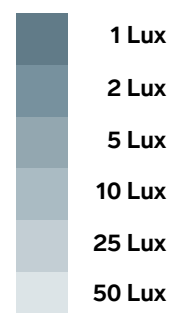
D8 / 2500 lm

Medium 31-45°
3.0 m / -15°
Symmetric



D8 / 2500 lm

Narrow 0-30°
3.0 m / -15°
Symmetric



D8 SWIVEL

The D8 Swivel is a product family consisting of LED work lights and LED BluePoint and RedPoint warning lights. The D8 Swivel work light can be tilted back and forth, and also be turned sideways thanks to the clever swivel bracket.

SUGGESTED APPLICATIONS

The D8 Swivel is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MATERIAL HANDLING



PORT MATERIAL
HANDLING



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing
Swivel

Lens Material: Polycarbonate

Temperature range: -40 to +85 °C

Connector: Deutsch (DT04-2P) built in

Weight: 525 g / 1.15 lb

Light Patterns: Symmetric
Narrow Symmetric
Wide Symmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



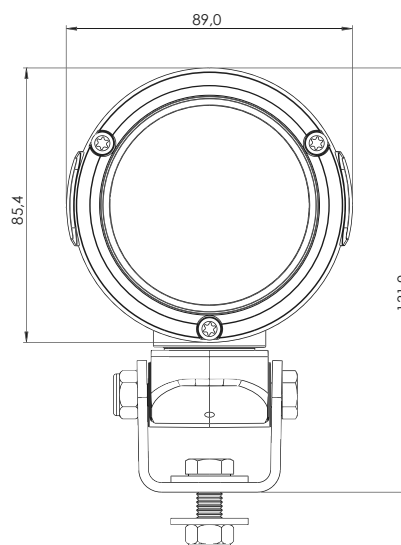
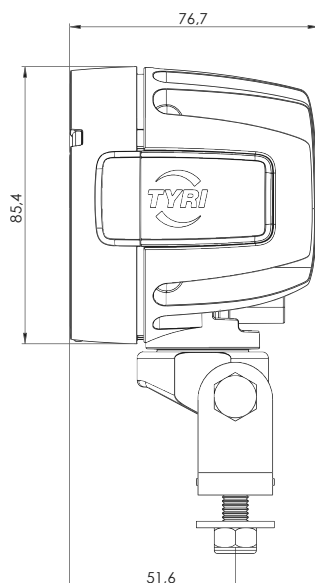
IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com

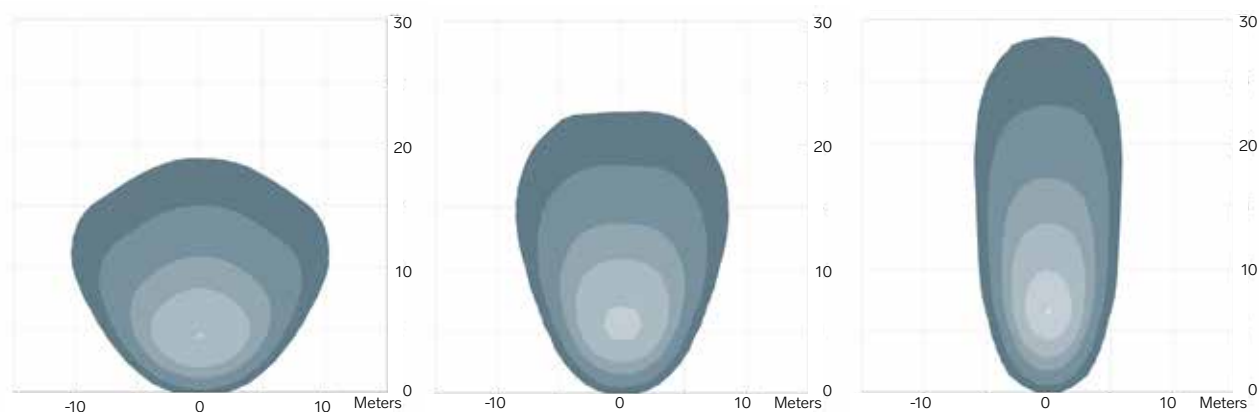


D8 SWIVEL

LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	12 V	24 V		Watts	K	EN55025 / CISPR25	ECE Rating
750 lm	12-80 V	9-108 V	1.2 A	0.6 A		14 W	5700	3	
1200 lm	12-48 V	9-60 V	1.1 A	0.55 A		13 W	5700	3	
1400 lm	12 V	9-16 V	1.8 A			22 W	5700	5	R10
1400 lm	24 V	18-32 V		0.9 A		22 W	5700	5	R10
2500 lm	12 V	9-16 V	2.4 A			29 W	5700	5	
2500 lm	24 V	18-32 V		1.4 A		33 W	5000	5	

TYPICAL LIGHT PATTERNS

Example for D8 Swivel / 2500 effective lumen | For further light patterns visit www.tyrilights.com



D8 Swivel / 2500 lm

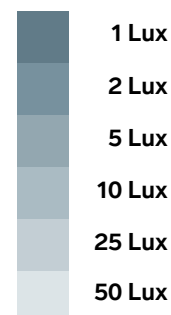
Wide 45°
3.0 m / -15°
Symmetric

D8 Swivel 2500 lm

Medium 31-45°
3.0 m / -15°
Symmetric

D8 Swivel / 2500 lm

Narrow 0-30°
3.0 m / -15°
Symmetric



0717

TYRI developed the 0717 with the latest in LED technology. Boasting special automotive style optics and 2000 effective lumen's this LED can swivel 360° and 60° vertical adjustment for maximum mounting options.

SUGGESTED APPLICATIONS

The 0717 is highly adaptable and can be used across numerous applications worldwide, including:



AGRICULTURAL



TECHNICAL DATA

- Housing Material:** Cast Aluminium
- Mounting Options:** Hanging
- Lens Material:** Polycarbonate
- Temperature range:** -40 to +85 °C
- Connector:** Deutsch (DT04-2P) built in
- Weight:** 1.15 kg / 2.54 lbs
- Light Patterns:** Asymmetric (short range)
Symmetric (long range)



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



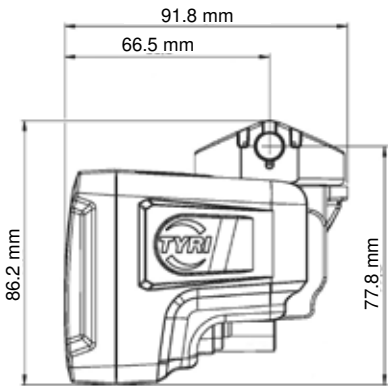
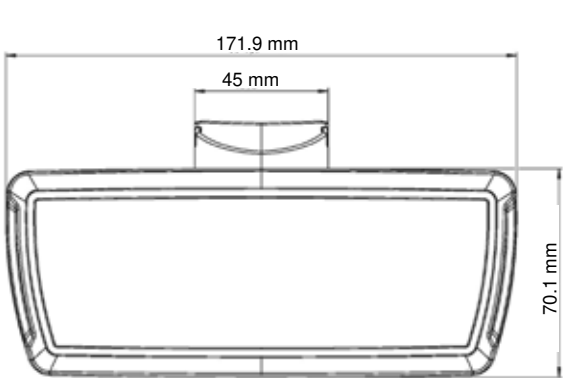
IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com



LIGHT OUTPUT		VOLTAGE		AMP DRAW	POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range		12 V	Watts	K	EN55025 / CISPR25
2000 lm	12 V	9-16 V		2.5 A	30 W	5000	5

0909 COMPACT⁺

The 0909 Compact⁺ is a product family consisting of LED work lights and LED BluePoint and RedPoint warning lights. The 0909 Compact⁺ has a curved lens which makes it easier for snow to glide off. Used on machines with confined spaces, but also on forklift trucks.

SUGGESTED APPLICATIONS

The 0909 Compact⁺ range is highly adaptable and can be used across numerous applications worldwide, including:



MATERIAL HANDLING



AGRICULTURE



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	220 g / 0.49 lb
Light Patterns:	Symmetric Asymmetric Narrow Symmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



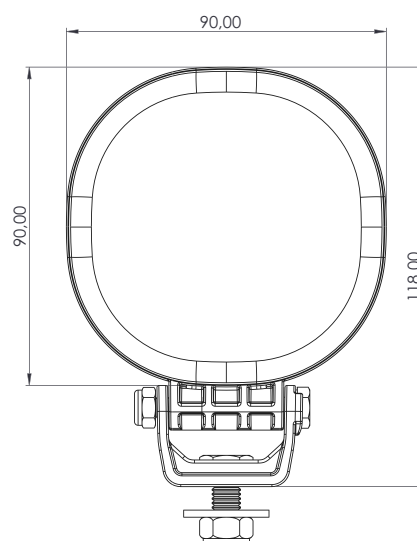
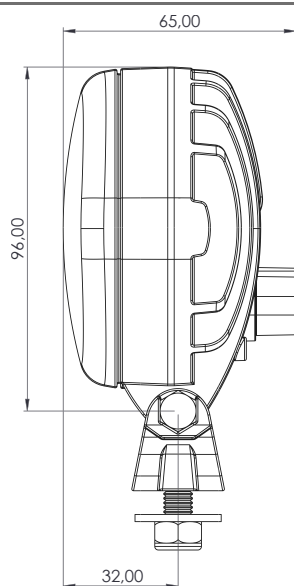
EN55025 / CISPR 25 (see page 2)
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12V	24V	Watts	K	EN55025 / CISPR25	
750 lm	12-48 V	9-60 V	0.9 A	0.5 A	14 W	5000	3 (metal bracket) / 5 (PA6 Bracket)	UL
1400 lm	12-48 V	9-60 V	1.7 A	0.9 A	21 W	5000	3 (metal bracket) / 5 (PA6 Bracket)	UL

0909

The 0909 has many different lumen output and operating ranges available. This LED model is also available with a colour temperature of 4000 K and a colour rendering index of 95; when you need to clearly distinguish between the different colours. Also available as an E-approved rated model for trucks and trailers.

SUGGESTED APPLICATIONS

The 0909 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



PORT MATERIAL
HANDLING



FORESTRY



FIRE-FIGHTING
VEHICLES



MATERIAL HANDLING



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Connector: Deutsch (DT04-2P) built in

Weight: 616 g / 1.36 lb

Light Patterns: Symmetric
Narrow Symmetric
Wide Symmetric
Asymmetric
Wide Asymmetric



Overheating Protection



Over-voltage Protection



Polarity Protection



High CRI 95 Optional

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605 / ISO 7637-2



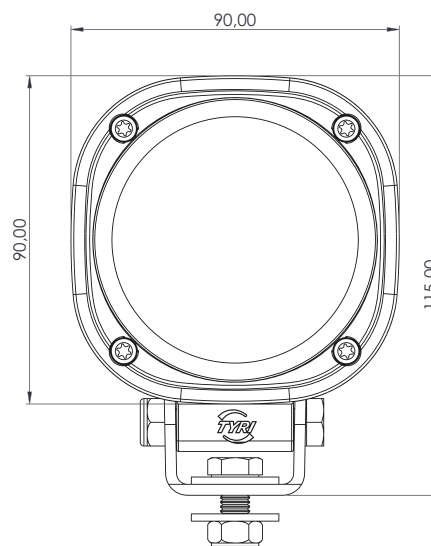
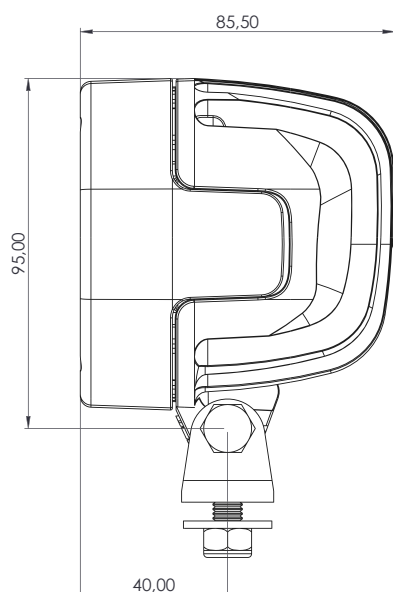
UL Rated Optional



R23 / R10 Optional

Consult www.tyrlights.com for additional lens & mounting options

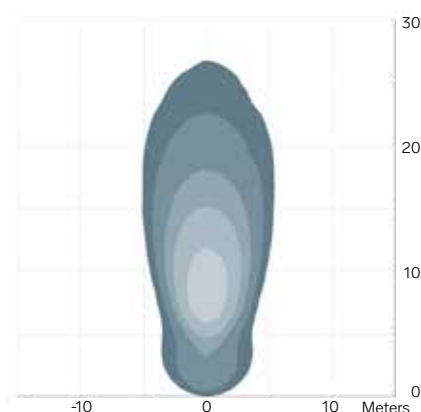
TYRI's testing standards can be found at: www.tyrlights.com



LIGHT OUTPUT	OPERATING TEMPERATURE	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	°C	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	ECE Rating
1400 lm	-40 to +85 °C	12 V	9-16 V	1.8 A		22 W	5700	5	R10 / R23
1400 lm	-40 to +85 °C	24 V	18-32 V		0.9 A	22 W	5700	5	R10 / R23
1400 lm	-40 to +85 °C	12-80 V	9-108 V	1.3 A	0.6 A	15 W	5700	5	
1850 lm	-40 to +75 °C	12 V	9-16 V	2.3 A		29 W	5700	5	R10
1850 lm	-40 to +75 °C	24 V	18-32 V		1.2 A	29 W	5000	5	R10
1850 lm	-40 to +75 °C	12-80 V	9-108 V	2.0 A	0.9 A	24 W	5700	5	

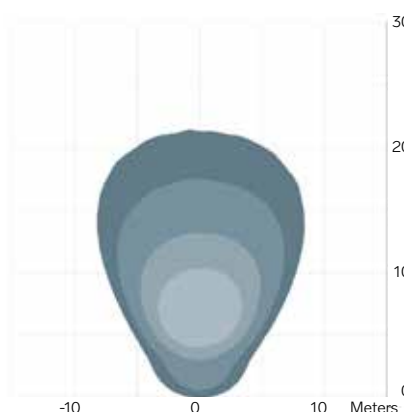
TYPICAL LIGHT PATTERNS

Example for 0909 / 1850 effective lumen | For further light patterns visit www.tyirilights.com



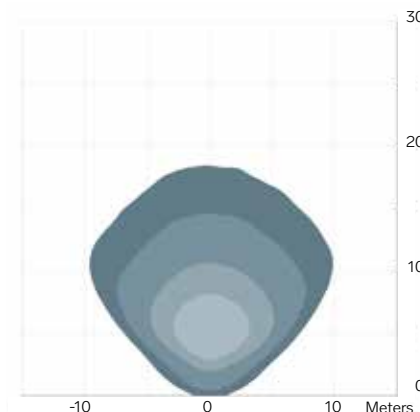
0909 / 1850 lm

Narrow 0-30°
3.0 m / -15°
Symmetric



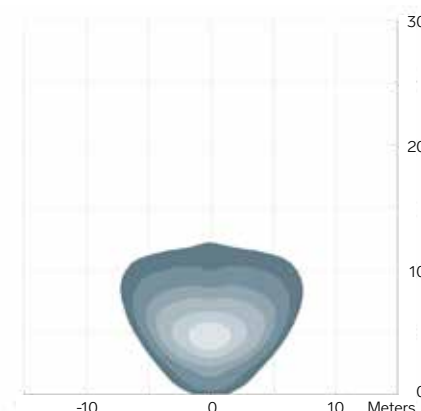
0909 / 1850 lm

Medium 31-45°
3.0 m / -15°
Symmetric



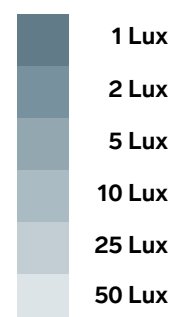
0909 / 1850 lm

Wide 45°+
3.0 m / -15°
Symmetric



0909 / 1850 lm

Wide 45°+
3.0 m / -15°
Asymmetric



0909 COMPACT

The 0909 Compact is a LED work light in a slim housing with an operating range of 9-60 V and used on forklift trucks or on other machines where space is very confined. Vibration tested between 5 to 2000 Hz 3 axis 10 G and UL certified for forklift trucks.

SUGGESTED APPLICATIONS

The 0909 Compact is highly adaptable and can be used across numerous applications worldwide, including:



SMALL MACHINERY MATERIAL HANDLING



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	208 g / 0.46 lb
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric Asymmetric Wide Asymmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



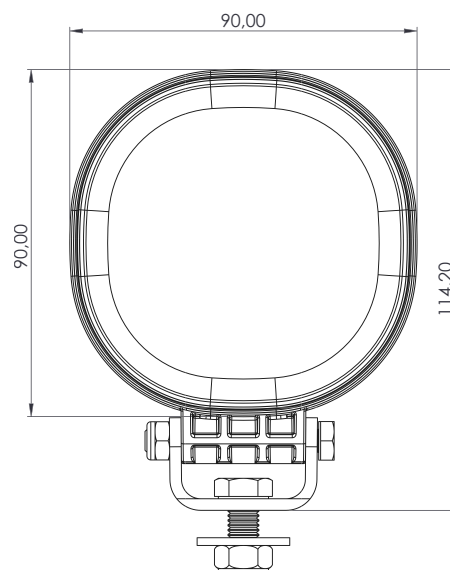
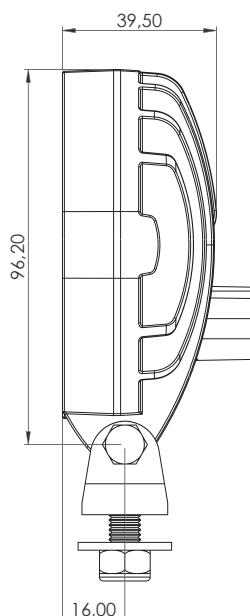
EN55025 / CISPR 25 (see pg 2)
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult www.tyrilights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com

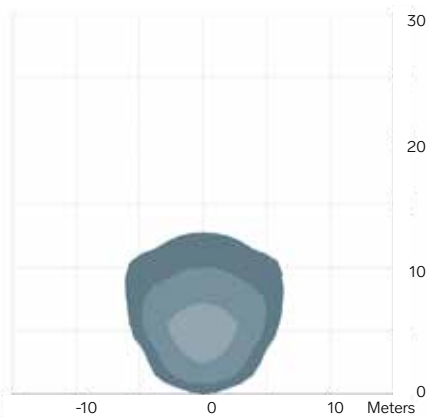


0909 COMPACT

LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	
750 lm	12-48 V	9-60 V	1.2 A	0.6 A	14 W	5000	3 (metal bracket) / 5 (PA6 Bracket)	UL
1400 lm	12-48 V	9-60 V	1.7 A	0.9 A	21 W	5000	3 (metal bracket) / 5 (PA6 Bracket)	UL

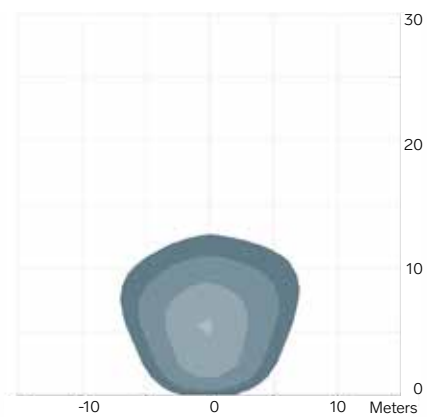
TYPICAL LIGHT PATTERNS

Example for 0909 Compact / 750 effective lumen | For further light patterns visit www.tyrilights.com



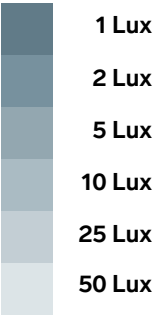
0909 Compact / 750 lm

Wide 45°+
3.0 m / -15°
Symmetric



0909 Compact / 750 lm

Wide 45°+
3.0 m / -15°
Asymmetric



D10

The D10 LED work light has a unique dome shape which makes this product a genuine eye-catcher. With 2500 effective lumen and outstanding optical features, it guarantees uniform illumination of the work area for tractors and large machines. Standard bracket mounting, the highest vibration test in the industry and EMC class rating to avoid radio interference, ensures performance.

SUGGESTED APPLICATIONS

The D10 is highly adaptable and can be used across numerous applications worldwide, including:



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +85 °C

Connector: Deutsch (DT04-2P) built in

Weight: 900 g / 1.99 lbs

Light Patterns: Symmetric
Asymmetric



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



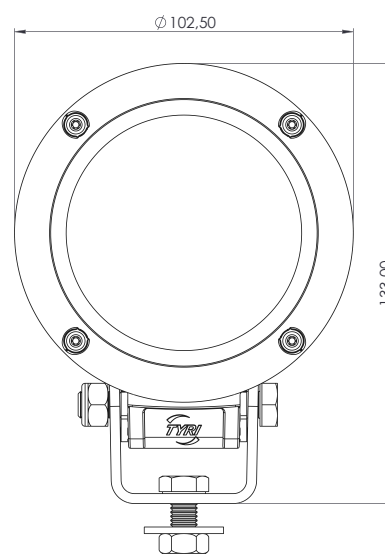
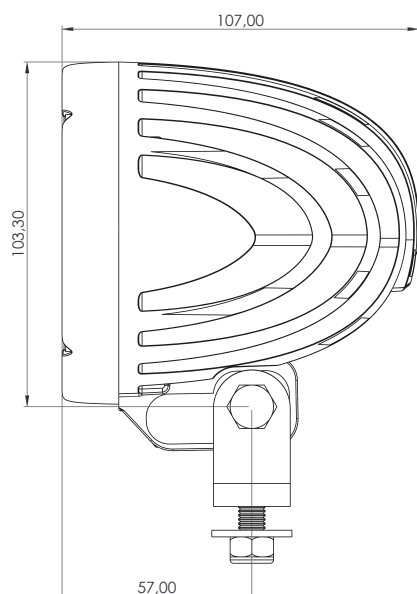
IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

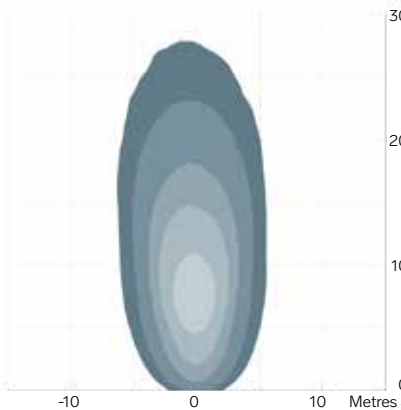
TYRI's testing standards can be found at: www.tyrilights.com



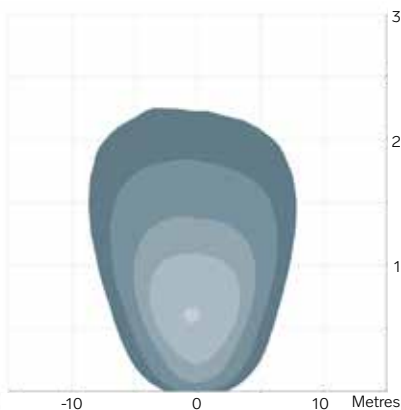
LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	
2500 lm	12-48 V	9-60 V	3.2 A	1.6 A	38 W	5000	5	

TYPICAL LIGHT PATTERNS

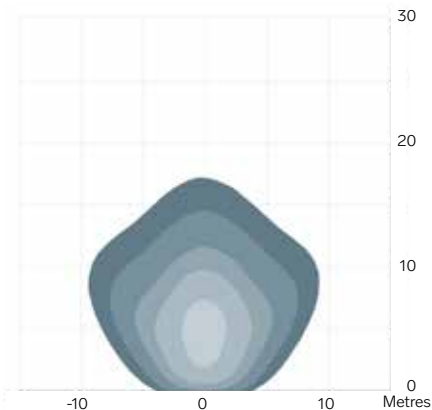
Example for D10 / 2500 effective lumen | For further light patterns visit www.tyrlights.com



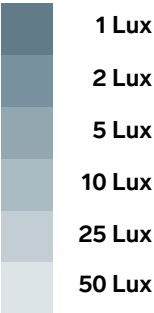
D10 / 2500 lm
Narrow 0-30°
3.0 m / -15°
Symmetric



D10 / 2500 lm
Medium 31-45°
3.0 m / -15°
Symmetric



D10 / 2500 lm
Wide 45°+
3.0 m / -15°
Symmetric



D10 SWIVEL

The D10 Swivel has a streamlined shape and a swivel side mounting bracket. This bracket enables the D10 Swivel to be easily adjusted into various positions for individual illumination of the work area. Due to its high lumen output, it is used for larger machines and tractors. Highest EMC class rating has been awarded to avoid radio interference.

