

The Essential Guide to Construction Lighting



This symbol indicates that you can find related information, just click the link or find the corresponding page.





PERFECT YOUR ILLUMINATION

NORDIC LIGHTS® work lights change the operating experience completely. Operators will have a perfectly illuminated, unobstructed view of the area around and in front of the vehicle. Our lights minimize downtime, help avoid accidents, and boost productivity on the construction site.

Over 30 years of product development and field tests with the largest construction vehicle manufacturers in the world is our proof of concept. Make construction jobs easier, safer, and more productive with Nordic Lights expertly planned lighting solutions.



Save Money



Avoid Accidents



Increase Productivity

FEATURED TOPICS

Optimize your lighting

Excavator

Wheel loader

Tech talk

Color temperature

CRI

Glare-free lighting

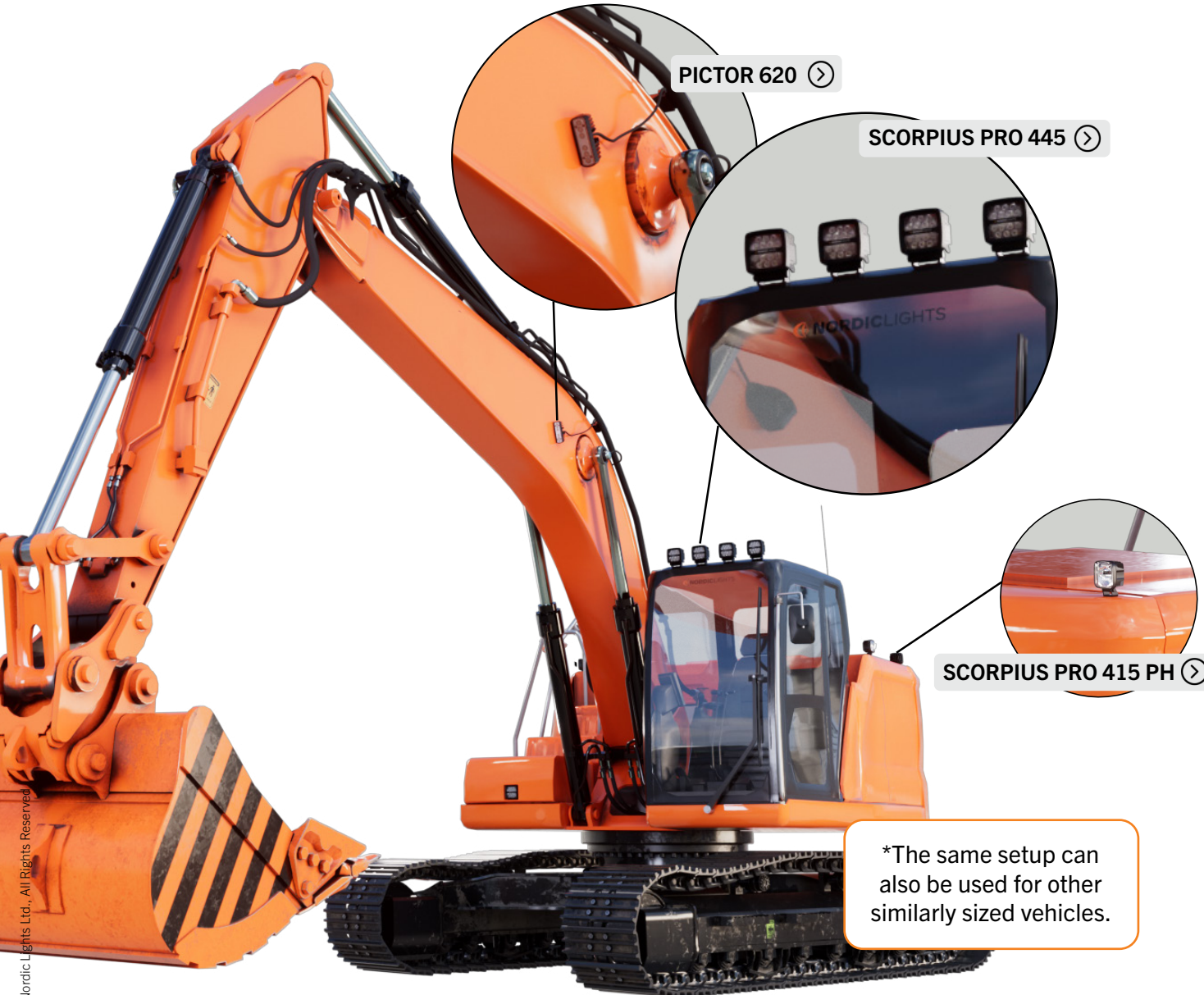
Light patterns

Products



Dig what you see

Medium-sized excavator



PICTOR 620 >

SCORPIUS PRO 445 >

SCORPIUS PRO 415 PH >

*The same setup can also be used for other similarly sized vehicles.