SUGGESTED APPLICATIONS

The D10 Swivel is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



PORT MATERIAL
HANDLING



AGRICULTURE



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Side
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	930 g / 2.05 lbs
Light Patterns:	Symmetric Narrow Symmetric Asymmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



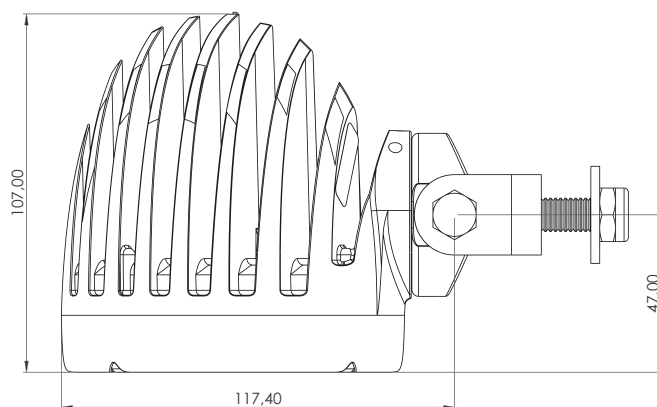
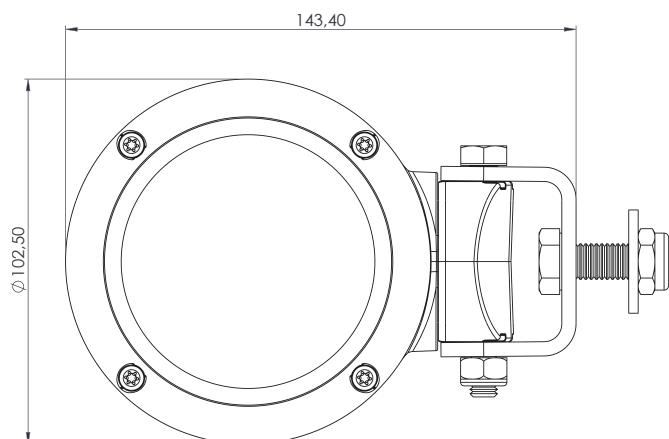
IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com

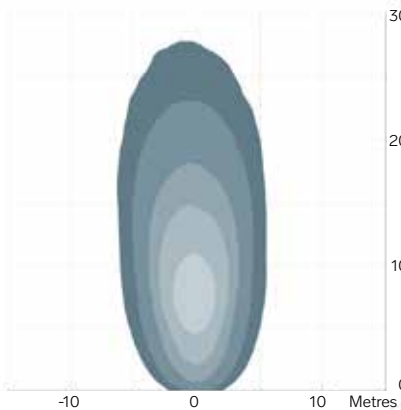


D10 SWIVEL

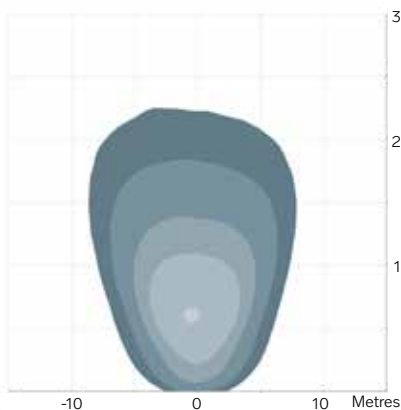
LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	
2500 lm	12-48 V	9-60 V	3.2 A	1.6 A	38 W	5000	5	

TYPICAL LIGHT PATTERNS

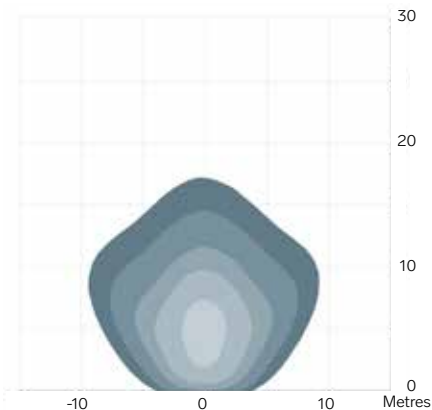
Example for D10 / 2500 effective lumen | For further light patterns visit www.tyrlights.com



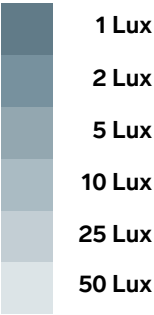
D10 / 2500 lm
Narrow 0-30°
3.0 m / -15°
Symmetric



D10 / 2500 lm
Medium 31-45°
3.0 m / -15°
Symmetric



D10 / 2500 lm
Wide 45°+
3.0 m / -15°
Symmetric



1010

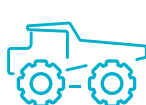
The 1010 is highly adaptable and provides a professional lighting solution to enhance work environments and task performance. Available in 2500 to 4000 effective lumen options and tested to achieve the highest ratings. Vibration dampers are standard and an advantage when ground conditions cause increased vibration and shock.

SUGGESTED APPLICATIONS

The 1010 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING



PORT MATERIAL
HANDLING



FORESTRY



FIRE-FIGHTING
VEHICLE



AGRICULTURE



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Grilamid / Glass

Temperature range: -40 to +85 °C

Connector: Deutsch (DT04-2P) built in

Weight: 1.15 kg / 2.54 lbs

Light Patterns: Symmetric
Narrow Symmetric
Wide Symmetric
Asymmetric
Wide Asymmetric



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection



High CRI 95 Optional

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



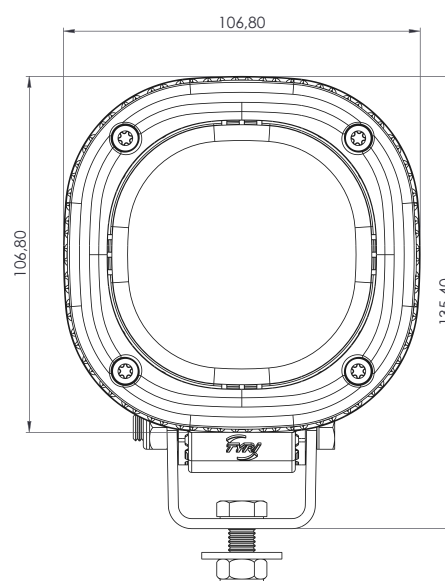
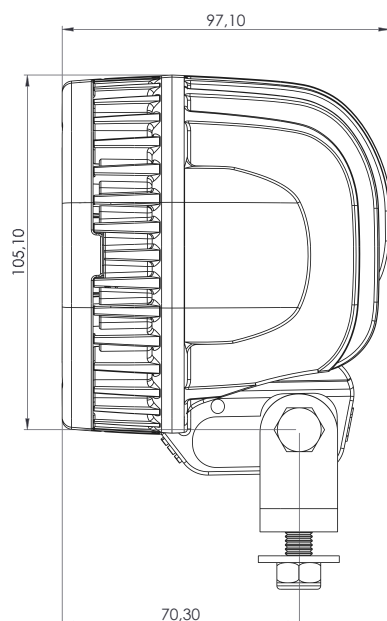
IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

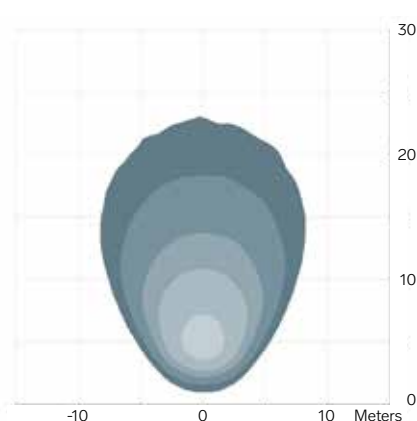


LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	12 V	24 V		Watts	K	EN55025 / CISPR25	ECE Rating
2000 lm	12-48 V	9-60 V	3.2 A	1.6 A		38 W	4200	5	
2300 lm	12-48 V	9-60 V	3.2 A	1.6 A		38 W	5000	5	
2500 lm	12 V	9-16 V	1.9 A			23 W	5700	5	R10
2500 lm	24 V	18-32 V		1.1 A		26 W	5700	5	R10
2800 lm	12-48 V	9-60 V	3.2 A	1.6 A		38 W	5700	5	R10
3200 lm ⁽¹⁾	12-48 V	9-60 V	3.0 A	1.5 A		36 W	5000	5	
3200 lm ⁽¹⁾	12-48 V	9-60 V	3.0 A	1.5 A		36 W	5700	5	
3200 lm	12 V	9-16 V	3.3 A			40 W	5700	5	R10
3200 lm	24 V	18-32 V		1.7 A		40 W	5700	5	R10
4000 lm	12 V	9-16 V	3.7 A			50 W	5700	5	R10
4000 lm	24 V	18-32 V		2.1 A		50 W	5700	5	R10
4000 lm	12-48 V	9-60 V	3.8 A	1.9 A		45 W	5000	5	
4000 lm	12-48 V	9-60 V	3.8 A	1.9 A		45 W	5700	5	

⁽¹⁾ Product may not be available in all territories. Please check with your local TYRI office.

TYPICAL LIGHT PATTERNS

Example for 1010 / 2500 effective lumen | For further light patterns visit www.tyrilights.com

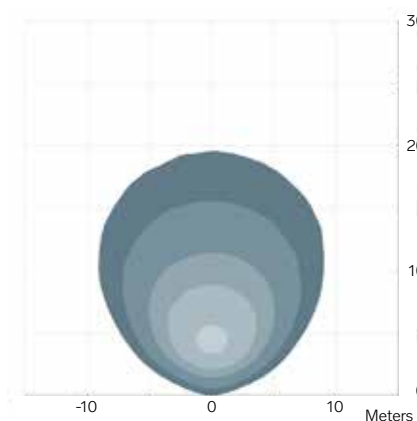


1010 / 2500 lm

Medium 31 - 45°

3.0 m / -15°

Symmetric

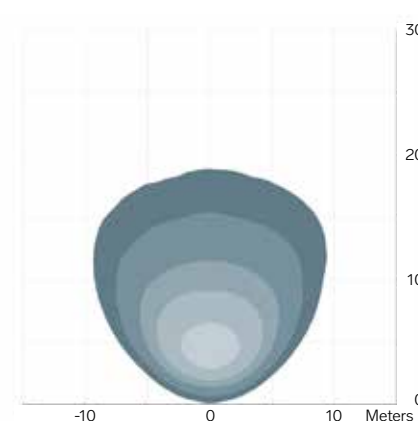


1010 / 2500 lm

Wide 45°+

3.0 m / -15°

Symmetric

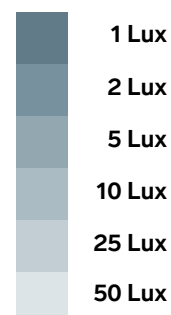


1010 / 2500 lm

Wide 45°+

3.0 m / -15°

Asymmetric



1010 AC

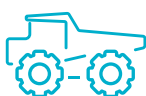
The 1010 AC works at a voltage of 100 V – 277 V. This work light is an ideal match for mining, aggregate stations, conveyors and stationary lighting applications.

SUGGESTED APPLICATIONS

The 1010 AC is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Grilamid / Glass

Temperature range: -40 to +50 °C

Connector: Flying Leads

Weight: 1.4 kg / 3.1 lbs

Light Patterns: Symmetric
Asymmetric
High
Spot



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



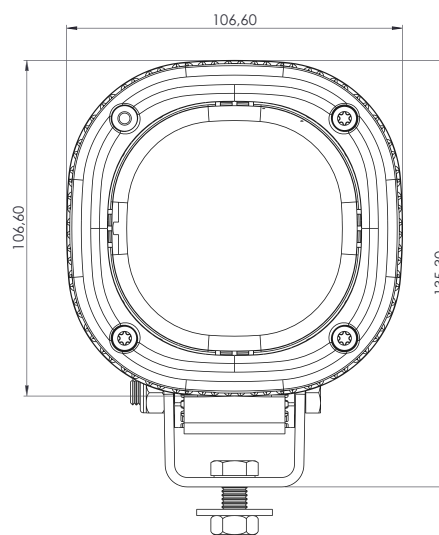
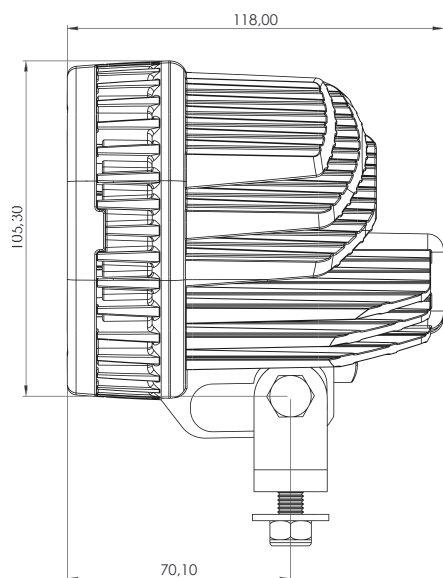
IP69K



AC/DC Converter:
EN55015 Class B
FCC 47CFR part 15 Class B
Susceptibility:
EN61000-4-2,-3,-4,-6,-6 & -11
ANSI c62.41-1991 Category A1, 2.5kV
Ringwave

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



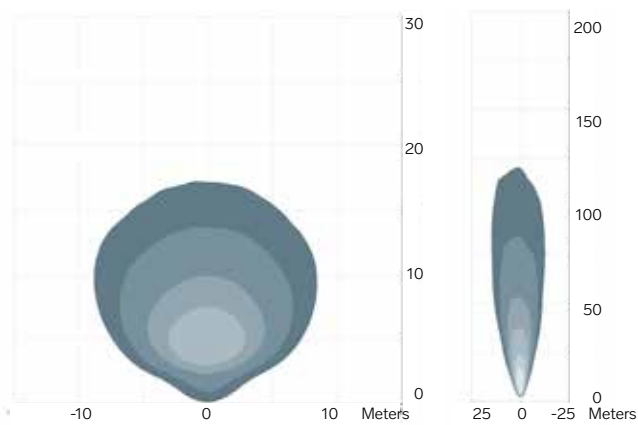
1010 AC

LIGHT OUTPUT	VOLTAGE	AMP DRAW		POWER	COLOUR TEMPERATURE
Effective Lumen	Operating Range	120 V / 60 Hz	240 V / 60 Hz	Watts	K
2200 lm	100-277 VAC Nominal / 47-63 Hz	0.33 A	0.17 A	40 W	5100
3200 lm	100-277 VAC Nominal / 47-63 Hz	0.33 A	0.17 A	40 W	5700

Product may not be available in all territories. Please check with your local TYRI office.

TYPICAL LIGHT PATTERNS

Example for 1010 AC / 2200 effective lumen | For further light patterns visit www.tyrilights.com

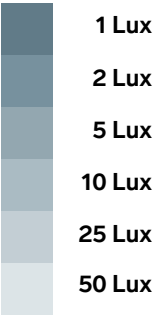


1010 AC / 2200 lm

Wide 45°+
3.0 m / -15°
Symmetric

1010 AC / 2200 lm

Spot
1.0 m / 0°
Symmetric



1010 BLUEBEAM

1010 BlueBeam and RedBeam are powerful spotlights, with a wider beam pattern than the BluePoint and RedPoint. Along with the bright blue colour, the BlueBeam serves a practical purpose, ensuring operators of crop sprayers to have full visibility of the nozzle spray being spread across the fields with its powerful illumination.

SUGGESTED APPLICATIONS

The 1010 BlueBeam is mainly used on agricultural sprayers. However, it can be used across numerous other applications worldwide.



AGRICULTURE



Note: the lens of the BlueBeam is clear, the blue light is emitted from LEDs

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +75 °C

Connector: Deutsch (DT04-2P) built in

Weight: 920 g

Light Patterns: Spot



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



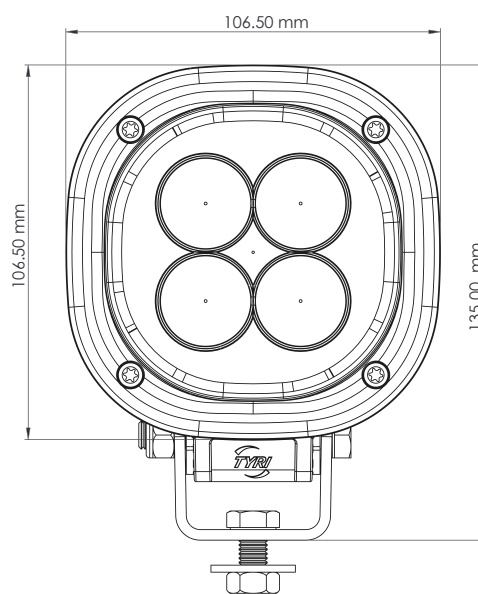
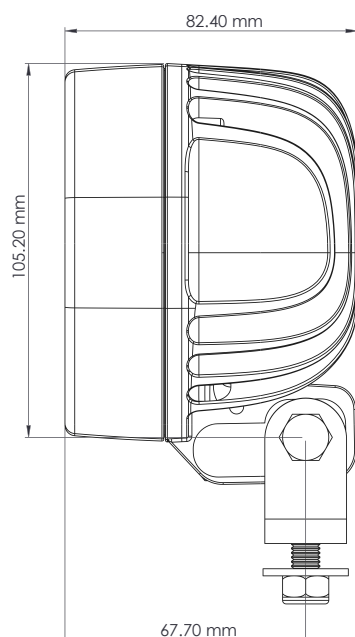
EN55025 / CISPR 25 Class 4
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



1010 BLUEBEAM

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm	EN55025 / CISPR25	
10,000 cd	12-48 V	9-60 V	1.2 A	0.6 A	15 W	475 nm	4	

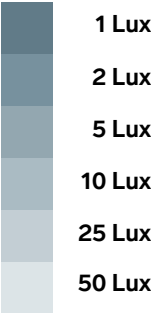
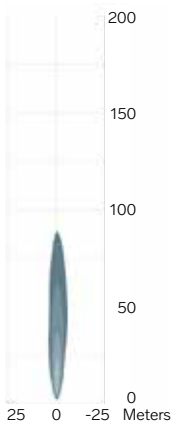
IEC/SS-EN 62471 | RISK GROUP 2

CAUTION: Possibly hazardous optical radiation emitted from this product.
Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT).
TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.

TYPICAL LIGHT PATTERNS

Example for 1010 BlueBeam | For further light patterns visit www.tyrilights.com



1010 BlueBeam
Spot
1.0 m / 0°
Symmetric

Also available as...

1010 REDBEAM



Note: the lens of the RedBeam is clear, the red light is emitted from LEDs

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm	EN55025 / CISPR25	
10,000 cd	12-48 V	9-60 V	1.2 A	0.6 A	15 W	630	4	

1010 BLUEBIRD

1010 BlueBird with blue LED light helps to retain tranquillity in poultry facilities even in the presence of workers and machines. Designed with a targeted asymmetric lens, the 1010 BlueBird minimises the spread of light to reduce glare and irritation to the eye.

SUGGESTED APPLICATIONS

The 1010 BlueBird is mainly used in poultry applications. However, it can be used across numerous other applications worldwide.



AGRICULTURE



Note: the lens of the BlueBird is clear, the blue light is emitted from LEDs

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +75 °C

Connector: Deutsch (DT04-2P) built in

Weight: 920 g

Light Patterns: Asymmetric



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



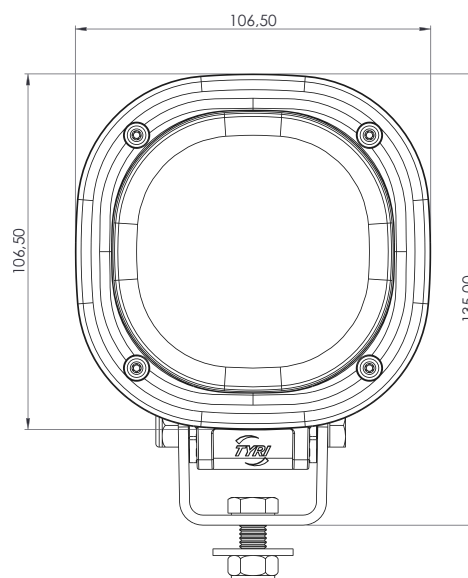
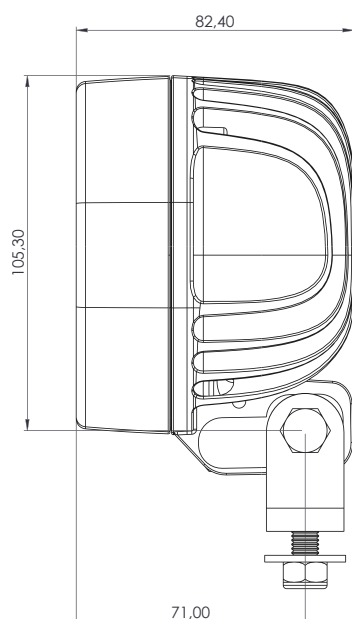
EN55025 / CISPR 25 Class 4
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



1010 BLUEBIRD

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm	EN55025 / CISPR25	
600 cd	12-48 V	9-60 V	1.2 A	0.6 A	15 W	475 nm	4	

IEC/SS-EN 62471 | RISK GROUP 2

CAUTION: Possibly hazardous optical radiation emitted from this product.
Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT).

TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.

HELPING CHICKENS KEEP THEIR HEADS!

1010 BlueBird with blue LED light helps to retain tranquillity in poultry facilities even in the presence of workers and machines. Designed with a targeted asymmetric lens, the 1010 BlueBird minimises the spread of light to reduce glare and irritation to the eye.

Some light sources such as fluorescent lamps emit a flicker at 100 Hz, this is observed by birds and causes stress. Research has shown that blue light with flicker-free LED technology, causes less disruption to birds*. TYRI have utilised this combination to ensure the 1010 BlueBird is a suitable tool to aid in the reduction of stress and help the birds remain calm and more productive throughout the work day.

BENEFITS OF ASYMMETRIC LENS

The asymmetric lens pattern disperses the light beam forward and down from the lamp centre line, so the light is more focused toward the ground. This is useful when you need to concentrate the light beam on a particular place of work rather than a wide area. The downward focus of the light reduces glare to those working around the same site. As a result, this more focused light helps to generate safer working environments and reduces fatigue, which also improves efficiencies.



*A. D. Ham & D. Osorio, School of Life Sciences, University of Sussex, Brighton BN1 9QG, UK

1010 CURVE

With a narrower housing than the 1010 family, the Curve series is ideal for when space is more limited. Vibration dampers are standard and an advantage when ground conditions are uneven. 1010 Curve is used on forklift trucks and demolition robots where less light output is needed, but also on large construction machines and other applications.

SUGGESTED APPLICATIONS

The 1010 Curve is highly adaptable and can be used across numerous applications worldwide, including:



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Connector:	Deutsch (DT04-2P) built in
Weight:	900 g / 1.99 lbs
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric Asymmetric Wide Asymmetric

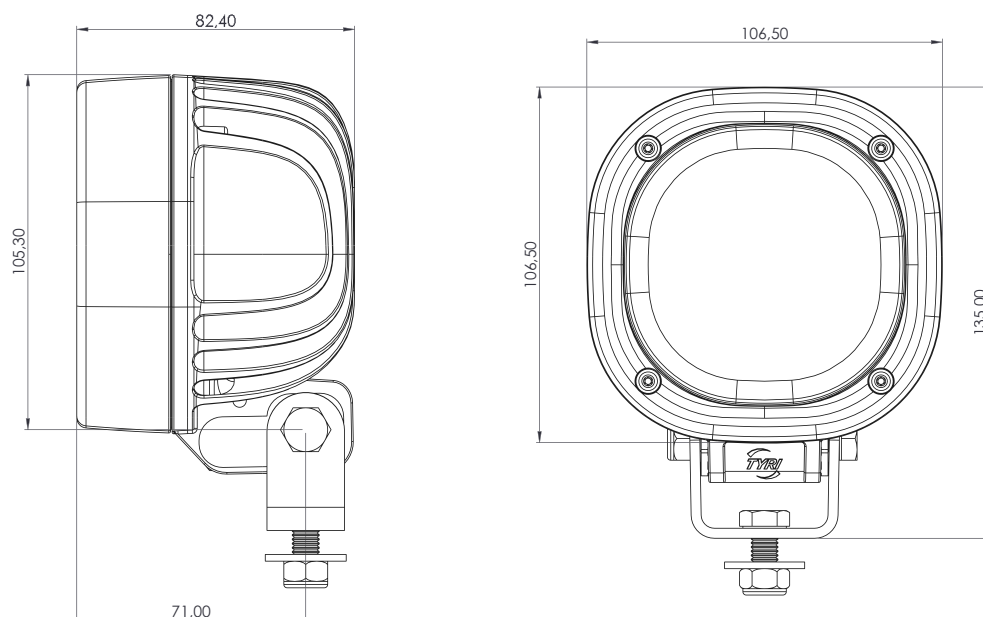
	Dampened
	Overheating Protection
	Over-voltage Protection
	Polarity Protection

TEST STANDARDS

	Salt Spray ASTM B117 500 h
	Vibration 5-2000 Hz 3 Axis, 10 Grms
	Shock Tested 50 G 11 ms
	IP69K
	EN55025 / CISPR 25 Class 5 ISO 11452-2 / ISO 11452-4 ISO 16750-2 / ISO 10605 / ISO 7637-2
	UL Rated Optional
	R23 / R10 Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

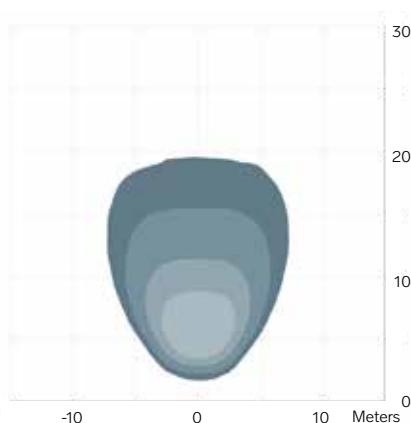


1010 CURVE

LIGHT OUTPUT	OPERATING TEMPERATURE	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
		Machine	Operating Range	12 V	24 V				
Effective Lumen	°C					Watts	K	EN55025 / CISPR25	ECE Rating
850 lm	-40 to +85 °C	12-48 V	9-60 V	1.4 A	0.7 A	17 W	5700	5	R10
1400 lm	-40 to +85 °C	12 V	9-16 V	1.8 A		22 W	5700	5	
1400 lm	-40 to +85 °C	24 V	18-32 V		0.9 A	22 W	5700	5	
1400 lm	-40 to +85 °C	12-48 V	9-60 V	2.5 A	1.3 A	30 W	5000	5	R23
1800 lm	-40 to +85 °C	12-80 V	9-108 V	2.0 A	0.9 A	22 W	5700	5	
1850 lm	-40 to +85 °C	12 V	9-16 V	2.3 A		29 W	5700	5	
1850 lm	-40 to +85 °C	24 V	18-32 V		1.2 A	29 W	5700	5	
1900 lm	-40 to +85 °C	12-48 V	9-60 V	2.5 A	1.3 A	30 W	5700	5	
2500 lm	-40 to +75 °C	12 V	9-16 V	1.9 A		23 W	5700	5	
2500 lm	-40 to +75 °C	24 V	18-32 V		1.1 A	26 W	5000	5	
2500 lm	-40 to +75 °C	12-48 V	9-60 V	2.8 A	1.4 A	34 W	5700	5	

TYPICAL LIGHT PATTERNS

Example for 1010 Curve / 1900 effective lumen | For further light patterns visit www.tyrilights.com

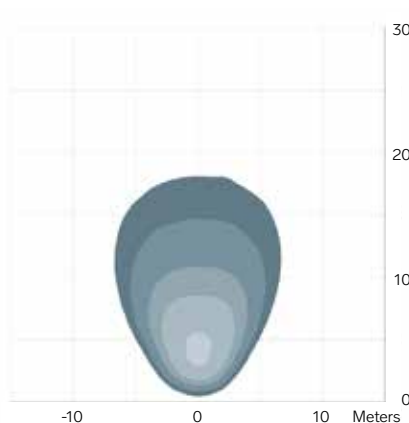


1010 Curve / 1900 lm

Narrow 0-30°

3.0 m / -15°

Symmetric

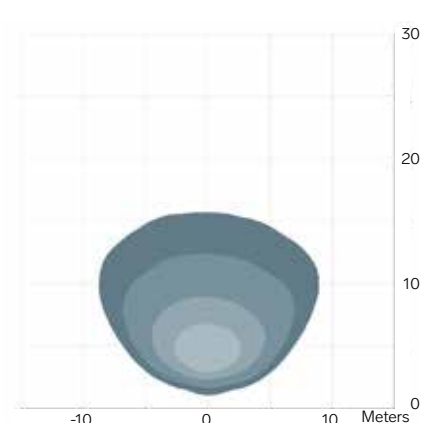


1010 Curve / 1900 lm

Medium 31-45°

3.0 m / -15°

Symmetric

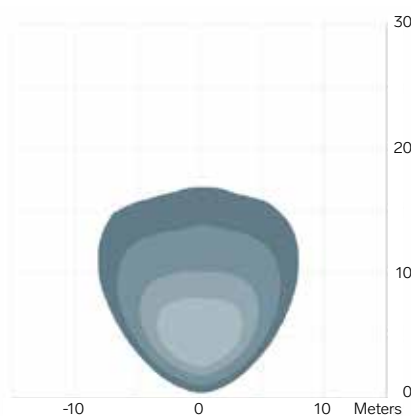


1010 Curve / 1900 lm

Wide 45°+

3.0 m / -15°

Symmetric

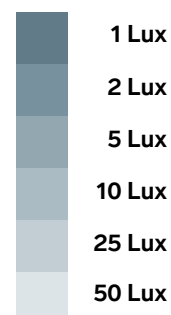


1010 Curve / 1900 lm

Wide 45°+

3.0 m / -15°

Asymmetric



1010 DIFFUSED

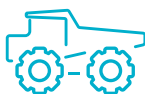
The 1010 Diffused has a very wide horizontal and vertical light distribution and is used for illumination over short distances. It avoids glare and reflections and is used for many applications such as in mining and engine compartments as well as for trailers and forklift trucks amongst others.

SUGGESTED APPLICATIONS

The 1010 Diffused is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING



PORT MATERIAL
HANDLING



FIRE-FIGHTING
VEHICLES



MATERIAL HANDLING



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +75 °C

Connector: Deutsch (DT04-2P) built in

Weight: 900 g / 1.99 lbs

Light Pattern: Diffused



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



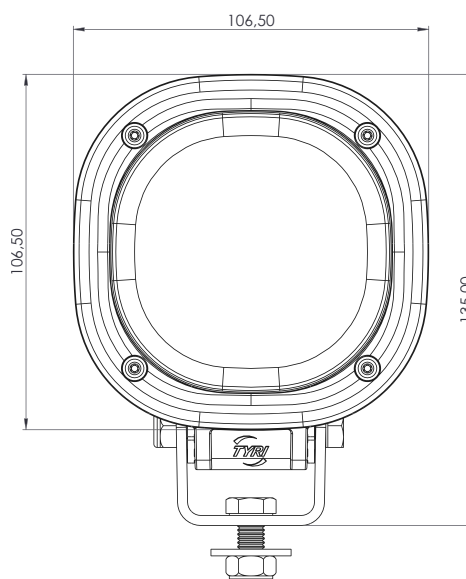
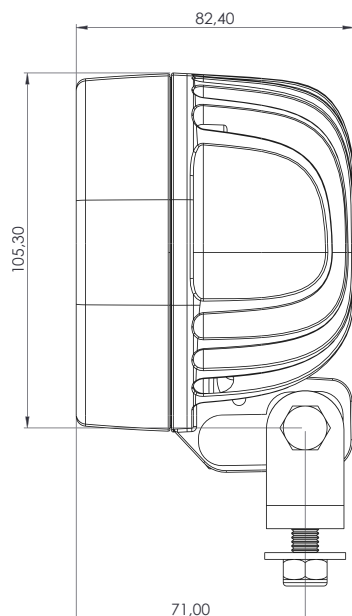
IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

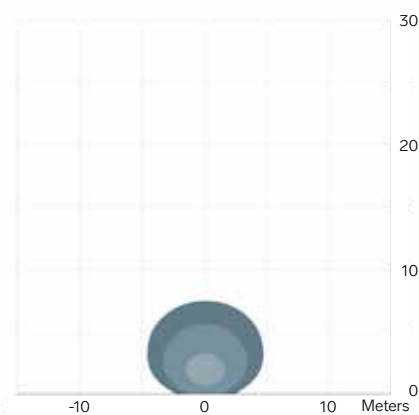


1010 DIFFUSED

LIGHT OUTPUT	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12V	24V	Watts	K	EN55025 / CISPR25
500 lm	12-48V	9-60V	1.4A	0.6A	17W	5700	5
900 lm	12-48V	9-60V	2.5A	1.3A	30W	5700	5

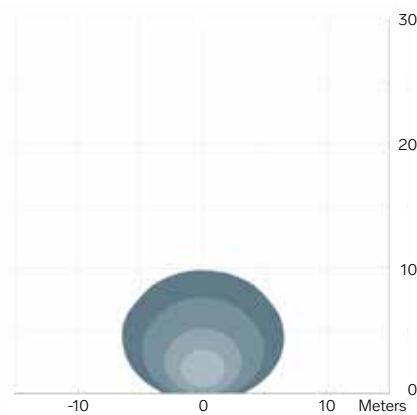
TYPICAL LIGHT PATTERNS

Examples for 1010 Diffused | For further light patterns visit www.tyrilights.com



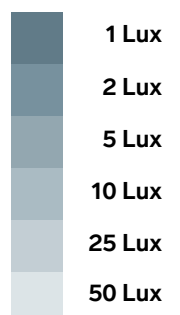
1010 Diffused / 500 lm

Extreme Wide 100°+
3.0 m / -15°
Symmetric



1010 Diffused / 900 lm

Extreme Wide 100°+
3.0 m / -15°
Symmetric



1010 FLUSH

The 1010 Flush has no cooling flanges and must be directly mounted on the surface of the vehicle where the metal of the machine is used to create a cooling effect for the light emitting diodes. Thanks to the flush design it is a perfect choice for confined spaces.

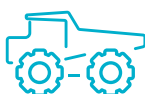


SUGGESTED APPLICATIONS

The 1010 Flush is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Flush
Lens Material:	Polycarbonate
Temperature range:	-40 to +75 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	413 g / 0.91 lbs
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric Asymmetric Wide Asymmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



IP69K



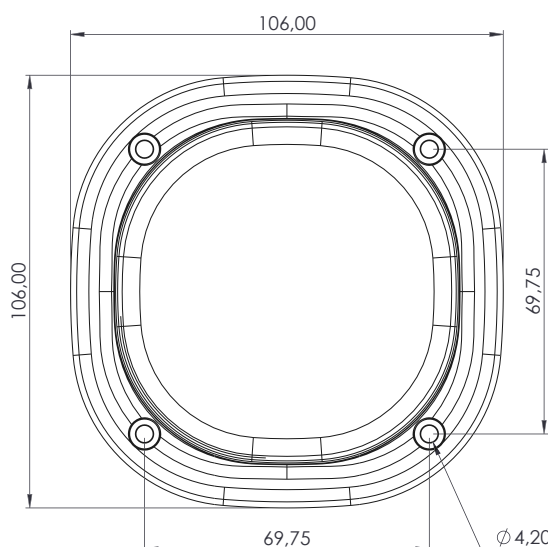
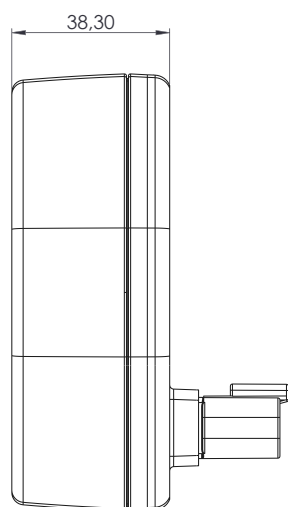
EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4 / ISO
16750-2
ISO 10605 / ISO 7637-2



UL Rated Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

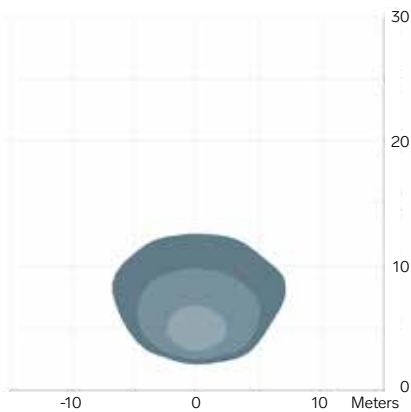


1010 FLUSH

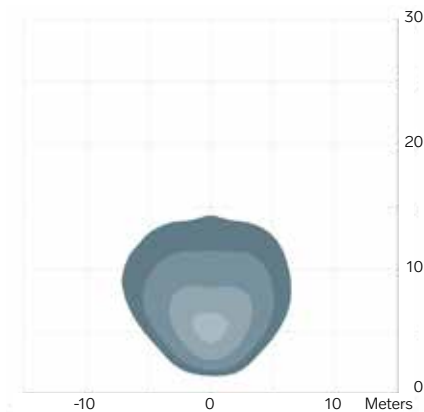
LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12 V	24 V		Watts	K	EN55025 / CISPR25
700 lm	12-48 V	9-60 V	1.4 A	0.7 A		17 W	5700	5

TYPICAL LIGHT PATTERNS

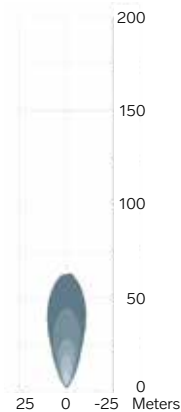
Example for 1010 Flush / 700 effective lumen | For further light patterns visit www.tyrilights.com



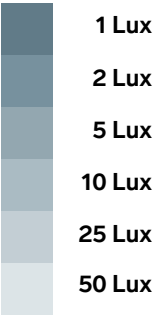
1010 Flush / 700 lm
Wide 45°+
3.0 m / -15°
Symmetric



1010 Flush / 700 lm
Wide 45°+
3.0 m / -15°
Asymmetric



1010 Flush / 700 lm
High
1.0 m / 0°
Symmetric

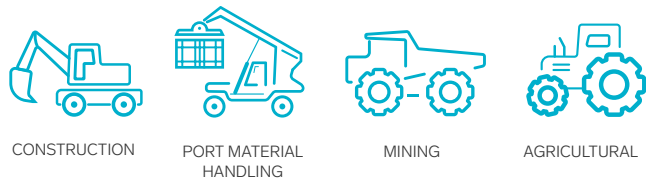


1010 HI-CRI 95

A colour rendering index of 95 makes it easier for operators to distinguish colour differences between rocks and the earth or the maturity of the harvest. Using a colour temperature of 4200 K, the 1010 Hi-CRI 95 also decreases snowflake reflections during winter operations.

SUGGESTED APPLICATIONS

The 1010 Hi-CRI 95 is highly adaptable and can be used across numerous applications worldwide, including:



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Grilamid
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	1.15 kg / 2.54 lbs
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric Asymmetric Wide Asymmetric

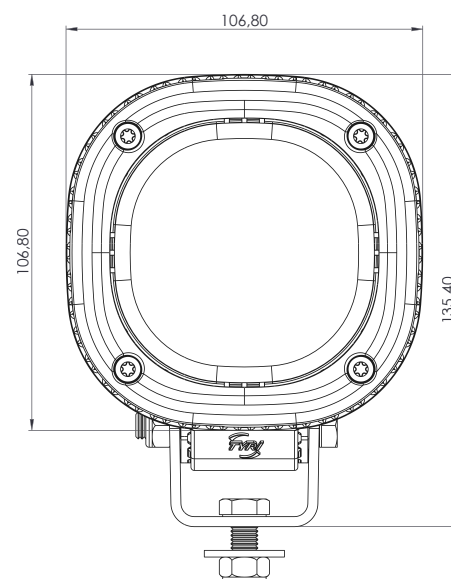
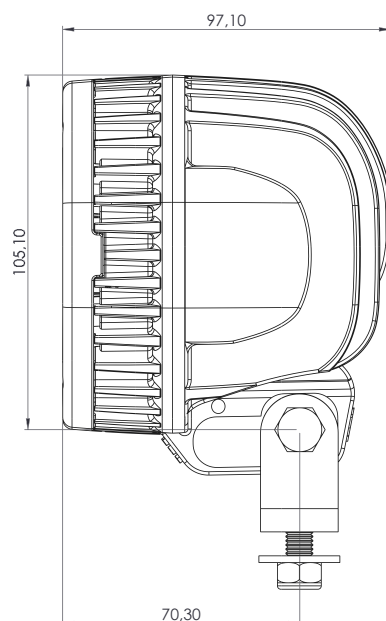
	Dampened
	Overheating Protection
	Over-voltage Protection
	Polarity Protection
	High CRI 95

TEST STANDARDS

	Salt Spray ASTM B117 500 h
	Vibration 5-2000 Hz 3 Axis, 10 Grms
	Shock Tested 50 G 11 ms
	IP69K
	EN55025 / CISPR 25 Class 5 ISO 11452-2 / ISO 11452-4 ISO 16750-2 / ISO 10605 ISO 7637-2

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



1010 HI-CRI 95

LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12 V	24 V		Watts	K	EN55025 / CISPR25
1800 lm	12-48 V	9-60 V	3.2 A	1.6 A		38 W	4200	5

WHAT IS CRI?

Light can be produced in an array of temperatures, even a white LED light can have different colour properties, from a warmer yellow to a bright blue hue. In contrast, light colour quality is measured as a value on the Colour Rendering Index (CRI), depicting how well colours are seen by the eye.

COLOUR RENDERING INDEX (CRI)

While the colour temperature gives an indication of what colour tone the light source will appear to our eyes, if different light sources are used to illuminate coloured objects, the colours of these objects appear differently. These differences in quality are indicated by the Colour Rendering Index (CRI) with the 'ideal' CRI rating being 100. Sun light provides a CRI of 100 as the normative standard for lighting and colour perception. A light with a lower CRI value will make objects appear unnatural.



The common CRI output for LED light sources is typically 70-75, TYRI's 1010 CRI 95, has an output of 95 CRI. A colour rendering index of 95 makes it easier for the drivers to distinguish the colour differences between rocks and the earth or the maturity of the harvest.

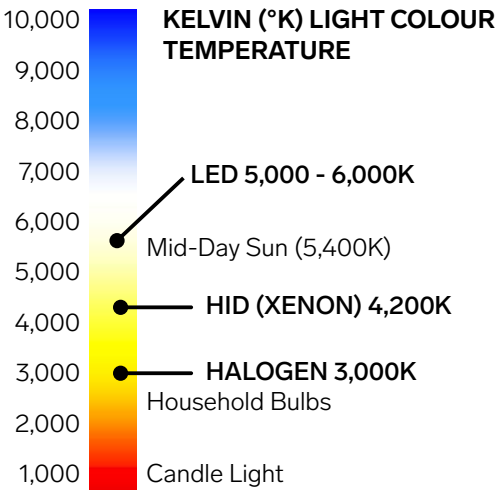
A combination of colour temperature and CRI measurements will help to ensure you are selecting the correct light for your application. Giving your operator a clear view with minimal irritation to the eye.

TYRI's latest innovation, INTELLi^{light} is a game changer

when it comes to Colour Temperature. In an industry first, it is now possible to change the colour temperature of a work light;

"INTELLi^{light} improves the entire work environment for operators. You get personalised lighting that acts according to each unique situation. Furthermore, you can easily dim the lighting and adjust the colour temperature from warm yellow light to cold blue light. If you choose to integrate sensors into the system, the lighting itself will increase the comfortability by ensuring that the lights perform the desired actions in different situations. For example, by dimming the light when the vehicle's own lighting dazzles the operator, or by setting the light sensor to dim the vehicle's own lights when passing another vehicle head-on or the oncoming vehicle's lights. A radio-controlled system with an On/Off function also allows the lights to be switched on and off from a distance for increased safety," explains Christian Wadell, TYRI Head of Research & Development.

Gaining the correct light for your application is essential for a productive and effective work environment.



1010 HIGHBEAM

The 1010 HighBeam has been developed for On Road and Off Road Vehicles where a perfect illumination at distance is required. As well as offering a high beam lens, this work light is ECE R112 & R10 approved, has undergone the industry's highest vibration testing and is EMC class tested to avoid radio interference.

SUGGESTED APPLICATIONS

The 1010 HighBeam is highly adaptable and can be used across numerous applications worldwide, including:



ATV



ON-ROAD



OFF-ROAD



POLICE

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate, Glass Coating

Temperature range: -40 to +85 °C

Connector: Deutsch (DT04-2P) built in

Weight: 900 g / 1.99 lbs

Light Patterns: Spot



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



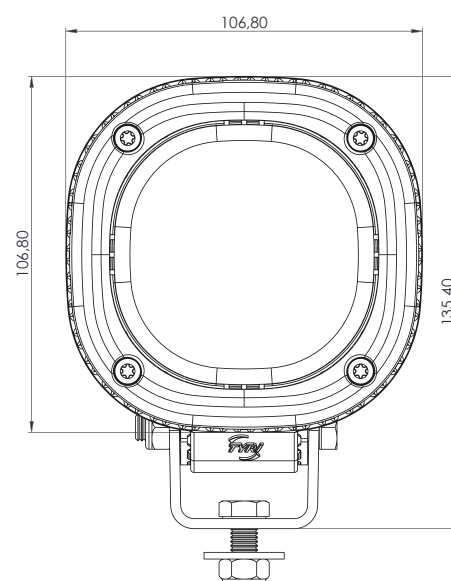
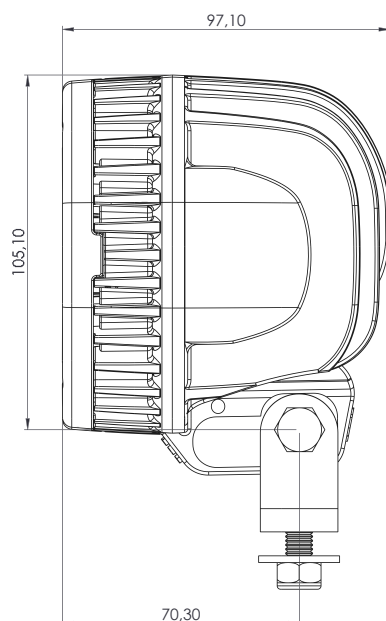
EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



ECE R112 / R10

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

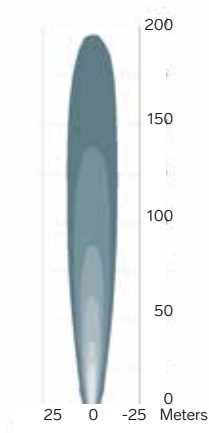


1010 HIGHBEAM

LIGHT OUTPUT		VOLTAGE		AMP DRAW	POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	12V	Watts	K	EN55025 / CISPR25	ECE Rating	
2100 lm	12 V	9-16 V	1.9 A	28 W	5700	5	R112 / R10	

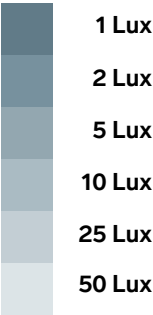
TYPICAL LIGHT PATTERNS

Example for 1010 HighBeam | For further light patterns visit www.tyrilights.com



1010 HighBeam

Spot
1.0 m / 0°
Symmetric



1010 IR

The 1010 IR utilises infrared to provide a powerful and reliable solution. This light should be used alongside night vision cameras or IR detectors. The 1010 IR emitters enhance night vision capabilities and are configured for 850 nm. This IR work light is built to TYRI high standards and has undergone testing for IP69K, vibration, salt spray and EMC.

SUGGESTED APPLICATIONS

The 1010 IR is highly adaptable and can be used across numerous applications worldwide, including:



MILITARY



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	1.15 kg / 2.54 lbs
Light Patterns:	Wide Symmetric Asymmetric Spot



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



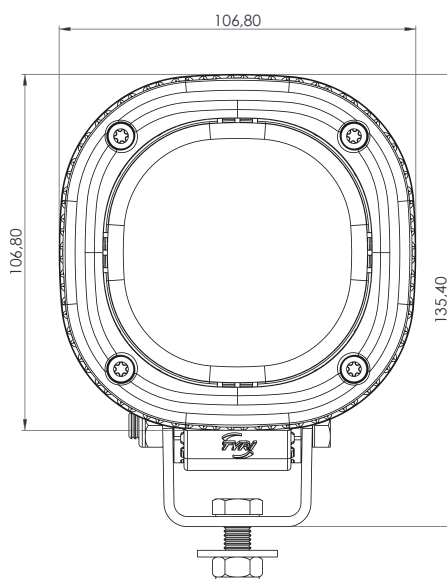
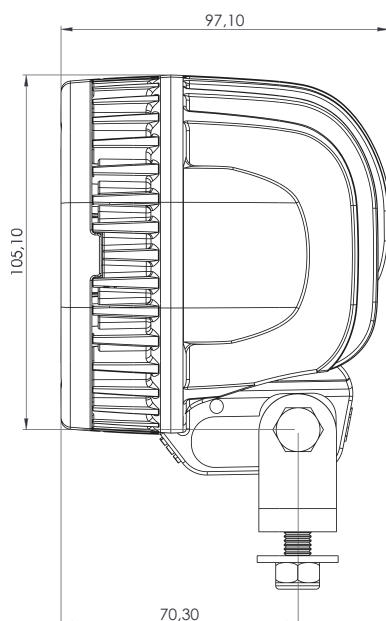
IP69K



EN55025 / CISPR 25 Class 3
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult www.tyrilights.com for additional lens & mounting options

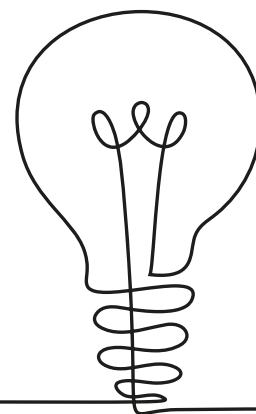
TYRI's testing standards can be found at: www.tyrilights.com



Voltage:	
Machine	12-48 V
Operating Range	9-60 V
Amp Draw	
12V	1.2 A
24V	0.6 A
Power	14 W
Dominant Wavelength Typical	850 nm

Product may not be available in all territories. Please check with your local TYRI office.

LIGHTING KNOW-HOW



Four tips for good lighting

A well-lit environment makes us feel safe and allows us to work easier. In a well-lit environment we can focus on the things we want to do instead of being disturbed by uncomfortable lighting, glare and hazy colour rendering. Per-Arne Torstensson, Optical Engineer at TYRI, provides some tips on factors that produce good lighting.

1

UNIFORM ILLUMINATION

The human eye is always drawn to bright areas, and when the light is uneven it can be distracting when your gaze and focus are constantly drawn to the brightest area. We want to avoid so-called hotspots, and have uniform lighting instead.

2

MINIMAL RISK OF GLARE

Both for the sake of safety and to reduce discomfort, the risk of glare should be minimised for those working in the area of light distribution. It doesn't matter how effective a light is if it is directed incorrectly and produces glare. This then negates the actual purpose of lighting, which is to facilitate visibility.

3

A SUITABLE COLOUR TEMPERATURE

Find a colour temperature that is comfortable on the eyes. Different colour temperatures suit different environments. Warm light (like 3000 K), for example, works well when an area is covered in snow which reflects a cold blue light. Colder light can work well for working on dark soil. In general, colder light results in greater glare discomfort than warm light. Cold blue light (above 6000 K) also has greater dispersion and reflects a lot more small particles compared to a warm light source. For example, in an environment around a combine harvester where many small particles fly through the air, there is a lot for the light to reflect, which means that cold light is probably not the best choice.

4

GOOD COLOUR RENDERING

A colour rendering index (CRI) can be used to measure how well light sources render colours. If a colour of the light spectrum is absent, certain colour nuances will not be rendered. Sunlight has optimal colour rendering with 100 percent on the CRI. The higher the CRI of your illumination, the more it emulates sunlight. Since our eyes are adapted for sunlight, we want to emulate sunlight to the greatest extent possible. This can be particularly important in the food industry or when harvesting, where colour rendering plays a vital role in indicating the ripeness or condition of the food.

1010 RECESS

This work light has a unique mounting option which makes recessing the light into the vehicle possible. The 1010 Recess, with 2500 effective lumen, can be incorporated in a closed housing unit and, due to its technical features, the cooling of the rear flanges is not required.



SUGGESTED APPLICATIONS

The 1010 Recess is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Recessed
Lens Material:	Polycarbonate
Connector:	Deutsch (DT04-2P) built in
Weight:	1.05 kg / 2.33 lbs
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric Asymmetric Wide Asymmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



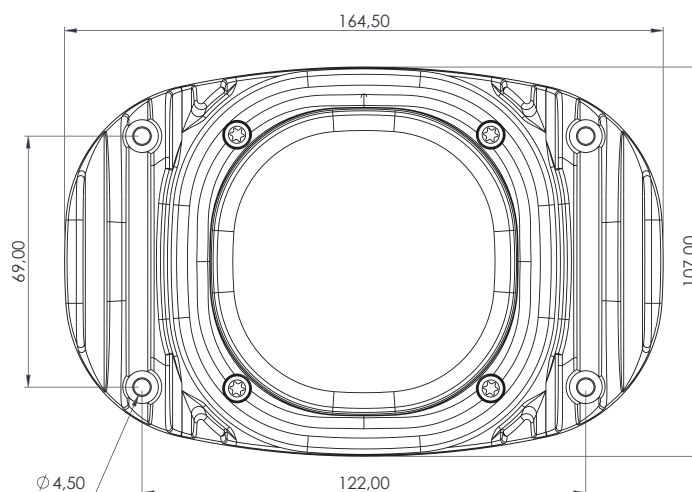
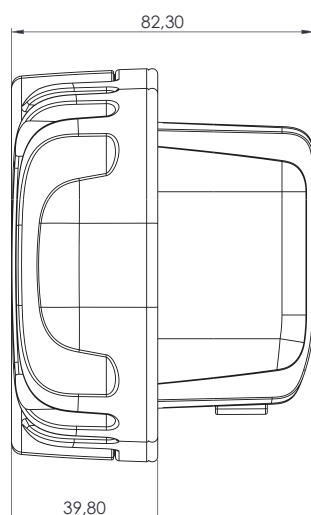
EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605 / ISO 7637-2



UL Rated Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

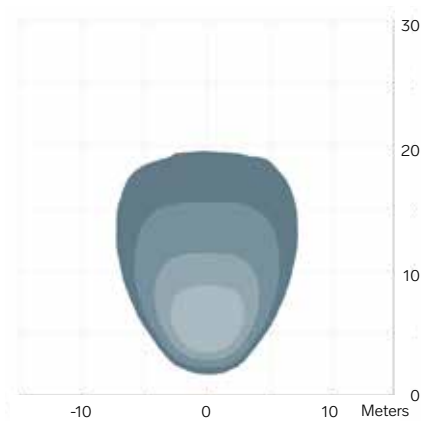


1010 RECESS

LIGHT OUTPUT	OPERATING TEMPERATURE	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
		Machine	Operating Range	12 V	24 V			
Effective Lumen	°C					Watts	K	EN55025 / CISPR25
700 lm	-40 to +75 °C	12-48 V	9-60 V	1.4 A	0.7 A	17 W	5700	5
1450 lm	-40 to +75 °C	12-48 V	9-60 V	2.5 A	1.3 A	30 W	5700	5
2500 lm	-40 to +50 °C	12-48 V	9-60 V	TBC	TBC	TBC	5700	5
3200 lm	-40 to +75 °C	12-48 V	9-60 V	3.0 A	1.5 A	36 W	5700	5

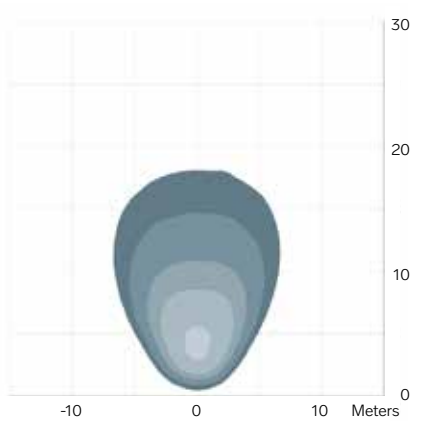
TYPICAL LIGHT PATTERNS

Example for 1010 Recess / 1450 effective lumen | For further light patterns visit www.tyrlights.com



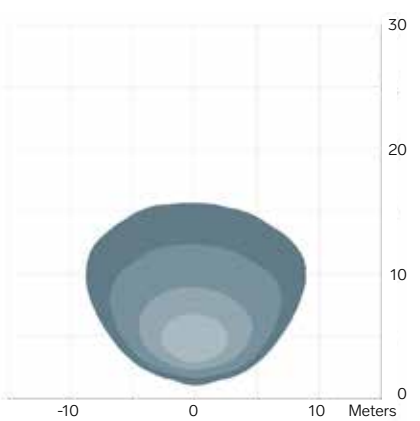
1010 Recess / 1450 lm

Narrow 0-30°
3.0 m / -15°
Symmetric



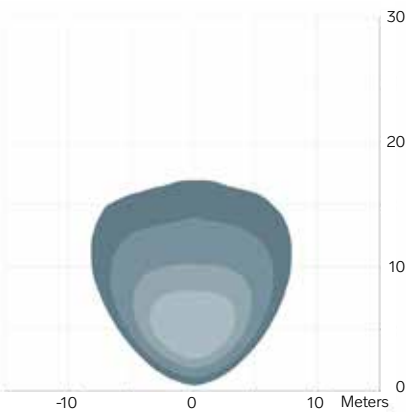
1010 Recess / 1450 lm

Medium 31-45°
3.0 m / -15°
Symmetric



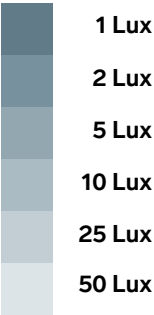
1010 Recess / 1450 lm

Wide 45°+
3.0 m / -15°
Symmetric



1010 Recess / 1450 lm

Wide 45°+
3.0 m / -15°
Asymmetric



1010 SWIVEL

1010 Swivel has a swivel side mounting bracket. This bracket enables the work light to be easily adjusted into various positions for individual illumination of the work area. Due to its high lumen output, it is used for larger machines and tractors. Awarded the highest EMC class rating to avoid radio interference.

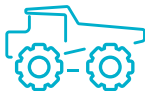


SUGGESTED APPLICATIONS

The 1010 Swivel is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING



PORT MATERIAL HANDLING



AGRICULTURE

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Side
Lens Material:	Grilamid / Glass
Temperature range:	-40 to +75 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	1.15 kg / 2.54 lbs
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric Asymmetric Wide Asymmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



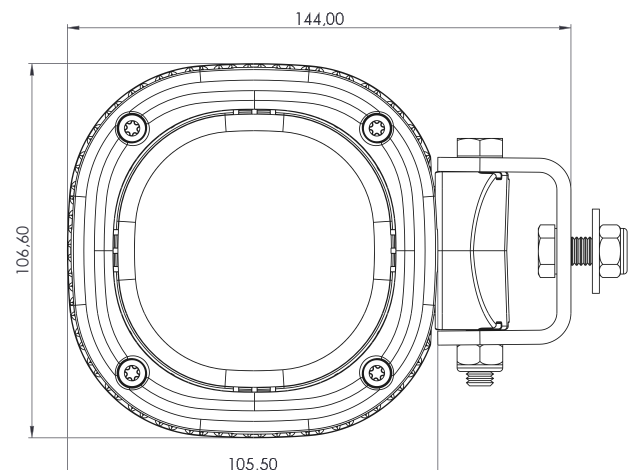
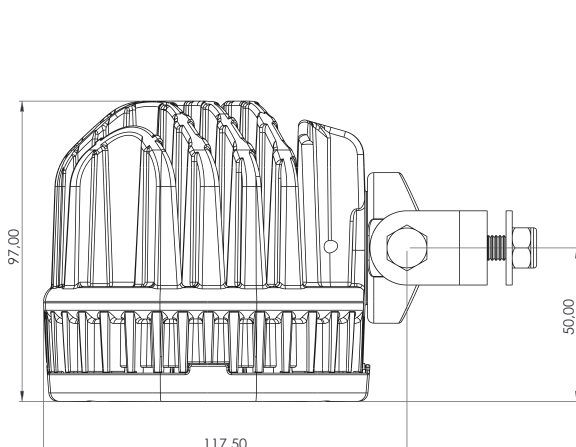
IP69K




EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

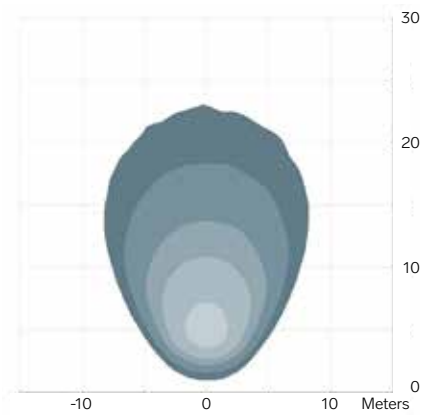


1010 SWIVEL

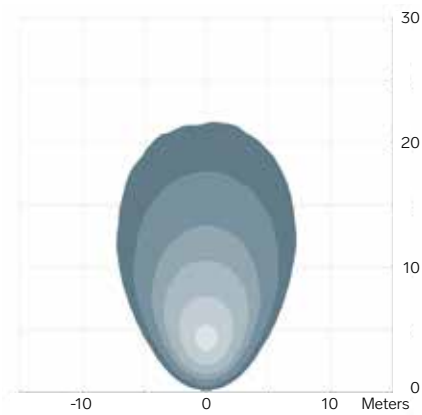
LIGHT OUTPUT	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	 EN55025 / CISPR25
	Machine	Operating Range	12 V	24 V	Watts	K	
2500 lm	12-48 V	9-60 V	3.2 A	1.6 A	38 W	5700	5

TYPICAL LIGHT PATTERNS

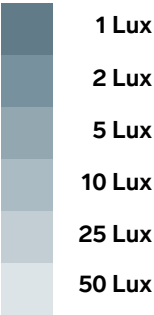
Example for 1010 Swivel / 2500 effective lumen | For further light patterns visit www.tyrilights.com



1010 Swivel / 2500 lm
Medium 31-45°
3.0 m / -15°
Symmetric



1010 Swivel / 2500 lm
Medium 31-45°
3.0 m / -15°
Asymmetric



1010 WHITEBEAM

The 1010 WhiteBeam is a unique energy efficient spotlight capable of delivering a high candela output in a concentrated area. It is specifically designed to perform as a long-distance light with a very narrow concentrated pattern. Can be used as a search light.



SUGGESTED APPLICATIONS

The 1010 WhiteBeam is highly adaptable and can be used across numerous applications worldwide, including:



MARINE



POLICE



FIRE FIGHTING VEHICLES

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +75 °C

Connector: Deutsch (DT04-2P) built in

Weight: 920 g / 2.03 lbs

Light Patterns: Spot



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



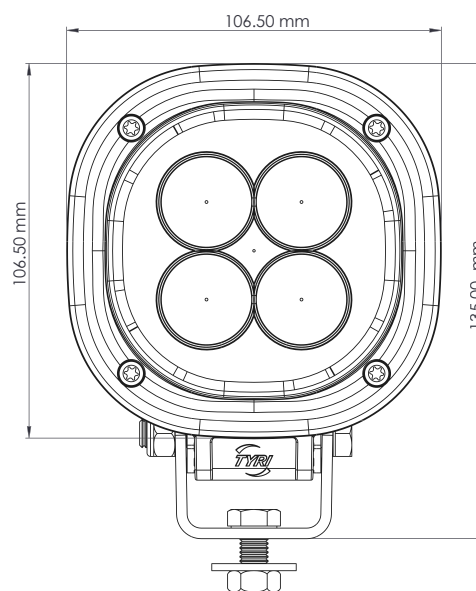
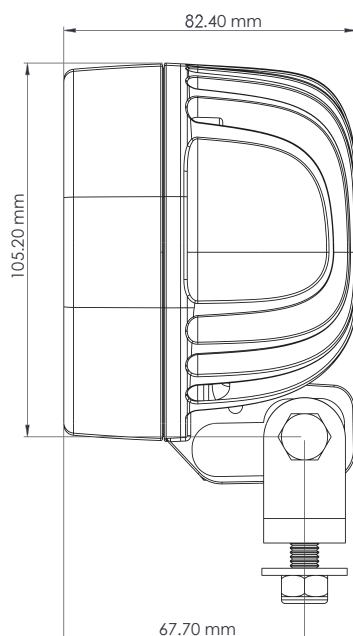
IP69K





EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com

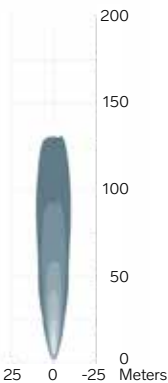


1010 WHITEBEAM

LIGHT OUTPUT	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE		
	Machine	Operating Range	12 V	24 V			EN55025 / CISPR25	ECE Rating
700 lm	12-48 V	9-60 V	1.4 A	0.6 A	17 W	5700	5	R10

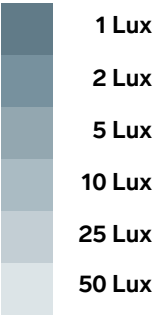
TYPICAL LIGHT PATTERNS

Example for 1010 WhiteBeam / 700 effective lumen | For further light patterns visit www.tyrilights.com



1010 WhiteBeam / 700 lm

Spot
1.0 m / 0°
Symmetric



1010 WHITEPOINT

The WhitePoint is a remarkable search light with a tighter spot than the WhiteBeam, and capable of projecting light over a long distance at a high Candela output. This work light is suitable for monitors to enhance task performance of fire fighters or as a searchlight.



SUGGESTED APPLICATIONS

The 1010 WhitePoint is highly adaptable and can be used across numerous applications worldwide, including:



MARINE



POLICE



FIRE FIGHTING VEHICLES

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +75 °C

Connector: Deutsch (DT04-2P) built in

Weight: 920 g / 2.03 lbs

Light Patterns: Spot



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



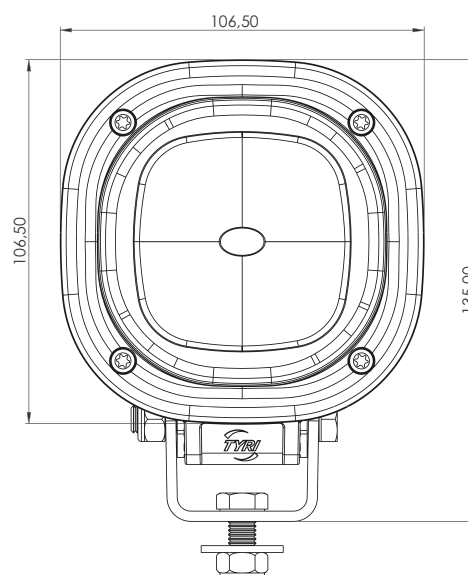
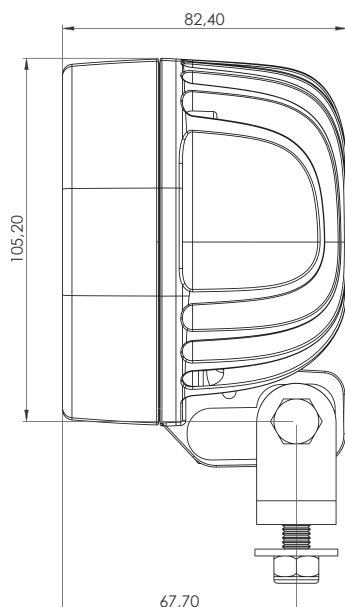
IP69K



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com

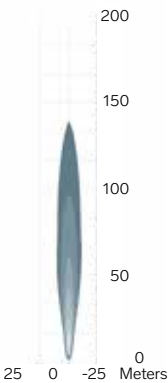


1010 WHITEPOINT

LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	ECE Rating	
700 lm	12-48 V	9-60 V	1.4 A	0.6 A	17 W	5700	5	R10	

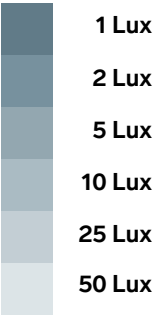
TYPICAL LIGHT PATTERNS

Example for 1010 WhitePoint / 700 effective lumen | For further light patterns visit www.tyrilights.com



1010 WhitePoint / 700 lm

Spot
1.0 m / 0°
Symmetric



1013

The 1013 LED work light with oval design is a cost-effective upgrade solution when looking to replace halogen lighting. It is used on forklift trucks or where you want an oval shape to make your vehicle stand out.



SUGGESTED APPLICATIONS

The 1013 is highly adaptable and can be used across numerous applications worldwide, including:



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	0.45 kg / 1 lb
Light Patterns:	Symmetric Asymmetric Spot

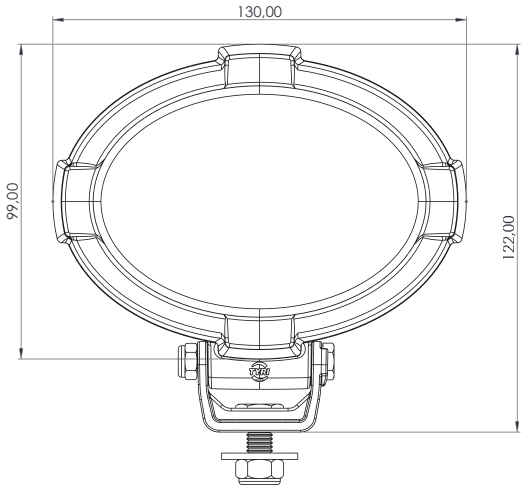
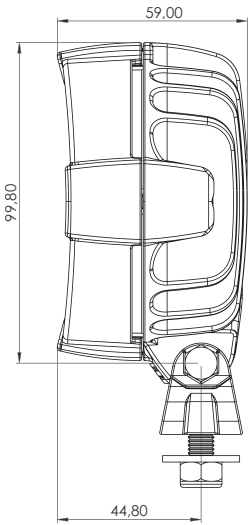
- Overheating Protection
- Over-voltage Protection
- Polarity Protection

TEST STANDARDS

- Salt Spray ASTM B117
- Vibration 5-2000 Hz 3 Axis, 10 Grms
- Shock Tested 50 G 11 ms
- IP69K
- EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2
- UL Rated Optional

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com



LIGHT OUTPUT	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EN55025 / CISPR25	
	Machine	Operating Range	12 V	24 V		K		
Effective Lumen					Watts			
750 lm	12-48 V	9-60 V	1.2 A	0.6A	14 W	5000	5	
1400 lm	12-48 V	9-60 V	1.7 A	0.9 A	21 W	5000	5	

1310

The 1310 is a vertical oval light that is suitable for forklift trucks and other. Used where you want a unique shape to make your vehicle stand out.

SUGGESTED APPLICATIONS

The 1310 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE



MATERIAL HANDLING



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging / Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	0.45 kg / 1 lb
Light Patterns:	Symmetric Asymmetric Spot



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



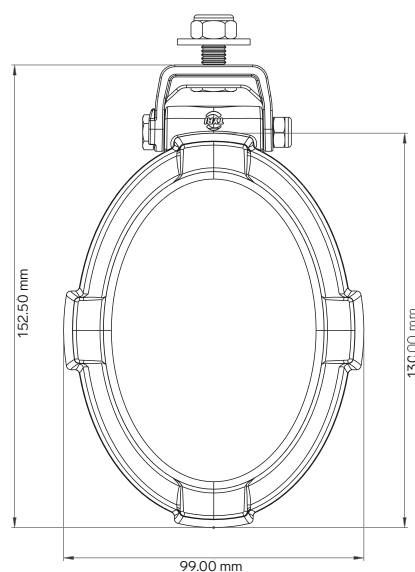
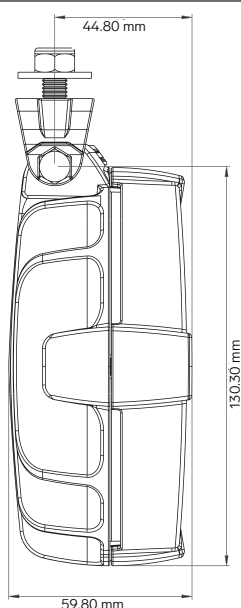
EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



LIGHT OUTPUT	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
	Machine	Operating Range	12 V	24 V		K	
Effective Lumen					Watts		EN55025 / CISPR25
750 lm	12-48 V	9-60 V	1.2 A	0.6 A	14 W	5000	5
1400 lm	12-48 V	9-60 V	1.7 A	0.9 A	21 W	5000	5

1313

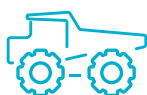
The 1313 is an extremely powerful LED work light in a heavy duty housing and used on large construction, recycling, fire-fighting and mining vehicles where a lot of light is required. Additional vibration dampers for uneven ground conditions are standard. This work light offers exceptional lumen to watt efficiency ratio and is available with 5700 K and 4000 K.

SUGGESTED APPLICATIONS

The 1313 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING



FIRE FIGHTING VEHICLES



CRANES



TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Grilamid / Glass
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	1.84 kg / 4.06 lb
Light Patterns:	Symmetric Narrow Symmetric Wide Symmetric Asymmetric Wide Asymmetric



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTMB 117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



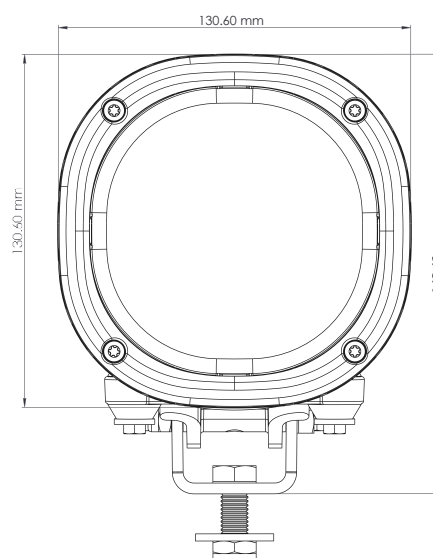
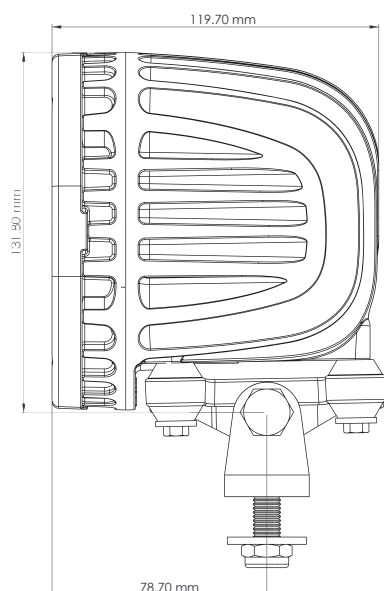
EN55025 / CISPR 25 Class 5 & 4
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605 / ISO 7637-2



R10 Optional

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com

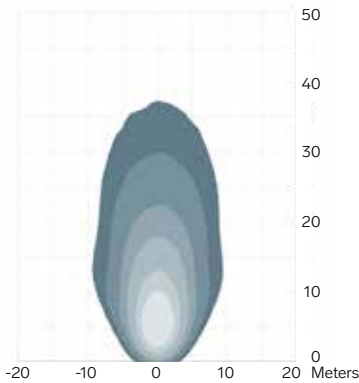


LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	12 V	24 V	Watts		K	EN55025 / CISPR25	ECE Rating
3600 lm	12-48 V	9-60 V	4.0 A	2.0 A	48 W		5700	3	
5000 lm ⁽¹⁾	12-48 V	9-60 V	5.2 A	2.6 A	62 W		5700	4 (Refractor) / 5 (Reflector)	
6200 lm	12-48 V	9-60 V	5.2 A	2.6 A	62 W		5700	4 (Refractor) / 5 (Reflector)	
7000 lm ⁽¹⁾	12-48 V	9-60 V	6.8 A	3.4 A	82 W		5700	4 (Refractor) / 5 (Reflector)	R10
8000 lm	12-48 V	9-60 V	6.8 A	3.4 A	82 W		5700	4 (Refractor) / 5 (Reflector)	R10
8000 lm	12-48 V	9-60 V	6.8 A	3.4 A	82 W		4000	4 (Refractor) / 5 (Reflector)	R10

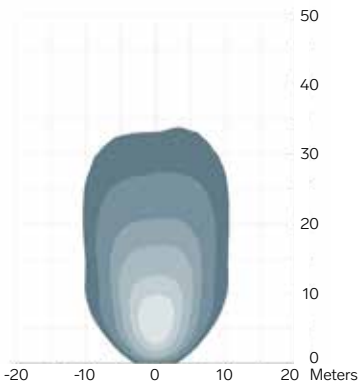
⁽¹⁾ Product may not be available in all territories. Please check with your local TYRI office.

TYPICAL LIGHT PATTERNS

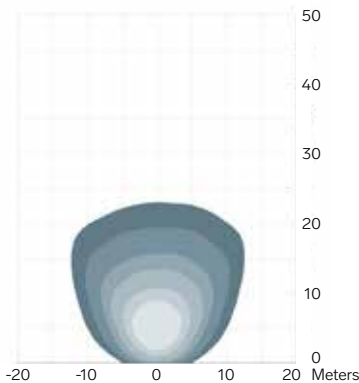
Example for 1313 / 8000 effective lumen | For further light patterns visit www.tyrilights.com



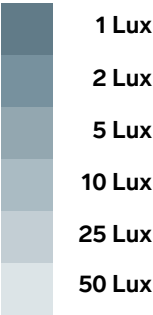
1313 / 8000 lm
Narrow 31-45°
3.0 m / -15°
Symmetric



1313 / 8000 lm
Wide 45°+
3.0 m / -15°
Symmetric



1313 / 8000 lm
Wide 45°+
3.0 m / -15°
Asymmetric



1313 AC

The 1313 AC is a low energy (60 W), durable work light. It is suitable for larger conveyors or AC powered machinery giving 3700 Lumen (effective lumen) output. The 1313 AC has undergone TYRI's stringent testing for IP69K, vibration, salt spray and EMC.

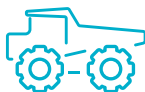


SUGGESTED APPLICATIONS

The 1313 AC is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +50 °C
Connector:	Flying Leads
Weight:	2.1 kg / 4.6 lbs
Light Patterns:	Symmetric Asymmetric Narrow Symmetric



Dampened



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



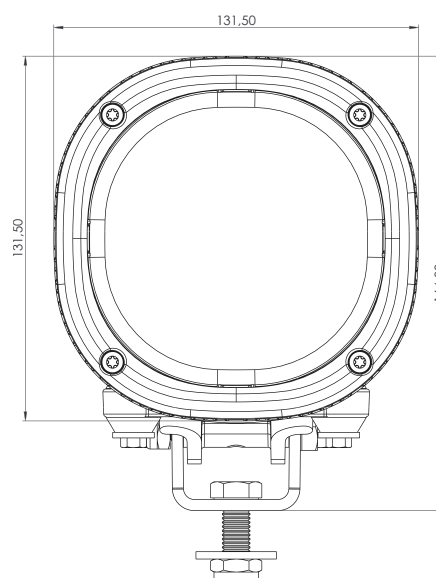
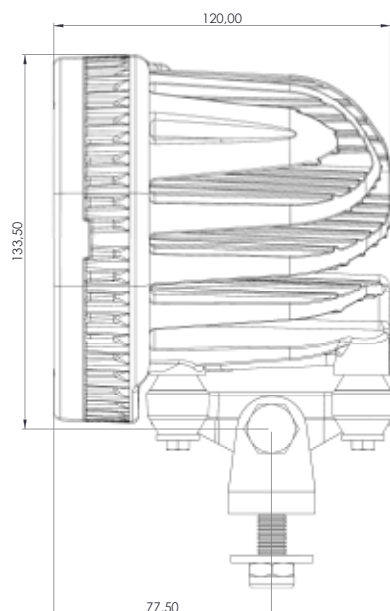
IP69K



AC/DC Converter:
EN55015 Class B
FCC 47CFR part 15 Class B
Susceptibility:
EN61000-4-2,-3,-4,-6,-6 & -11
ANSI c62.41-1991 Category A1, 2.5kV
Ringwave

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com



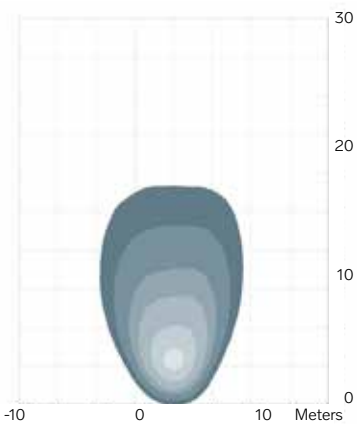
1313 AC

LIGHT OUTPUT	VOLTAGE	AMP DRAW		POWER	COLOUR TEMPERATURE
Effective Lumen	Machine	120 V/60 Hz	240 V / 60 Hz	Watts	K
3700 lm	100-277 Nominal / 47-63 Hz	0.5 A	0.35 A	60 W	5300-6000

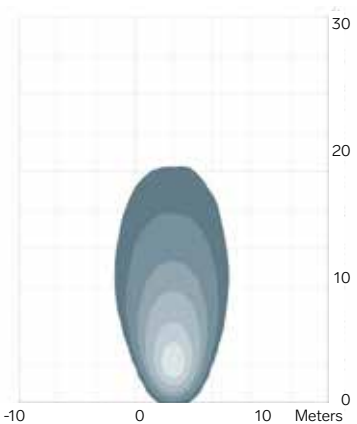
Product may not be available in all territories. Please check with your local TYRI office

TYPICAL LIGHT PATTERNS

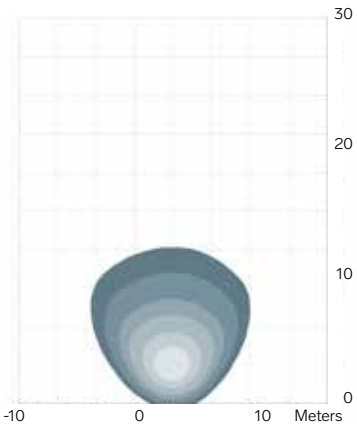
Example for 1313 AC / 3700 effective lumen | For further light patterns visit www.tyrilights.com



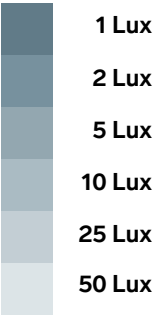
1313 AC / 3700 lm
Medium 31-45°
3.0 m / -15°
Symmetric



1313 AC / 3700 lm
Wide 45°+
3.0 m / -15°
Symmetric



1313 AC / 3700 lm
Wide 45°+
3.0 m / -15°
Asymmetric



1323

The 1323 LED is an extremely powerful LED work light delivering a massive 16500 effective lumen output. The curved design and mounting options of 60° trunnion mount ensure this work light is suitable for multiple applications and installation choices. Used on fire-fighting vehicles, boat cranes and other cranes, material handlers, light masts for generators, mining machines and more with a colour temperature 4000 K.



MINING

PORT MATERIAL HANDLING

MARINE

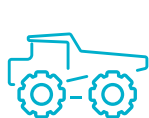
FORESTRY

FIRE-FIGHTING VEHICLES

CRANES

SUGGESTED APPLICATIONS

The 1323 is highly adaptable and can be used across numerous applications worldwide, including:



MINING



PORT MATERIAL HANDLING



MARINE



FORESTRY



FIRE FIGHTING VEHICLES



CRANES

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Grilamid
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	4.7 kg / 10.4 lbs
Light Patterns:	Wide Symmetric Medium Symmetric



Dampened - 60° Trunnion



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



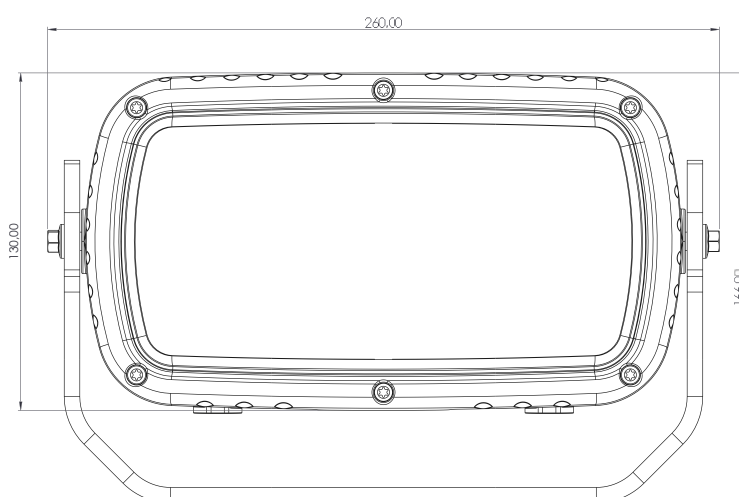
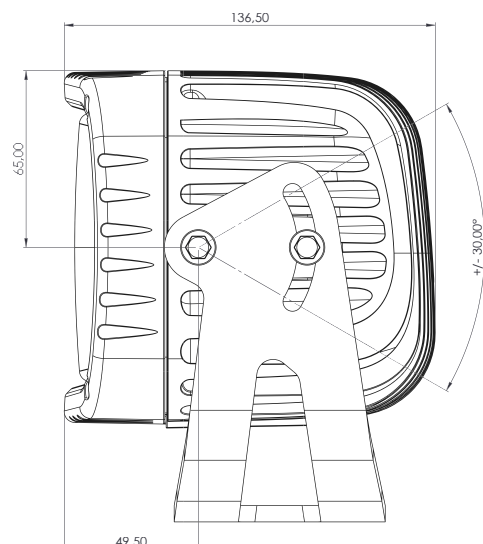
IP69K



EN55025 / CISPR 25 Class 4
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2

Consult website for additional lens & mounting options

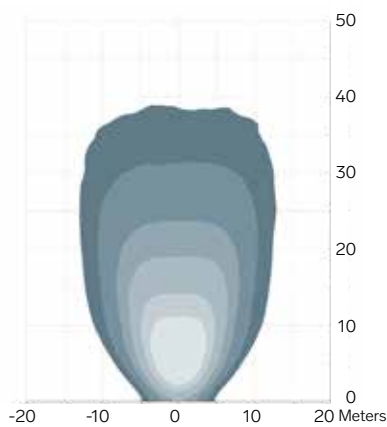
TYRI's testing standards can be found at: www.tyrilights.com



LIGHT OUTPUT		VOLTAGE		AMP DRAW	POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	Machine	Operating Range	24 V	Watts	K	EN55025 / CISPR25	ECE Rating	
13,500 lm	24 V	18-32 V	6.2 A	150 W	4000	4		
16,500 lm	24 V	18-32 V	6.2 A	150 W	4000	4	R10	

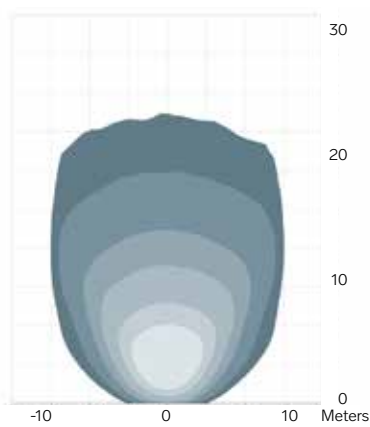
TYPICAL LIGHT PATTERNS

Example for 1323 / 13500 effective lumen | For further light patterns visit www.tyrilights.com



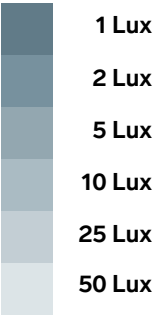
1323 / 13,500 lm

Medium 31-45°
3.0 m / -15°
Symmetric



1323 / 13,500 lm

Wide 45°+
3.0 m / -15°
Symmetric



1323 AC

This is the AC version of the 1323 delivering a massive 13500 effective lumen output. The curved design and mounting options of 60° trunnion mount ensure this work light is suitable for multiple applications and installation choices. This light is available with a twin bracket for dual mounting, doubling the light output in any working area and a colour temperature of 4000 K.

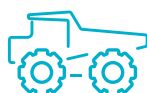


SUGGESTED APPLICATIONS

The 1323 AC is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Grilamid / Glass
Temperature range:	-40 to +60 °C
Connector:	Flying Leads
Weight:	7.2 kg / 15.9 lbs
Light Patterns:	Wide Symmetric Medium Symmetric



Dampened - 60° Trunnion



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



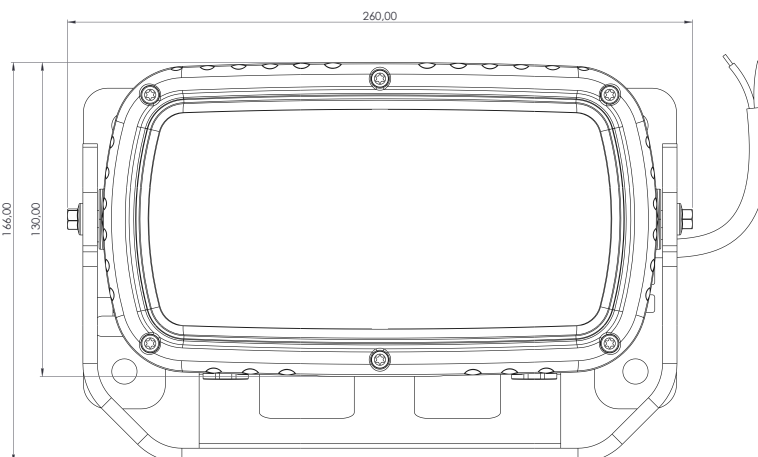
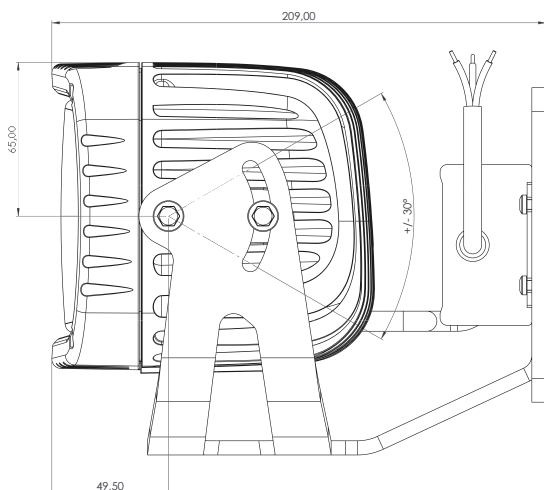
IP69K



EN 61000-6-2
EN 61000-6-3
EN 55015

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com

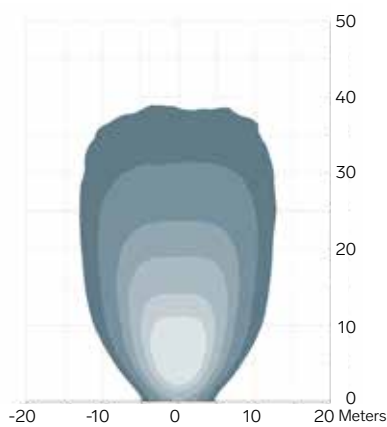


1323 AC

LIGHT OUTPUT	VOLTAGE	POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Watts	K	EN55025 / CISPR25
13,500 lm	100-277 Nominal / 47-63 Hz	170 W @ 230 V	4000	EN 61000-6-2 EN 61000-6-3 EN 55015

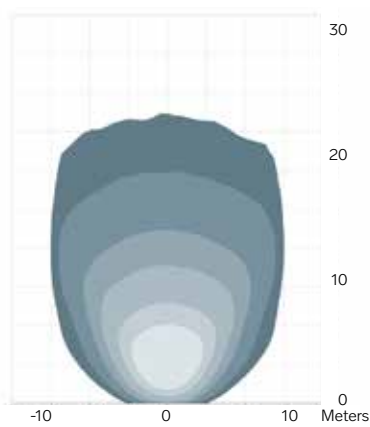
TYPICAL LIGHT PATTERNS

Example for 1323 / 13500 effective lumen | For further light patterns visit www.tyrilights.com



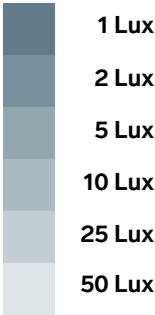
1323 / 13,500 lm

Medium 31-45°
3.0 m / -15°
Symmetric



1323 / 13,500 lm

Wide 45°+
3.0 m / -15°
Symmetric



HL COMPACT

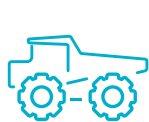
LED DRIVE LIGHT

The HL Compact is a space efficient LED headlight specifically designed to be installed on slow moving machines. It is an attractive drop in replacement for old halogen headlights on wheeled excavators, terminal tractors, wheel loaders and dump trucks. ECE R 112, ECE R 87, ECE R 7 and ECE R 10. The external indicator complies to ECE R6, categories 1 and 6.



SUGGESTED APPLICATIONS

The HL Compact is highly adaptable and can be used across numerous applications worldwide, including:



MINING



PORT MATERIAL HANDLING



CONSTRUCTION



MATERIAL HANDLING

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Recessed

Lens Material:

Outer Hardcoated Polycarbonate

Inner Plastic

Colour Clear

Temperature range: -40 to +70 °C

Connector: 150 mm cable with Deutsch DT, 6 pins

Operating Voltage: 24 VDC

Current Draw:

Highbeam 1.8 A

Lowbeam 1.0 A

DRL 350 mA

Position Light 40 mA

Weight: 1.15 kg / 2.54 lbs



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K

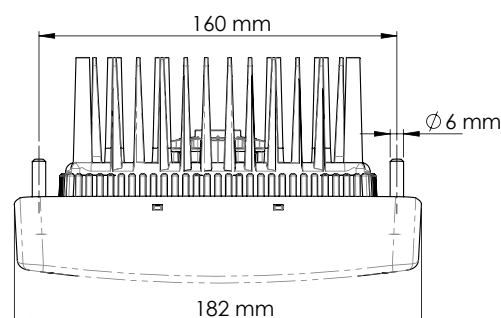
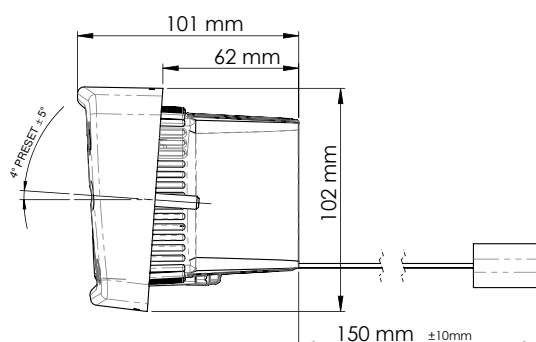


ECE R112 High/Low Beam
ECE R87 DRL / ECE R7 Position



ECE R10 EMC

TYRI's testing standards can be found at: www.tyrilights.com



HL TURN SIGNAL

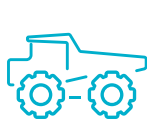
LED DRIVE LIGHT INDICATOR / BLINKER

The HL Compact LED drive light can be complemented by TYRI's LED turn signal, designed to work perfectly alongside the HL Compact to create an aesthetically pleasing design.

This marker light is approved to ECE regulation 6, Categories 1 & 6.

SUGGESTED APPLICATIONS

The HL Turn Signal is highly adaptable and can be used across numerous applications worldwide, including:



MINING



PORT MATERIAL HANDLING



CONSTRUCTION



MATERIAL HANDLING



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: (2) M5 x 0.8 screws spaced 48 mm apart vertically. The aluminium heat sink has threaded holes

Lens Material: Amber coloured PC

Temperature range: -40 to +85 °C

Connector: DT04-2P / 350 mm harness
DT06-2S mating connector

Operating Voltage: 9-32 V

Current Draw: 0.42 A @ 12 V

Weight: 150 g / 0.33 lbs



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K

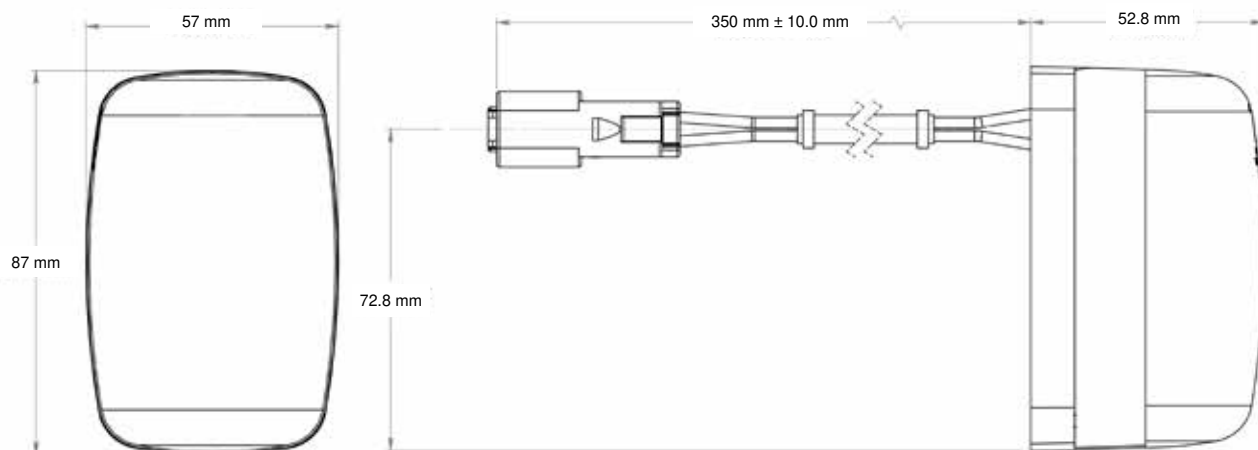


ECE Regulation 6, Categories 1 & 6



ECE Regulation 10

TYRI's testing standards can be found at: www.tyrilights.com



VL4

The VL4 with its stylish streamline design and small dimensions is used on Forklift trucks, floor scrubbers, ambulances, ATV's, UTV and also as entrance light on construction machines. Available with thru bolt or bracket mount. The 825 effective lumen model is specially designed to be isolated, meaning the input wires do not have any electrical connection to the housing of the light, ideal for forklift use.

SUGGESTED APPLICATIONS

The VL4 is highly adaptable and can be used across numerous applications worldwide, including:



ATV



PORT MATERIAL HANDLING



OFF ROAD



MATERIAL HANDLING



FIRE FIGHTING VEHICLES



TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Thru Bolt
Bracket
Pedestal
Easy Mount

Lens Material: Polycarbonate

Connector: Deutsch (DT04-2P) built in

Weight: Thru Bolt 336 g / 0.74 lb
Bracket 358 g / 0.79 lb

Light Patterns: Symmetric
Asymmetric
Narrow Symmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



IP69K



EN55025 / CISPR 25
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605 / ISO 7637-2

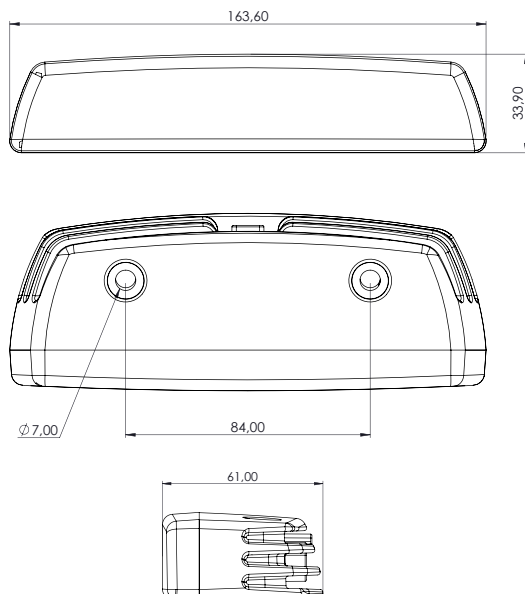


UL Rated Optional

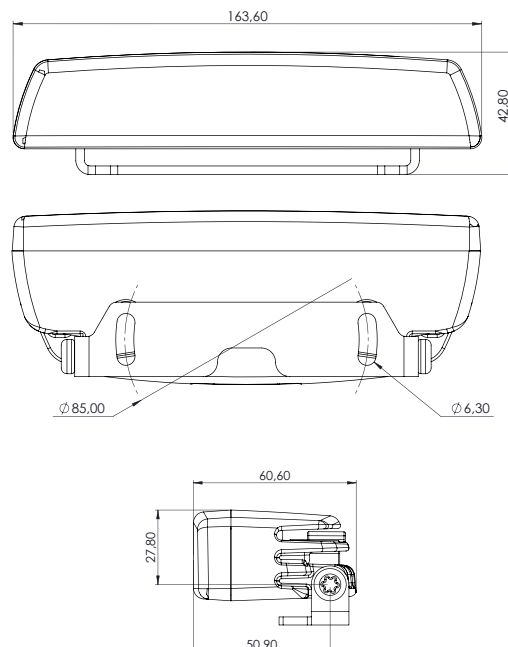
Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com

VL4 Thru Bolt



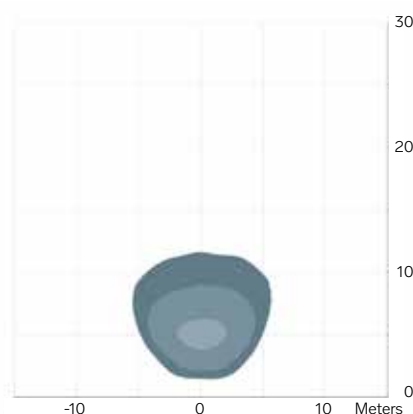
VL4 Bracket



LIGHT OUTPUT	OPERATING TEMPERATURE	VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC	ECE
Effective Lumen	°C	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	ECE Rating
600 lm	-40 to +75 °C	12-48 V	9-60 V	1.2 A	0.6 A	15 W	5700	4	R10
825 lm	-40 to +75 °C	12-48 V	9-60 V	1.2 A	0.6 A	15 W	5700	4	
1400 lm	-40 to +50 °C	12 V	9-16 V	1.8 A		22 W	5700	5	
1400 lm	-40 to +50 °C	24 V	18-32 V		0.9 A	22 W	5700	5	
1400 lm	-40 to +50 °C	12-48 V	9-60 V	1.8 A	0.9 A	22 W	5700	3	
1400 lm	-40 to +50 °C	12-48 V	9-60 V	2.0 A	1.0 A	24 W	5700	4	
RED	-40 to +75 °C	12-48 V	9-60 V	1.2 A	0.6 A	15 W	Dominant Wavelength Typical 630 nm	4	
GREEN	-40 to +75 °C	12-48 V	9-60 V	1.2 A	0.6 A	15 W	Dominant Wavelength Typical 530 nm	4	

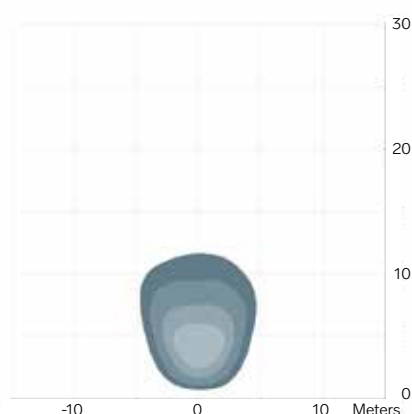
TYPICAL LIGHT PATTERNS

Example for VL4 / 600 effective lumen | For further light patterns visit www.tyrilights.com



VL4 / 600 lm

Wide 45°+
3.0 m / -15°
Symmetric



VL4 / 600 lm

Wide 45°+
3.0 m / -15°
Asymmetric



VL6

The VL6 is another stylish LED work light with a streamline design and therefore also often used in confined spaces on fire-fighting vehicles, commercial coaches and trucks, forklift trucks, ATV's and other. Thru bolt mounting. EMC class 4 according to EN55025 / CISPR 25 to avoid radio interference.



SUGGESTED APPLICATIONS

The VL6 is highly adaptable and can be used across numerous applications worldwide, including:



MATERIAL HANDLING



FIRE FIGHTING VEHICLES

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Thru Bolt
Lens Material:	Polycarbonate
Temperature range:	-40 to +75 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	Thru Bolt 550 g / 1.22 lbs
Light Patterns:	Symmetric Asymmetric



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms

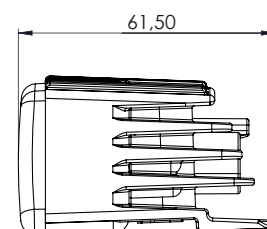
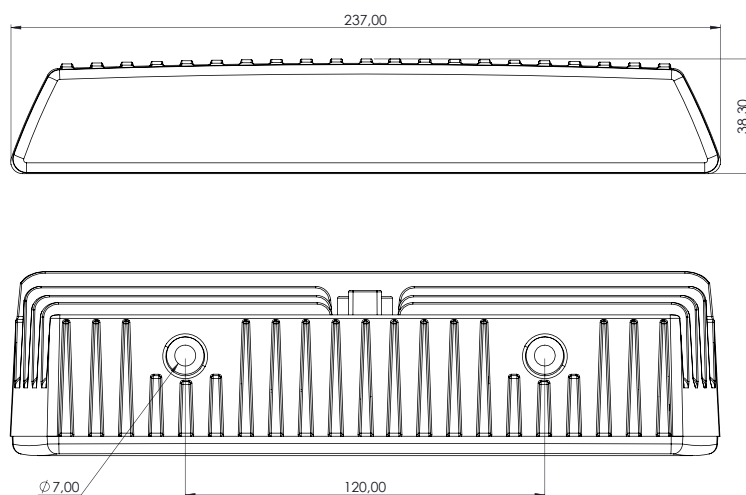


IP69K



EN55025 / CISPR 25 Class 4
ISO 11452-2 / ISO 11452-4 / ISO 16750-2
ISO 10605 / ISO 7637-2

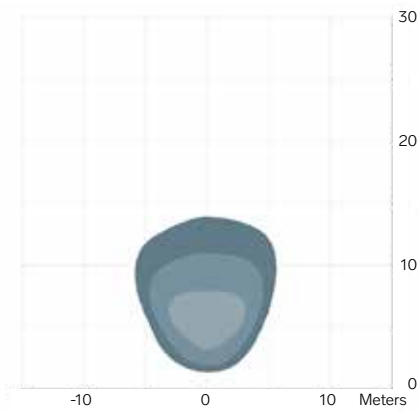
TYRI's testing standards can be found at: www.tyrilights.com



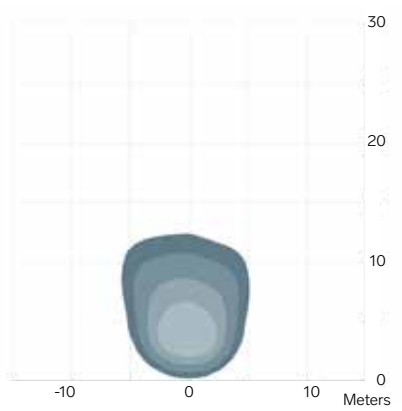
LIGHT OUTPUT		VOLTAGE		AMP DRAW		POWER	COLOUR TEMPERATURE	EMC
Effective Lumen	Machine	Operating Range	12 V	24 V	Watts	K	EN55025 / CISPR25	
1000 lm	12-48 V	9-60 V	2.0 A	1.0 A	24 W	6200	4	
1600 lm	24 V	18-32 V	0.8 A		19 W	5700	5	

TYPICAL LIGHT PATTERNS

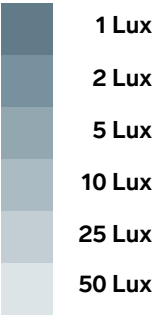
Example for VL6 / 1000 effective lumen | For further light patterns visit www.tyrilights.com



VL6 / 1000 lm
Wide 45°+
Symmetrical



VL6 / 1000 lm
Wide 45°+
Asymmetrical





INTELLilight®

THE GAME CHANGER

INTELLi**light**™ is our new and revolutionary way of connecting light sources in a wireless network mesh. It works as a stand alone system or can be integrated to the vehicle UI (User Interface).

For more information visit tyrilights.com

The function of INTELLi*light* is to connect all lights (01) in a closed wireless mesh network. This means you get all the functions without additional cables, ensuring it is easy to install, even on existing vehicles. All the units are then registered in the app (02), making it possible to control each of them individually and to program their settings to your own personal preferences. You can also program the remote (03) for quick and handy access.



01. INTELLi*light*



03. Remote Control

SIX FACTS ABOUT INTELLi*light*



WIRELESS MESH NETWORK

All lights are equipped with their own router creating a 360° wireless mesh network. This makes the system easy to install, very reliable and if one light fails, the system keeps on going.



INDIVIDUALISED PROFILE

Create your own personal configuration and control the system through the app, easily accessible through any smartphone, anywhere.



SCALABLE

With the INTELLi*light* system you can add as many new light sources as you wish. Group and regroup them, and then name the settings as you desire.



IMPROVES SAFETY

The light sensor actively detects light from reflections or approaching vehicles, automatically dimming the lights so as not to blind the operators.



FUTURE-PROOF

Since each INTELLi*light* system is a network of its own, new firmware and updates can be downloaded directly through the smartphone.



ANTI-THEFT

All the units can optionally be locked to the wireless mesh network, rendering them useless if stolen.



LED WARNING LIGHTING

Warehouses, factories and industrial yards are busy, and sometimes, noisy environments. Coupled with the hazards of machinery moving large items, such as pallets and materials around, they can be extremely dangerous. Traditionally, flashing beacons and sirens are used to warn those around that a vehicle; such as a forklift, is approaching. However, in a noisy warehouse environment, is this enough?

An additional tool to help improve health and safety procedures is the TYRI Warning Light range. These bright, LED warning lights shine a large square of blue or red light onto the floor, either in front or behind a material handling machine or a red line around the forklift. This gives an advanced visual warning to a pedestrian, giving them time to safely move out of the way and avoid an unnecessary accident.

D8 BLUEPOINT

D8 Swivel BluePoint increases safety and minimises the risk of accidents around machinery. It allows safety to be visual instead of relying solely on sirens and alarms. The D8 Bluepoint projects a concentrated light beam as a large, visible square on the floor in front or behind the machine. This warning light is also available as a standard work light, allowing you to match your machine lighting for a unified design.

SUGGESTED APPLICATIONS

The D8 BluePoint is mainly used for material handling. However, it can be used across numerous other applications worldwide.



MATERIAL HANDLING



Note: the lens of the BluePoint is clear, the blue light is emitted from LEDs

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +75 °C

Connector: Deutsch (DT04-2P) built in

Weight: 540 g / 1.20 lbs

Light Patterns: Spot



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



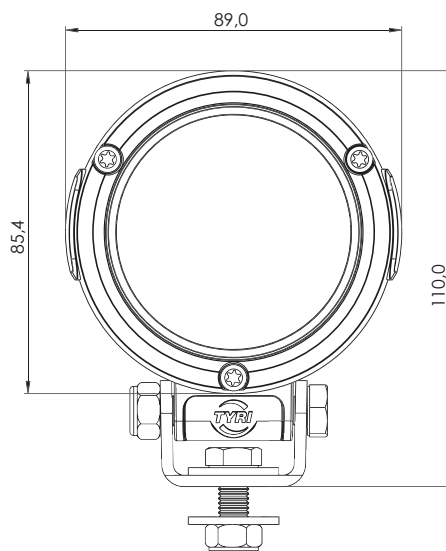
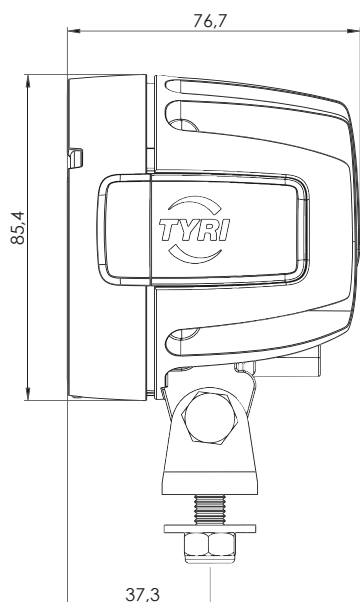
EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com



D8 BLUEPOINT

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm		EN55025 / CISPR25
20,000 cd	12-48 V	9-60 V	1.2 A	0.6 A	13 W	475 nm		3

IEC/SS-EN 62471 | RISK GROUP 2

CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT). TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.

Also available as...

D8 REDPOINT



Note: the lens of the RedPoint is clear, the red light is emitted from LEDs

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm		EN55025 / CISPR25
TBC	12-48 V	9-60 V	1.1 A	0.55 A	13 W	630 nm		3

D8 SWIVEL BLUEPOINT

D8 Swivel BluePoint increases safety and minimises the risk of accidents around machinery. It allows safety to be visual instead of relying solely on sirens and alarms. The D8 Bluepoint projects a concentrated light beam as a large, visible square on the floor in front or behind the machine. This warning light is also available as a standard work light, allowing you to match your machine lighting for a unified design.



Note: the lens of the BluePoint is clear, the blue light is emitted from LEDs

SUGGESTED APPLICATIONS

The D8 BluePoint is mainly used for material handling. However, it can be used across numerous other applications worldwide.



MATERIAL HANDLING

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +75 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	540 g / 1.20 lbs
Light Patterns:	Spot



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 10 Grms



Shock Tested 50 G 11 ms



IP69K



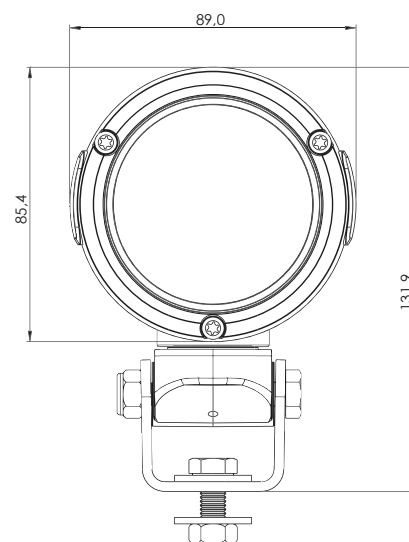
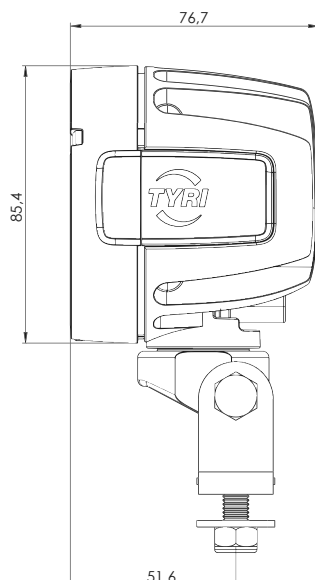
EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult website for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com



D8 SWIVEL BLUEPOINT

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm		EN55025 / CISPR25
20,000 cd	12-48 V	9-60 V	1.2 A	0.6 A	13 W	475 nm		3

IEC/SS-EN 62471 | RISK GROUP 2

CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT).

TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.

Also available as...

D8 SWIVEL REDPOINT



Note: the lens of the RedPoint is clear, the red light is emitted from LEDs

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm		EN55025 / CISPR25
TBC	12-48 V	9-60 V	1.1 A	0.55 A	13 W	630 nm		3

0909 COMPACT+ BLUEPOINT

The 0909 Compact+ BluePoint has a slim housing and a curved lens. It is UL certified and carries an IP rating of 69K. This warning light is also available as a standard work light, allowing you to match your machine lighting for a unified design.



Note: the lens of the BluePoint is clear, the blue light is emitted from LEDs

SUGGESTED APPLICATIONS

The 0909 Compact+ BluePoint is mainly used for material handling. However, it can be used across numerous other applications worldwide.



MATERIAL HANDLING

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +85 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	300 g / 0.66 lbs
Light Patterns:	Spot



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



IP69K



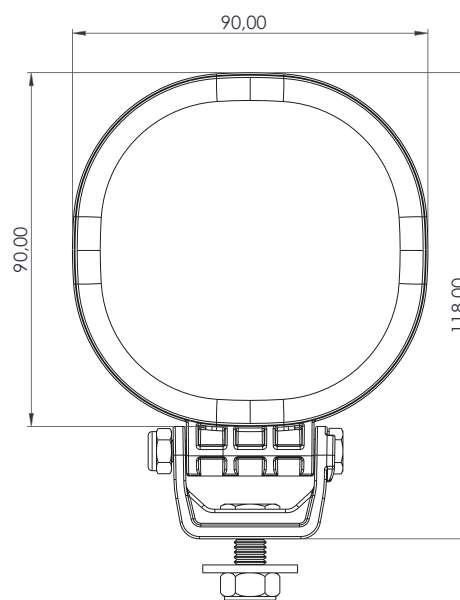
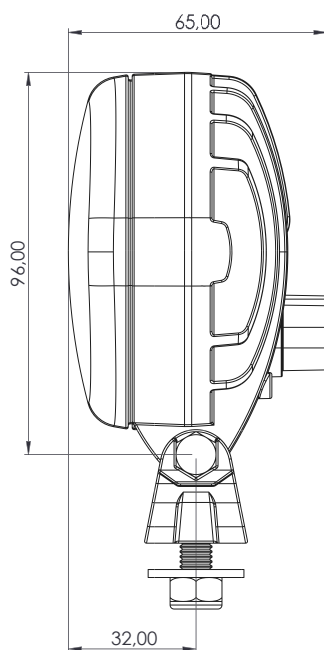
EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



0909 COMPACT⁺ BLUEPOINT

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm		EN55025 / CISPR25
20,000 cd	12-48 V	9-60 V	1.4 A	0.7 A	17 W	475 nm		5

IEC/SS-EN 62471 | RISK GROUP 2

CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT).

TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.

Also available as...

0909 COMPACT⁺ REDPOINT



Note: the lens of the RedPoint is clear, the red light is emitted from LEDs

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm		EN55025 / CISPR25
20,000 cd	12-48 V	9-60 V	1.4 A	0.7 A	17 W	630 nm		5

1010 BLUEPOINT

1010 BluePoint allows safety to be visual instead of relying solely on sirens or alarms, where hearing is difficult, especially in noisy environments. It projects a concentrated light beam as a large, visible square on the floor in front or behind the machine. This warning light is also available as a standard work light, allowing you to match your machine lighting for a unified design.

SUGGESTED APPLICATIONS

The 1010 BluePoint is used mainly in material handling. However, it can be used across numerous other applications worldwide.



MATERIAL HANDLING



Note: the lens of the BluePoint is clear, the blue light is emitted from LEDs

TECHNICAL DATA

Housing Material:	Cast Aluminium
Mounting Options:	Hanging Standing
Lens Material:	Polycarbonate
Temperature range:	-40 to +75 °C
Connector:	Deutsch (DT04-2P) built in
Weight:	920 g
Light Patterns:	Spot

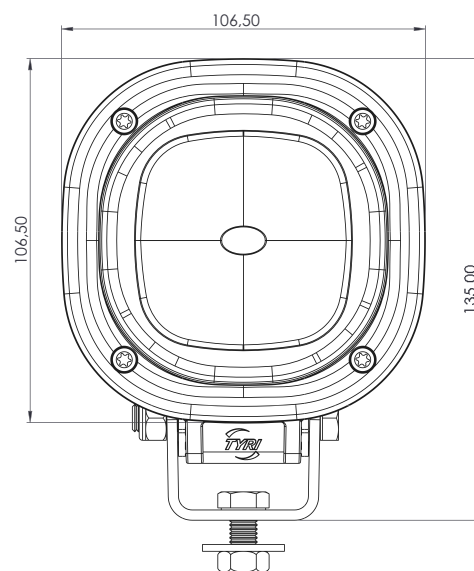
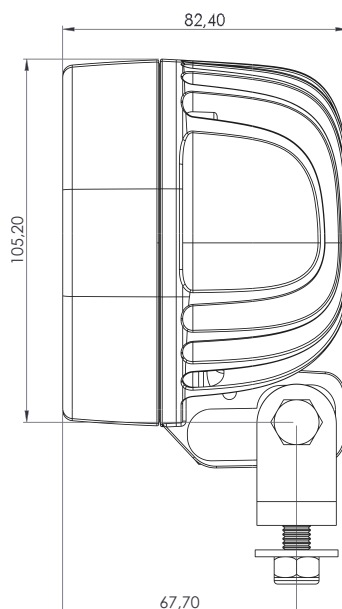
	Dampened
	Overheating Protection
	Over-voltage Protection
	Polarity Protection

TEST STANDARDS

	Salt Spray ASTM B117 500 h
	Vibration 5-2000 Hz 3 Axis, 10 Grms
	Shock Tested 50 G 11 ms
	IP69K
	EN55025 / CISPR 25 Class 4 ISO 11452-2 / ISO 11452-4 ISO 16750-2 / ISO 10605 ISO 7637-2
	UL Rated Optional

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



1010 BLUEPOINT

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm	EN55025 / CISPR25	
20,000 cd	12-48 V	9-60 V	1.4 A	0.7 A	15 W	475 nm	4	

IEC/SS-EN 62471 | RISK GROUP 2

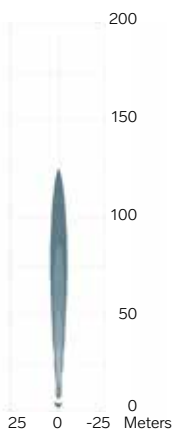
CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT).

TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.

TYPICAL LIGHT PATTERNS

Example for 1010 BluePoint | For further light patterns visit www.tyrilights.com



1010 BluePoint

Spot

1.0 m / 0°

Symmetric

Also available as...

1010 REDPOINT



Note: the lens of the RedPoint is clear, the red light is emitted from LEDs

LIGHT INTENSITY		VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
Candela	Machine	Operating Range	12 V	24 V	Watts	nm	EN55025 / CISPR25	
20,000 cd	12-48 V	9-60 V	1.4 A	0.7 A	15 W	630 nm	4	

VL4 BLUEPOINT

The VL4 BluePoint has a slimline appearance and can be mounted on a forklift truck with minimal protrusion, whilst delivering a bright blue square of light onto the floor, to warn of a vehicle approaching. VL4 LED work lights are available in the same housing available for unified lighting design.



Note: the lens of the BluePoint is clear, the blue light is emitted from LEDs

SUGGESTED APPLICATIONS

The VL4 BluePoint is mainly used for material handling. However, it can be used across numerous other applications worldwide.



MATERIAL HANDLING

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +85 °C

Connector: Deutsch (DT04-2P) built in

Weight: 435 g / 0.96 lb

Light Patterns: Spot



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms

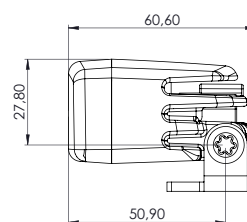
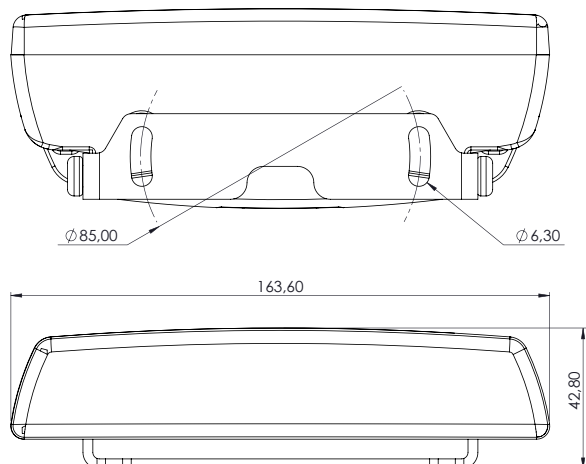


IP69K



EN55025 / CISPR 25 Class 3
EN 61000-6-2
ISO11452-2
100V/m

TYRI's testing standards can be found at: www.tyrilights.com



VL4 BLUEPOINT

LIGHT INTENSITY	VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	EMC
	Machine	Operating Range	12 V	24 V			
Candela					Watts	nm	EN55025 / CISPR25
21,500 cd	12-48 V	9-60 V	1.2 A	0.6 A	15 W	475	3

IEC/SS-EN 62471 | RISK GROUP 2

CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT).

TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.

VL4 REDLINE

The VL4 RedLine shows a visible red safety barrier to make pedestrians aware of the danger zone. When mounted on 2 m height, the RedLine projects an approx. 3 m long intensive red line on the ground along the side of the machine as a visual barrier for pedestrians or other machinery.

SUGGESTED APPLICATIONS

The VL RedLine is mainly used for material handling. However, it can be used across numerous other applications worldwide.



CONSTRUCTION



PORT MATERIAL HANDLING



MATERIAL HANDLING



Note: the lens of the RedLine is clear, the red light is emitted from LEDs

TECHNICAL DATA

Housing Material: Cast Aluminium

Mounting Options: Hanging
Standing

Lens Material: Polycarbonate

Temperature range: -40 to +85 °C

Connector: Deutsch (DT04-2P) built in

Weight: 435 g / 0.96 lb

Light Patterns: Line



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



Salt Spray ASTM B117 500 h



Vibration 5-2000 Hz 3 Axis, 8 Grms



Shock Tested 50 G 11 ms



IP69K

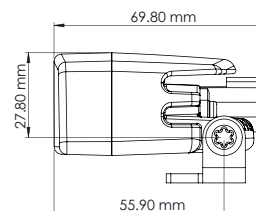
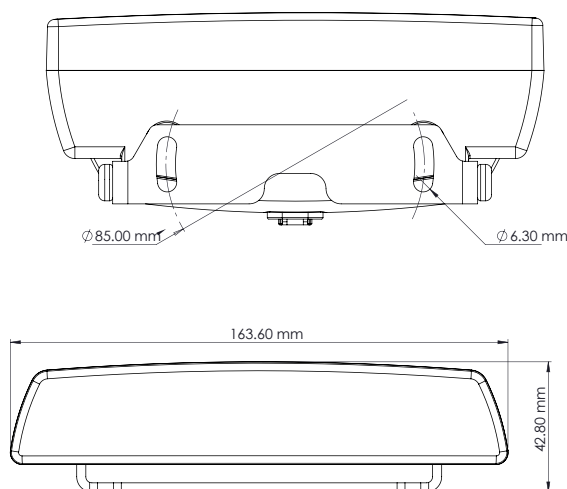


EN55025 / CISPR 25 Class 3
EN 61000-6-2
ISO11452-2
100 V/m




UL Rated Optional

TYRI's testing standards can be found at: www.tyrilights.com



VL4 REDLINE


LIGHT INTENSITY	VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	
	Machine	Operating Range	12 V	24 V			
Candela			12 V	24 V	Watts	nm	EN55025 / CISPR25
4,000 cd	12-48 V	9-60 V	1.1 A	0.6 A	14 W	630 nm	3

Also available as...

VL4 BLUELINE



Note: the lens of the BlueLine is clear, the red light is emitted from LEDs

LIGHT INTENSITY	VOLTAGE		AMP DRAW		POWER	DOMINANT WAVELENGTH TYPICAL	
	Machine	Operating Range	12 V	24 V			
Candela			12 V	24 V	Watts	nm	EN55025 / CISPR25
2,000 cd	12-48 V	9-60 V	1.5 A	0.7 A	18 W	475 nm	3

IEC/SS-EN 62471 | RISK GROUP 2

CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

It is important to remember, LED work lights are no more hazardous than other lighting technologies with the same correlated colour temperature (CCT).
TYRI complies with the IEC/SS-EN 62471 standard with the addition of the warning label on the product.



LED MARKER LIGHTING

Making clear signals is important to the safety of other operators and those working around off highway machines. TYRI's range of marker lights are designed to offer essential guidance whilst being approved to IP 69K and EMC as standard.

0522A MARKER

Available with red, amber, and white LEDs or all white LEDs, the thru bolt design allows this light to be mounted in a variety of locations on machines. The 0522A is available in an all white LED option great in a dome light application. This LED light is UL approved.

SUGGESTED APPLICATIONS

The 0522A marker light is highly adaptable and can be used across numerous applications worldwide, including:



TECHNICAL DATA

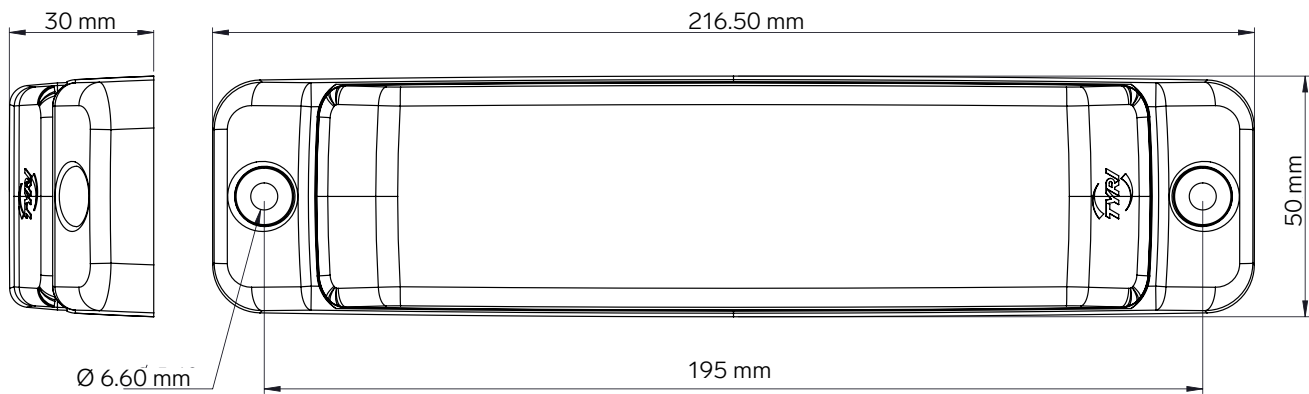
Machine voltage:	12 V / 12-80 V
Temperature range:	-40 to +75 °C
Lens material:	Polycarbonate
Housing material:	Polycarbonate
Mounting options:	Flush
Connector:	Bare Wires
Weight:	TBC

- Overheating Protection
- Over-voltage Protection
- Polarity Protection

TEST STANDARDS

- IP69K
- EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2
- UL Rated Optional

TYRI's testing standards can be found at: www.tyrilights.com



LED COLOUR	VOLTAGE		AMP DRAW		POWER Watts	EN55025 / CISPR25
	Machine	Operating Range	12 V	24 V		
6 Red / 6 Amber / 6 White	12 V	9-16 V	0.12 A (stop)		0.14 W (stop)	5
			0.03 A (tail)		0.4 W (tail)	
			0.13 A (turn)		1.6 W (turn)	
			0.09 A (reverse)		1.1 W (reverse)	
6 Red / 6 Amber / 6 White	12-80 V	9-108 V	0.1 A (stop)	0.05A (stop)	1.2 W (stop)	5
			0.08 A (tail)	0.04 A (tail)	1.0 W (tail)	
			0.16 A (turn)	0.18 A (turn)	1.9 W (turn)	
			0.18 A (reverse)	0.09 A (reverse)	2.2 W (reverse)	

Product may not be available in all territories, please check with your local TYRI office

0910A MARKER

This square, dual sided, turn marker is commonly placed on fenders and cabs of vehicles. It's primary use is to clearly indicate the direction the machine is turning and is mounted via pedestal or hanging mount.

SUGGESTED APPLICATIONS

The 0910A marker light is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION

MINING



TECHNICAL DATA

Machine voltage: 24 V
Temperature range: -40 to +75 °C
Lens material: Polycarbonate
Housing material: Polycarbonate
Mounting options: Bolt through housing
Connector: Bare Wires
Weight: TBC



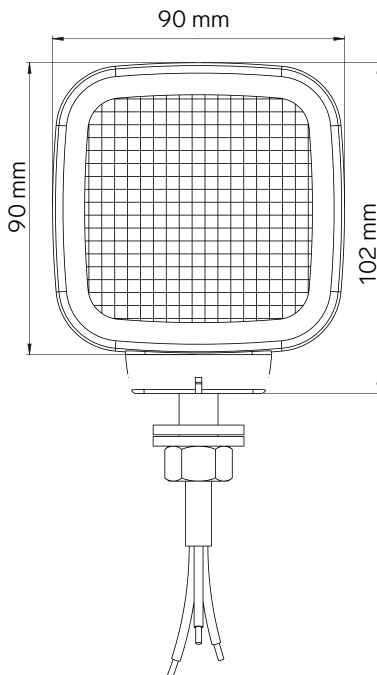
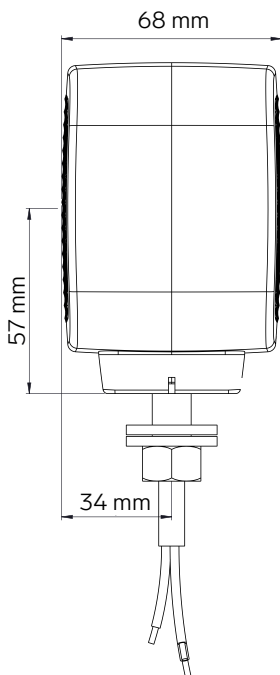
Overheating Protection



Over-voltage Protection



Polarity Protection



LED colour:	Amber	Clear
Voltage:		
Machine	24 V	24 V
Operating Range	18-32 V	18-32 V
Amp Draw @ 24V		
Tail	0.13 A	0.13 A
Marker	0.04 A	0.04 A
Power	3.6 W	3.1 W

Product may not be available in all territories. Please check with your local TYRI office.

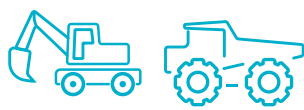
1005A MARKER

The 1005A Marker LED is the smallest of the TYRI markers. It is available with flying leads and UL approval, ensuring it is a smart choice for your market needs. Additional uses for this light is as a dome light or indicator and is available in amber and clear colour lens options.



SUGGESTED APPLICATIONS

The 1005A marker light is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION

MINING

TECHNICAL DATA

Machine voltage:	12 V / 24-48 V
Temperature range:	-40 to +50 °C
Lens material:	Polycarbonate
Housing material:	Polycarbonate
Mounting options:	Flush
Connector:	Flying Leads
Weight:	TBC



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS



IP69K

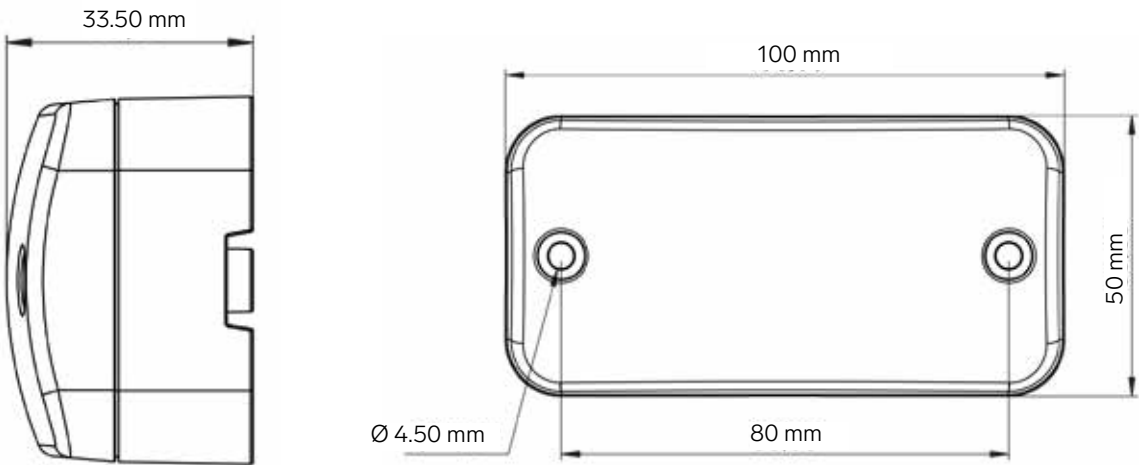



EN55025 / CISPR 25 Class 5
ISO 11452-2 / ISO 11452-4
ISO 16750-2 / ISO 10605
ISO 7637-2



UL Rated Optional

TYRI's testing standards can be found at: www.tyrilights.com



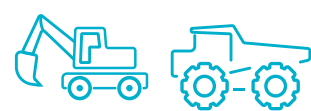
LED COLOUR	VOLTAGE		AMP DRAW		POWER	 EN55025 / CISPR25
	Machine	Operating Range	12 V	24 V	Watts	
Amber	12 V	9-16 V	0.08 A		1 W	5
Amber	24-48 V	18-60 V		0.04 A	1 W	5
White	12 V	9-16 V	0.08 A		1 W	5
White	24-48 V	18-60 V		0.04A	1 W	5

1409A MARKER

The 1409A LED is the ideal marker light for dump trucks and other heavy equipment. It is tough and durable as well as being flush mounted. This versatile LED is a very popular choice as it can truly integrate into your machines design and is available in additional colour lens options.

SUGGESTED APPLICATIONS

The 0910A marker light is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION

MINING

TECHNICAL DATA

Machine voltage: 24 V
Temperature range: -40 to +75 °C
Lens material: Polycarbonate
Mounting options: Flush
Connector: Built in harness
Deutsch (DT04-3P)
Weight: TBC



Overheating Protection



Over-voltage Protection



Polarity Protection

TEST STANDARDS

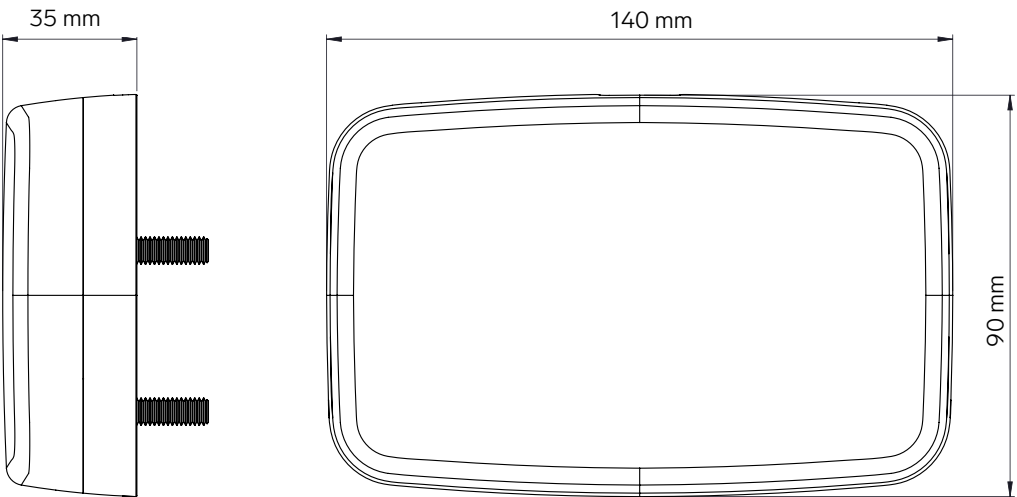



IP69K



EN55025 / CISPR 25 Class 5

TYRI's testing standards can be found at: www.tyrilights.com



LED COLOUR	VOLTAGE		AMP DRAW	POWER	 EN55025 / CISPR25
	Machine	Operating Range	24 V	Watts	
Red	24 V	18-32 V	0.04 A (turn) 0.2 A (Stop)	2/5 W	5
Amber	24 V	18-32 V	0.04 A (turn) 0.2 A (Stop)	2/5 W	5

Product may not be available in all territories, please check with your local TYRI office

1706A MARKER

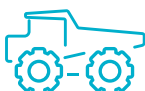
Ensure clear signals, whether you are reversing, indicating or stopping your machine, with the 1706A Marker LED. The oval shape and size of this light is common on many vehicles and it is available with red, white or amber LED colours. The rubber grommet allow for an easy flush installation on 12 or 24 volt vehicle systems.

SUGGESTED APPLICATIONS

The 1706A marker light is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



MINING



MATERIAL HANDLING



TECHNICAL DATA

Machine voltage: 12 V / 24 V
Temperature range: -40 to +50 °C
Lens material: Polycarbonate
Housing material: Polycarbonate
Mounting options: Flush
Connector: 3 way super seal
Weight: TBC



Overheating Protection



Over-voltage Protection



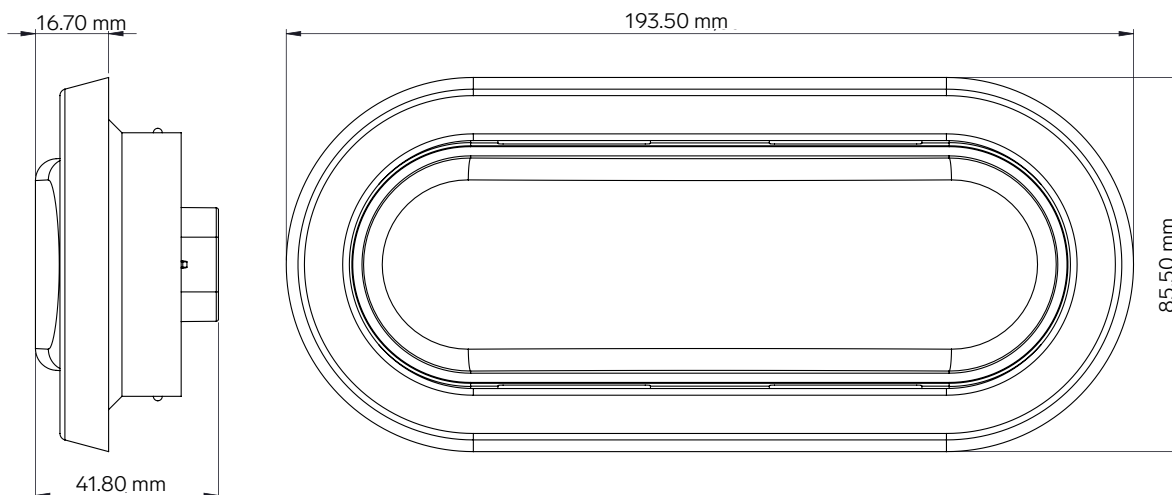
Polarity Protection

TEST STANDARDS



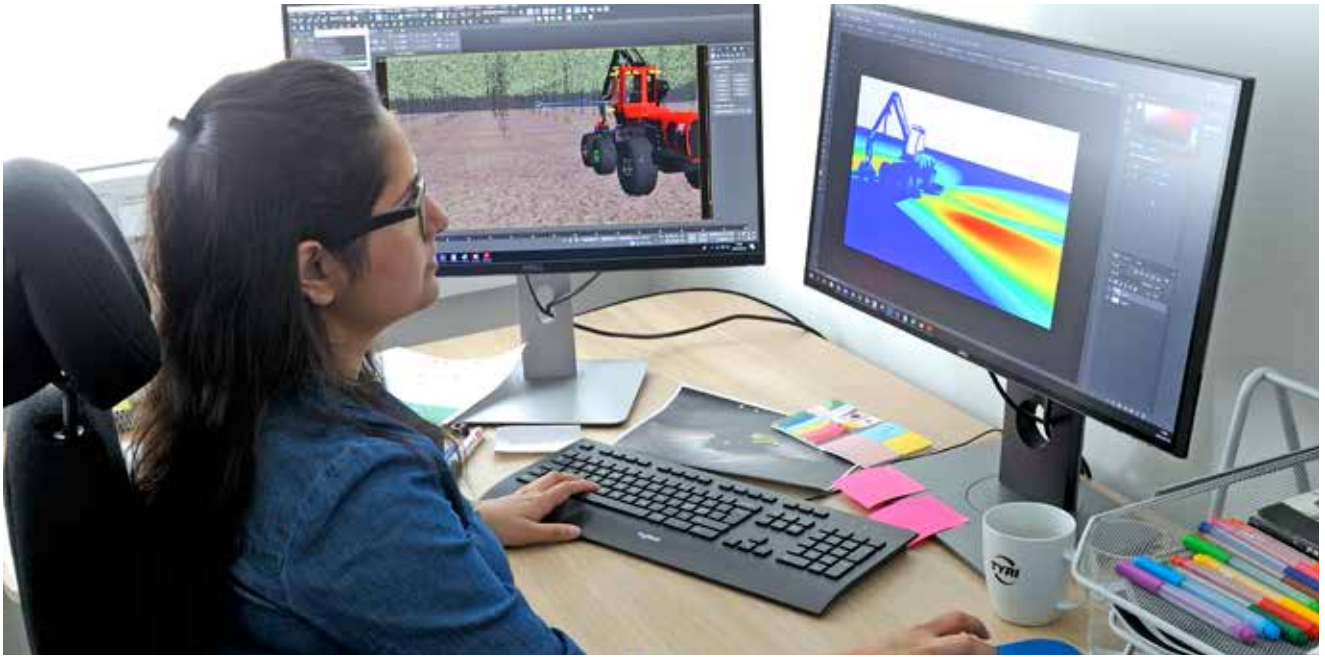
IP69K

TYRI's testing standards can be found at: www.tyrilights.com



LED COLOUR	VOLTAGE		AMP DRAW		POWER Watts	EMC EN55025 / CISPR25
	Machine	Operating Range	12 V	24 V		
Red (stop/tail)	12 V	9-16 V	0.04 A (tail) / 0.2 (stop)		1 W	5
Red (stop/tail)	24 V	18-32 V	0.02 A (tail) / 0.2 (stop)		1 W	5
Amber (turn)	12 V	9-16 V	0.4 A		1 W	5
Amber (turn)	24 V	18-32 V	0.3 A		1 W	5
White (reverse)	12 V	9-16 V	0.1 A		1 W	5
White (reverse)	24 V	18-32 V	0.1 A		1 W	5
Green (indicator)	12 V	9-16 V	0.1 A		1 W	5
Green (indicator)	24 V	18-32 V	0.1 A		1 W	5

Product may not be available in all territories, please check with your local TYRI office

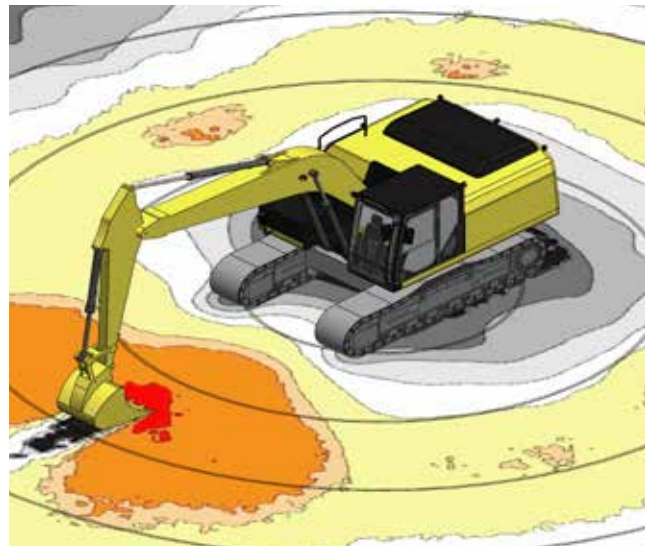


STIMULATING SIMULATIONS

Knowing how your lighting is going to perform is vital to a design. TYRI uses customer specific 3D data to create a simulation that examines the light from all perspectives.

When developing a new work light, the careful calculation of lumen output, spread and position is essential for the product's efficacy. A 3D simulation helps determine the exact shape and positioning of the work light, how the light will fall, highlights any shadows and how to create a unified lighting solution.

TYRI produces these simulations, in house, using specialist software. Giving customers a unique insight before a product is created – ensuring that the lighting performs as expected when incorporated into the completed machine design.





HALOGEN LIGHTING TECHNOLOGY

TYRI Halogen work lights are designed to meet the requirements of the agricultural, construction, mining, forestry, material handling and related OEM sectors. The housing of the lights is available in rugged nylon and for more severe applications a dampened shock resistant design is available to ensure a long life under tough, rugged conditions. Our Halogen lights carry an IP rating of 69K and have been tested to withstand vibration, dust/dirt and water. This quality constructed light is suited to all off highway applications.

D10 SWIVEL HALOGEN

The D10 Swivel halogen light is an attractive round work light mounted on a swivel mount which allows placement adjustment as needed.

SUGGESTED APPLICATIONS

The D10 Swivel halogen is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE



MATERIAL HANDLING



SMALL MACHINERY



TECHNICAL DATA

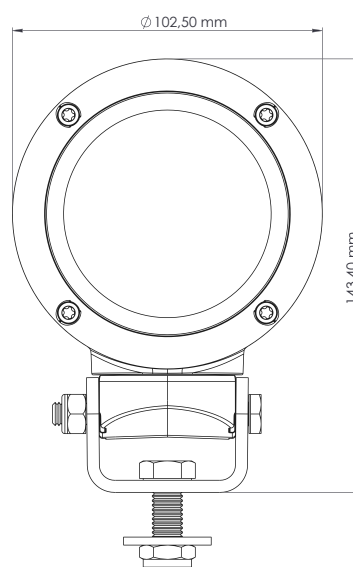
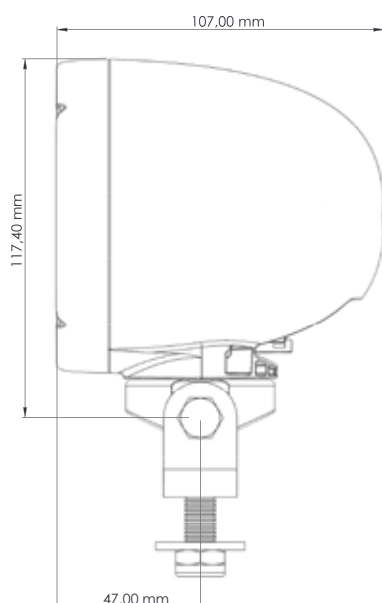
Housing Material:	PA6	Bulb:	H9	65 W
Mounting Options:	Hanging Standing Side Swivel	Voltage	12 V	
Lens Material:	Glass	Connector:	Deutsch (DT04-2P) built in Compression seal w/pigtail harness	
Lens Colour:	Clear			
Light Patterns:	Symmetric Asymmetric			

TEST STANDARDS

	Salt Spray ASTM B117 500 h
	Vibration 5-2000 Hz 3 Axis, 8 Grms
	IP69K

Consult www.tyrlights.com for additional lens & mounting options

TYR's testing standards can be found at: www.tyrlights.com



1010 H9 HALOGEN

The 1010 H9 halogen uses a significantly brighter H9 bulb than other work lights in the TYRI halogen range. The powerful light beam can be directed by a variety of lens patterns including symmetrical and high beam.



SUGGESTED APPLICATIONS

The 1010 H9 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE




MATERIAL HANDLING



SMALL MACHINERY

TECHNICAL DATA

Housing Material:	PA6	Bulb:	H9	65 W
Mounting Options:	Hanging Standing Side	Voltage:	12 V	
Lens Material:	Glass	Connector:	Deutsch (DT04-2P) built in Compression seal w/pigtail harness Spade (1/4" - 6.35 mm)	
Lens Colour:	Blue Amber Red Yellow		Dampened	
Light Patterns:	Symmetric High			

TEST STANDARDS



Salt Spray ASTM B117 500 h



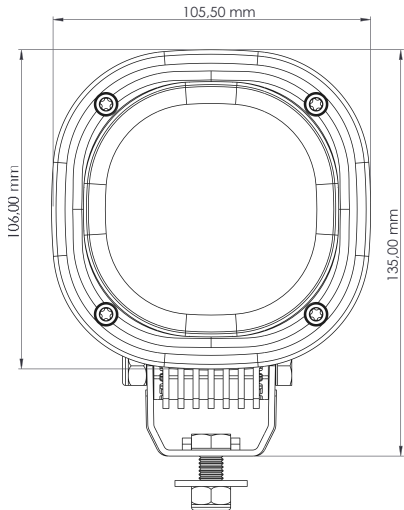
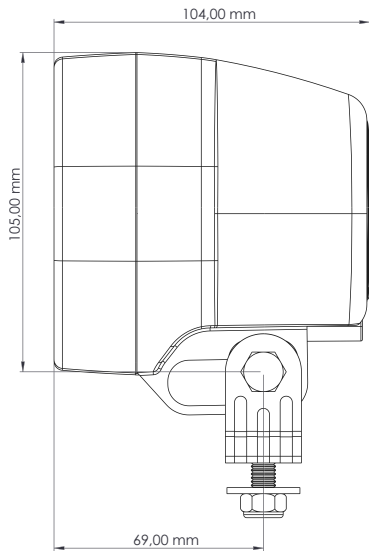
Vibration 5-2000 Hz 3 Axis, 8 Grms



IP69K

Consult www.tyrilights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com



1010 HALOGEN

The 1010 halogen work light reflects TYRI's recognisable square design. The powerful light beam can be directed by a variety of lens patterns including symmetrical, asymmetrical and high beam for maximum reach.

SUGGESTED APPLICATIONS

The 1010 range is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE




MATERIAL HANDLING







SMALL MACHINERY



TECHNICAL DATA

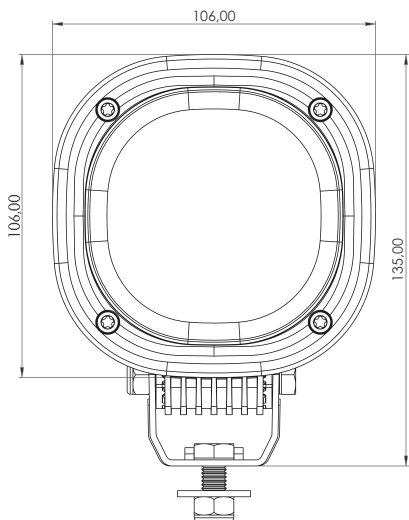
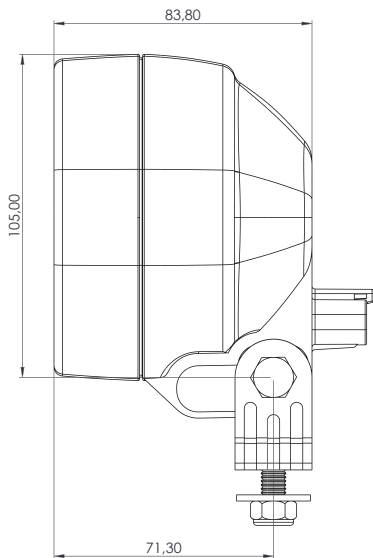
Housing Material:	PA6	Bulb:	H3	25 W
Mounting Options:	Hanging Standing Side Flush			35 W 50 W 50 W LL
Lens Material:	Glass	Voltage:		12 V / 24 V
Lens Colour:	Blue Amber Red Yellow	Connector:	Deutsch (DT04-2P) built in Compression seal w/pigtail harness Spade (1/4" - 6.35 mm)	
Light Patterns:	Symmetric Asymmetric High		Dampened	

TEST STANDARDS

	Salt Spray ASTM B117 500 h
	Vibration 5-2000 Hz 3 Axis, 8 Grms
	IP69K
	UL Rated Optional

Consult www.tyrilights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrilights.com



1014 HALOGEN

This work light can be used to provide usable light on surface or underground machines. The vibration dampened housing option can extend the life of the bulb and coupled with the corrosion resistant coating ensures this light withstands the harshest of environments. The 1014 Halogen is available with the additional option of a side mount, allowing this work light to be installed in a multitude of locations.

SUGGESTED APPLICATIONS

The 1014 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE



MATERIAL HANDLING



SMALL MACHINERY



TECHNICAL DATA

Housing Material:	PA6	Bulb:	H9	25 W
Mounting Options:	Hanging			35 W
	Standing			50 W
	Side			55 W
Lens Material:	Glass			55 WLL
Lens Colour:	Blue			65 W HD
	Amber			70 W
	Red	Voltage:	12 V / 24 V	
Light Patterns:	Symmetric	Connector:	Deutsch (DT04-2P) built in	
	Asymmetrical		Compression seal	
			w/pigtail harness	
			Spade (1/4" - 6.35 mm)	
			Dampened	



TEST STANDARDS



Salt Spray ASTM B117 500 h



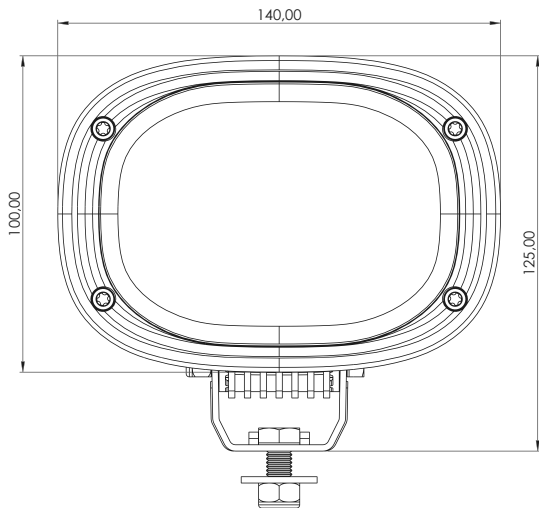
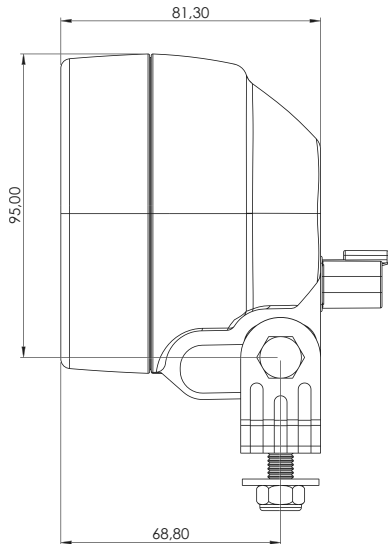
Vibration 5-2000 Hz 3 Axis, 8 Grms



IP69K

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



1015 HALOGEN

The 1015 halogen is designed in an oval shape. This work light is the perfect solution for lighting broad work areas. To ensure long life under tough, rugged conditions, the 1015 Halogen is available with vibration dampening and corrosion resistant hardware.

SUGGESTED APPLICATIONS

The 1015 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE



MATERIAL HANDLING



SMALL MACHINERY



TECHNICAL DATA

Housing Material:	PA6	Bulb:	H3	25 W
Mounting Options:	Hanging Standing			35 W
				55 W
Lens Material:	Glass			55 WLL
Lens Colour:	Clear			65 W HD
Light Patterns:	Asymmetrical			70 W
				12 V / 24 V
		Voltage:	Deutsch (DT04-2P) built in	
		Connector:	Compression seal w/pigtail harness	



Dampened

TEST STANDARDS



Salt Spray ASTM B117 500 h



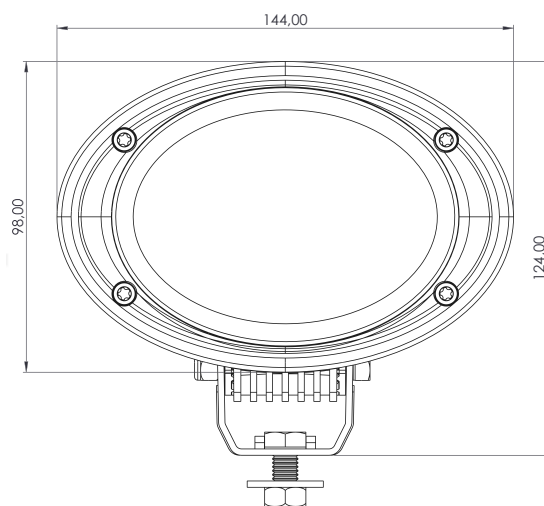
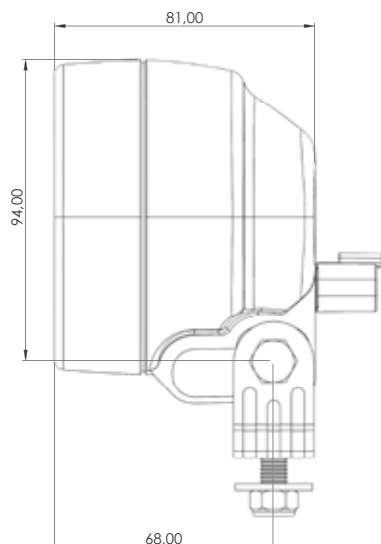
Vibration 5-2000 Hz 3 Axis, 8 Grms



IP69K

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



1117 HALOGEN

The 1117 halogen is available in a Single Reflector (SR) and Dual Reflector (DR) model. This halogen work light is a powerful oval shaped halogen light which is ideal in a wide range of applications. The 1117 halogen is extremely adaptable with a variety of mounting options and lighting patterns.

SUGGESTED APPLICATIONS

The 1117 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE



MATERIAL HANDLING



SMALL MACHINERY



TECHNICAL DATA

Housing Material:	PA6	Bulb:	H3	25 W
Mounting Options:	Hanging Standing			35 W
				50 W
Lens Material:	Glass			55 W
Lens Colour:	Blue			55 WLL
	Amber			65 W HD
	Red			70 W
	Yellow	Voltage:	12 V / 24 V	
Light Patterns:	Symmetrical Asymmetrical High	Connector:	Deutsch (DT04-2P) built in Compression seal w/pigtail harness Spade (1/4" - 6.35 mm)	



Dampened

TEST STANDARDS



Salt Spray ASTM B117 500 h



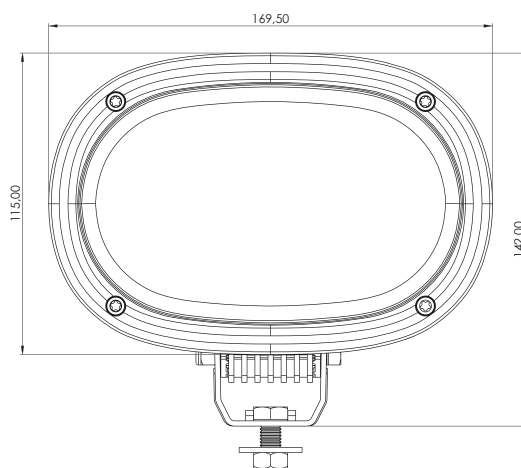
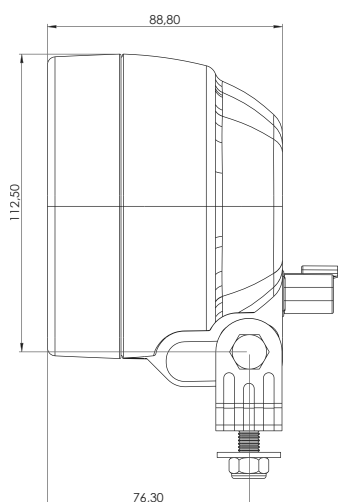
Vibration 5-2000 Hz 3 Axis, 8 Grms



IP69K

Consult www.tyrlights.com for additional lens & mounting options

TYRI's testing standards can be found at: www.tyrlights.com



1313 HALOGEN

The 1313 halogen is a powerful rounded square shaped halogen work light with a powerful lighting beam. This work light is available with a number of options, including being supplied with a handle to allow the light to be transported to other machines safely and easily. The larger size of this work light helps to prolong the life of the bulb by allowing better dispersal of heat.

SUGGESTED APPLICATIONS

The 1313 is highly adaptable and can be used across numerous applications worldwide, including:



CONSTRUCTION



AGRICULTURE



MATERIAL HANDLING



SMALL MACHINERY



TECHNICAL DATA

Housing Material:	PA6	Bulb:	H3	25 W
Mounting Options:	Hanging			35 W
	Standing			50 W
Lens Material:	Glass			55 W
Lens Colour:	Blue			55 WLL
	Amber			65 W HD
	Red			70 W
	Yellow	Voltage:	12 V / 24 V	
Light Patterns:	Symmetrical	Connector:	Deutsch (DT04-2P) built in	
	Asymmetrical		Compression seal	
	High		w/pigtail harness	
	Low		Spade (1/4" - 6.35 mm)	



Dampened

TEST STANDARDS



Salt Spray ASTM B117 500 h



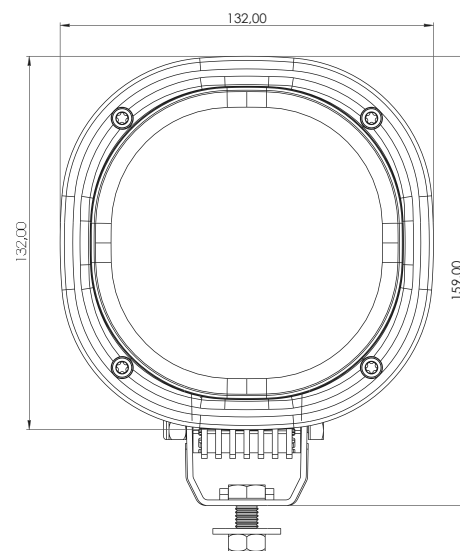
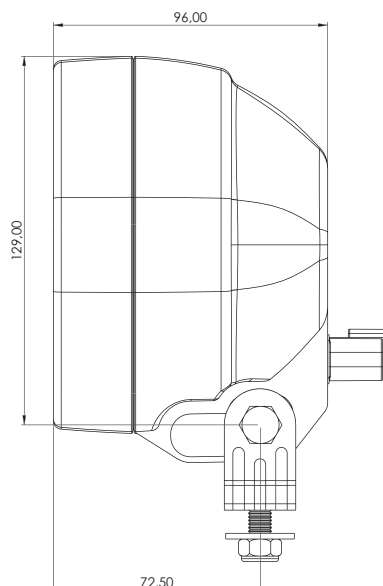
Vibration 5-2000 Hz 3 Axis, 8 Grms



IP69K

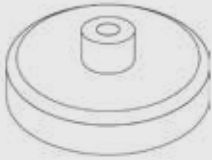
Consult www.tyrlights.com for additional lens & mounting options

TYR's testing standards can be found at: www.tyrlights.com



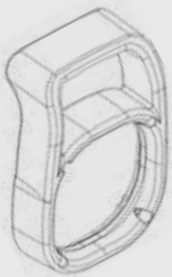
ACCESSORIES

TYRI lights are available with a wide range of options and accessories to help you equip your vehicle with the perfect lighting solution.



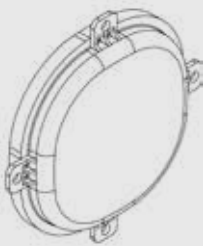
Magnet Mount

The magnet mount is used as an anti-theft device when machines are not in use. Operators can easily remove the work lights by hand at the end of a work shift to be stored in a secure location.



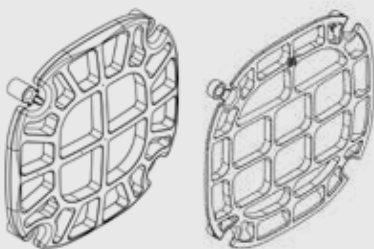
Handle Bezel

The handle bezel is available on 1010 Curve 4 LED model and allows for easy adjustment of the light, while it is switched on, to position the light beam where you need it the most.



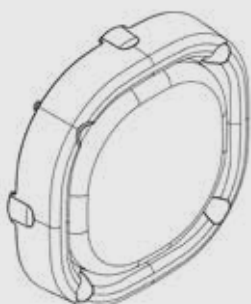
Replacement Lens

Damage to lights can be expensive to repair so a replaceable lens can make this task much more cost effective. Similarly, if a different light pattern is needed, a replacement lens is a practical solution and is available on a variety of lenses. Please speak with your local TYRI office for further information.



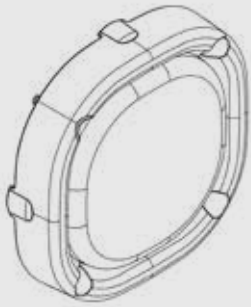
Lens Guard

Lens guards provide additional protection, durability and a more rugged appearance. The TYRI Lens guard is available on various 1010 models.



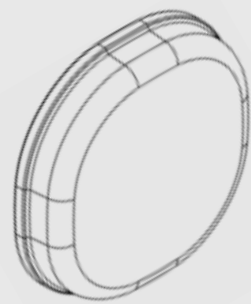
Glass Lens Kits

In extremely high heat applications such as blast furnaces and smelting operations, glass lens kits provides additional resistance against the temperature and abrasiveness. These kits are available on all TYRI 1010 and TYRI 1313 models.



Glass Lens Kits

In extremely high heat applications such as blast furnaces and smelting operations, glass lens kits provides additional resistance against the temperature and abrasiveness. These kits are available on all TYRI 1010 and TYRI 1313 models.



Coloured Lenses

Depending on the application, a coloured lens may be needed. The most common coloured lenses available are blue, amber, red and yellow.

- Blue glass lenses are used with halogen lights to match HID colour temperatures.
- Amber glass can be used as a halogen warning or directional light.
- Red are commonly used for stop signals.
- Yellow are used as fog lighting to offer improved detail and contrast in hazy or dusty atmospheres.

Lens colours available:



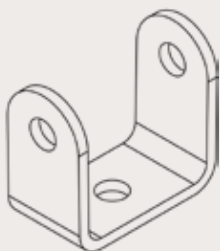
Coloured lenses are not fitted as standard. Should you require a coloured lens, please contact your local TYRI office and we will be pleased to provide you with further details.

Impact Resistant Lenses

TYRI lenses are manufactured with impact resistant plastic to ensure they are able to withstand the harsh environments of the off highway industry. These lenses are fitted as standard across our range.

BRACKETS

TYRI lights have the option of dampened or undampened housing brackets for standard placements such as standing or hanging. Dampened brackets are recommended for demanding and harsh off highway applications as they offer some stability in environments where lights are subjected to excessive vibration. These brackets are available in 25mm, 30mm, or 40mm standard heights and most brackets are available in three standard mounting bolt sizes; M8, M10 or M12.



LED Bracket Shown

Brackets for Dampened Housing

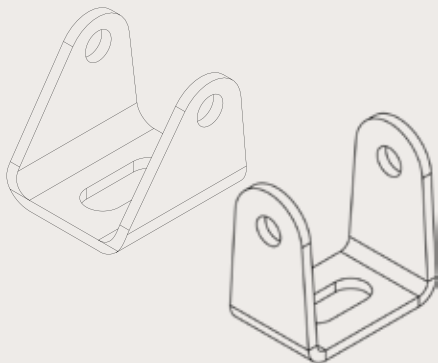
The dampened bracket is an ideal solution for high vibration applications. The bracket mounts directly through the vibration dampener onto the light and is available in 25mm, 30mm and 40mm heights for M8 or M10 size bolts.



Halogen Bracket Shown

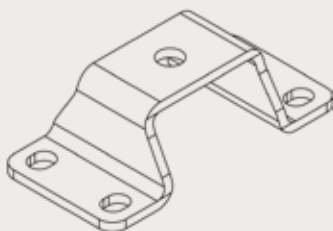
Brackets for Undampened Housing

The undampened bracket mounts directly to the light and is available in 25mm, 30mm and 40mm heights for M8, M10 or M12 size bolts.



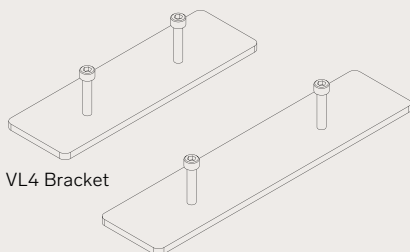
Slide Bracket

The slide bracket gives you more flexibility when mounting a work light. It allows the light to move left to right in pedestal and hanging applications or up and down on side mounted applications. This bracket is suited to a LED work light.



Chassis 5 Hole Mounting Bracket

Where a through bolt hole would not be suitable, this bracket can be fixed to a machine by the use of screws. The work light can then be mounted to the bracket via the centre hole.

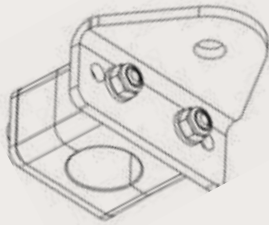


VL4 Bracket

VL6 Bracket

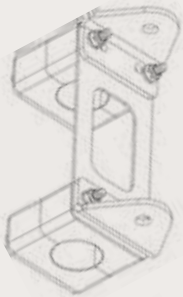
VL Easy Mount

The VL Easy Mount is designed specifically for use on the VL6 LED range. The mounting plate comes equipped with 3M double sided tape to secure the light in the position required.



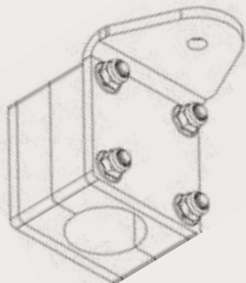
Single Handrail Bracket

The single handrail bracket allows a work light to be mounted on a handrail of your machine, without the need for drilling or modifications. This mount fits 20mm, 25mm, 27mm and 35mm handrails, is dampened, and vibration tested.



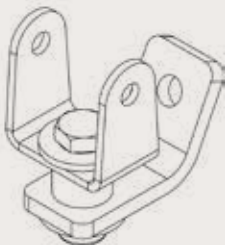
Dual Handrail Bracket

The dual mount handrail bracket allows two or more lights to be positioned on the handrail of a machine with the additional stability of a double mount. This bracket mounts to 20mm, 25mm, 27mm and 35mm handrails, is dampened, and vibration tested.



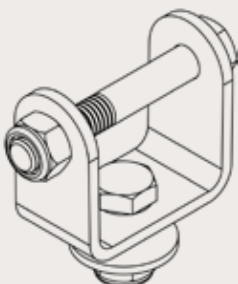
Heavy Duty Single Handrail Bracket

Similar to the single handrail bracket, this heavy duty version is designed for mounting of larger LED lights to a hand rail of a machine. Particularly effective in the harshest conditions where additional support and strength is needed, it mounts to 20mm, 25mm, 27mm and 35mm handrails, is dampened, and vibration tested.



Angle Mount Kit

The angle mount kit is ideal for fixing two work lights in the same location without the need for modifications to the machine. We recommend that this double mount kit is paired with the Deutsch Divider for ease of installation.



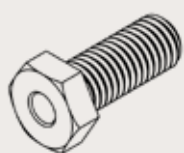
Stainless Steel Hardware

Stainless steel is known for its resistance to corrosion, rusting, and staining over conventional steel, making marine and salt mine applications a popular fit. This bracket is also recommended for high vibration machines, due to its strength.



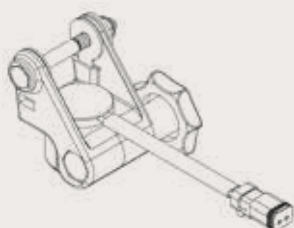
Dampened Halogen Bracket Kit

To lengthen the life of a halogen work light, the dampened halogen bracket kit is designed to withstand higher levels of vibration.



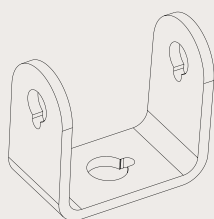
Hollow Bolt

The hollow bolt fits an M12 bolt and is an excellent option when mounting lights in areas such as fenders, where you want to limit the amount of holes required for installation. The wires are able to run thru the hollow bolt to power the light, requiring only one mounting hole.



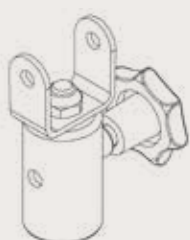
Pole Brackets with electrical connection

TYRI's pole brackets allow a work light to be fixed to the top of a 24mm cylindrical pole for quick and easy connection and disconnection. They are supplied with an integrated connector and are designed according to DIN 4165.



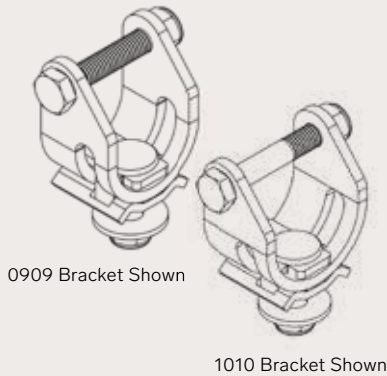
Captive Bracket

The Captive Bracket has been developed with simplicity in mind. Its pioneering design eliminates the need for two wrenches during installation by use of a special 'lock in' bolt, saving on time and money. Designed to fit most dampened LED work lights, this bracket is works with M8 and M10 mounting bolts options.



Fire Fighter Bracket

The Fire Fighter bracket fits a 30 mm cylindrical post to allow easy connection and disconnection. They are designed according to DIN 4165.



Universal Bracket

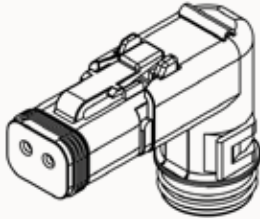
The Universal bracket provides superior holding/clamping in high vibration/shock applications in comparison to standard brackets.

Custom Bracket

For an unconventional light positioning, you may require a custom bracket to suit the application. TYRI works with our customers to first, find the correct lighting solution, and then create a custom bracket.

*Some brackets may not be available on all TYRI work light models, please contact TYRI for further information

CONNECTORS



Deutsch to ADR Approved Connection

A Deutsch (DT04-2P) connector attaches to a work light and converts the plug to an ADR approved connection. This connector is ADR approved for vehicles transporting or hazardous goods in bulk.



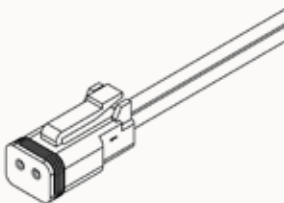
Deutsch Divider 1:2

This Deutsch Divider converts one Deutsch (DT04-2P) connection into two Deutsch (DT04-2P) connections to easily allow two work lights to be connected. Available in 3 sizes; 265mm, 300mm and 500mm.



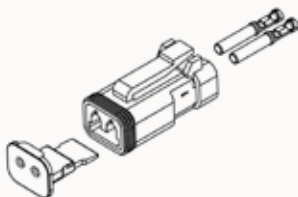
Coil Cable

The coil cable plugs the Deutsch (DT04-2P) into a work light and the opposite end into the outlet on your vehicle for an instant power source. This connector works seamlessly with the magnet mount accessory for an effective portable lighting solution.



Deutsch Wire Harness

Available in 50cm and 100cm lengths, this wire harness attaches to a work light equipped with Deutsch (DT04-2P) connector and converts it into two 16 gauge wire leads for easy installation.



Deutsch (DT04-2P) Connector Kit

This complete kit provides the parts needed to connect a TYRI work light to your machine.





DESIGN PARTNER

TYRI understands that as an OEM you have a vision of how your machinery will look and perform. We will work with you to ensure our lights complement both your design and functionality. Creating a practical and robust machine does not mean you have to compromise on style over performance. TYRI's flexibility makes us the ideal design partner and industry leader in off highway lighting.

TYRI is able to make small modifications as well as design a completely new work light and bracket specifically for your machine. Working with your designers, we can drastically improve the look and performance of your lighting.

To find out more information visit:
www.tyrilights.com



FAQ

Why LED?

As the latest and fastest growing technology, LED is the most cost effective and environmentally friendly lighting available. LED has a long burn life, low power consumption and exact optics which makes it the smart choice for long term cost savings. It also emits a bright, white light; closer to that of the daytime sun. This allows machine operators to see clearly with less strain on their eyes compared to other lighting technologies such as Halogen and HID (Xenon) which typically emit a more yellowish light.

What is a Lumen Value?

A lumen is the value placed on the amount of all light a source emits and can be described as Theoretical, Cold or Effective. These values are explained below:

Theoretical – This is the maximum light you could obtain if nothing else impacted the light, such as optics, reflectors or heat.

Cold - The cold lumen rating is measured when the LED light is first switched on, it will continually decrease until the LED work light has reached its operating temperature.

Effective - Once the light has reached its operating temperature, we then measure the lumen output in effective lumen. This is the most reliable and honest rating of lumen.

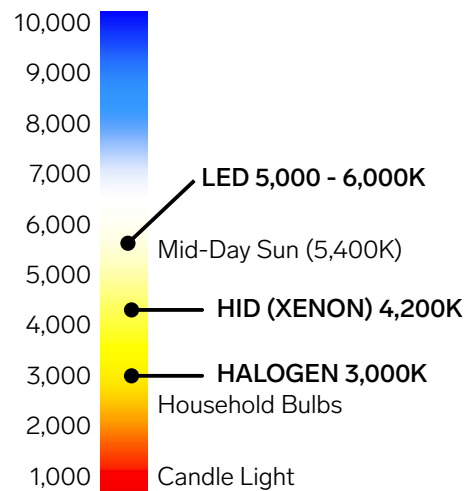
Does the Watts value tell me the light output?

Often confused with the light output, watts actually measures the amount of energy a work light draws. To gauge how much light you will receive, the effective lumen value is the correct measurement to observe.

Does electronic compatibility matter?

LED lights contain circuitry, which could influence other electronic devices. This interference can be heard as noise on the radio or cause a monitor to flicker. To ensure work lights do not impair other radio devices, it is essential that they are tested to comply with industry standards and given an EMC class rating, the best industry being class 5.

KELVIN (°K) LIGHT COLOUR TEMPERATURE



What is Colour Temperature?

Colour temperature measures one characteristic of visible light and is rated against a Kelvin scale (°K). Generally, the human eye functions more effectively when objects are illuminated by a light source that is closest to the mid day sun, which is around 5500°K. From a health and safety perspective, this translates to a safer, more productive environment.

What are Lux and Footcandle values?

Illumination (luminance) is light density falling upon a surface. The name Footcandle conveys the luminance cast on a surface by a one Candela source, one foot away. Similarly, a Lux value measures the luminous flux per unit area. Therefore:

1 Lux = 1 lumen per square meter

5 Lux = 5 lumen per square meter

1 Footcandle = 1 lumen per square foot

5 Footcandle = 5 lumen per square foot

What is a Candela?

Luminous intensity is light intensity through space. Luminous Intensity is expressed in Candela; the greater the Candela, the brighter the light.

How do I calculate watts, volts and amperage requirements?

Wattage is the amount of volts and amps needed to power a device and is calculated by multiplying the voltage by the amps. The higher the wattage, the more power is needed. Volts and Amps can be calculated by dividing the wattage by the Amp value to gain the Voltage, and by the voltage to gain the amp value. As per below:

$$\begin{aligned}\text{Watts (W)} &= V \times A \\ \text{Voltage (V)} &= W / A \\ \text{Amps (A)} &= W / V\end{aligned}$$

What is the effect of voltage on bulb life and light output?

Halogen bulbs are manufactured to operate at a 'design voltage' or rated voltage such as 12v or 24v. Bulb output and light statements are based on results of testing bulbs at their rated voltage. Operating a bulb at more than its rated voltage affects its life span and the output given.

UNDERRATED BULB VOLTAGES (100%<)			
Volts %	Amps %	MSCP %	Life %
99	99.4	96.5	112.8
95	97.2	83.6	185.1
90	94.4	69.2	354.1
80	88.5	45.8	1445.2

OVERRATED BULB VOLTAGES (100%<)			
Volts %	Amps %	MSCP %	Life %
101	100.5	103.5	88.7
105	102.7	118.6	55.7
110	105.4	139.6	31.9
120	110.5	189.3	11.2

NOTE: Total Bulb Light Output is measured in Mean Spherical Candle Power (MSCP)

Illumination Examples

LUX	
Sun Light	50,000-100,000
Football Field	200-1,000
Shopping Centre	30-1,000
Gas Station	15-500
Work Area	15-500

What is the Nominal Amp Draw (Consumption)?

LED Work Lights

LED work lights with equivalent light now have less amp draw than halogen & HID lights. Refer to LED section for amp draw data.

Halogen Work Lights

	35W	55W	65W	70W
12V	2.9 Amps	4.6 Amps		
24V	1.5 Amps	2.3 Amps	2.7 Amps	2.9 Amps

Lumen Output - Halogen & HID (Xenon) Lights

LIGHT	THEORETICAL LUMEN OUTPUT
Halogen 12V 35W	700 Lumen
Halogen 12V 55W	1,350 Lumen
Halogen 24V 65W	1,250 Lumen
Halogen 24V 70W	1,700 Lumen
HID (Xenon) 12V or 24V 35W	3,200 Lumen
HID (Xenon) 12V or 24V 45W	4,200 Lumen

What Can I Expect for Service Life?

TECHNOLOGY	HOURS
HALOGEN	500 to 1,000 hours
HID (Xenon)	4,000 to 6,000 hours
LED	40,000 hours*

*40,000 hours is reference to the LED manufacturer statement, based on test conditions and does not represent a statement of warranty

NOTES

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