PROFESSIONAL SETUP

Choose the professional setup for unbeatable productivity and safety – your bottom line will shine. **The PRO Series** lights feature excellent color rendering, optimal color temperature and clever optical solutions to minimize reflections and glare.

Choose the professional setup to:

- Eliminate disturbing glare
- Work with confidence
- Boost operators' energy

THE BUDGET-FRIENDLY OPTION

BASIC SETUP

The basic setup with Scorpius GO 420 hits a sweet spot between value and light output. It boosts visibility, but does not feature the same optical solutions as the professional setup.

Choose a basic setup when you:

- Need standard illumination
- Work in harsh conditions
- Look for a basic solution

Notice the difference

PROFESSIONAL

The professional setup provides excellent forward visibility thanks to four **Scorpius PRO 445** on the cabin. At the same time, one **Pictor 620** on each side of the boom casts light exactly where it's intended, with the targeted illumination eliminating reflections.

Meanwhile, four glare-free **Scorpius PRO 415 PH** on the counterweight (one on each side and two illuminating backwards) make sure that no personnel is blinded by glare.



People working near the vehicle won't be blinded, thanks to Nordic Lights' glare-free technology.



ORIGINAL

The original setup is what the vehicle comes equipped with when it rolls out of the factory. It provides you with general illumination which is rarely optimized. It does not feature our calculated targeted illumination nor the same optical solutions as the Nordic Lights professional setup.



Get a load of this

Medium-sized wheel loader

SCORPIUS PRO 445 >

Scorpius PRO 415 PH >

SCORPIUS PRO 445 >

SCULPTOR 2 >

*The same setup can also be used for other similarly sized vehicles.

PROFESSIONAL SETUP

For ultimate productivity, choose the professional setup. **The PRO Series** lights feature excellent color rendering, optimal color temperature and clever optical solutions to minimize reflections and glare.

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THE BUDGET-FRIENDLY OPTION

BASIC SETUP

The basic setup with Scorpion GO 420 hits a sweet spot between value and light output. It boosts visibility, but does not feature the same optical solutions as the professional setup.

Choose a basic setup when you:

- Need standard illumination
- Work in harsh conditions
- Look for a basic solution

See the change

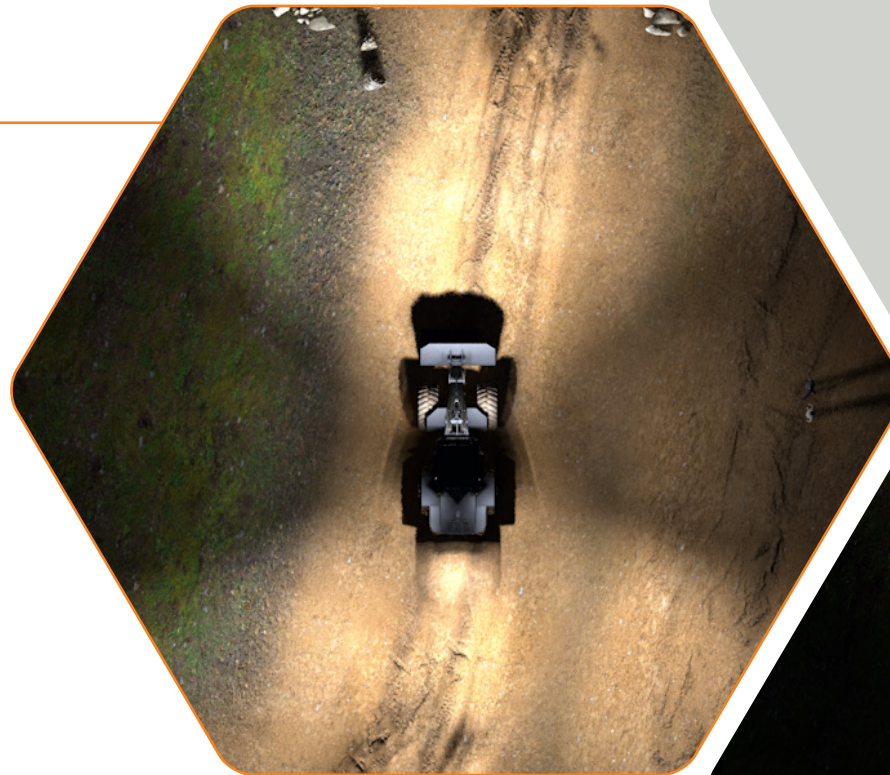
PROFESSIONAL

The professional setup provides 360-degree visibility thanks to eight powerful **Scorpius PRO 445** on the cabin.

Two glare-free **Scorpius PRO 415 PH** illuminate to the left and right of the wheel loader, to make sure that no one working in the vicinity of the vehicle is blinded by glare.



The illumination is even all around the vehicle, resulting in a safe and efficient work area.



ORIGINAL

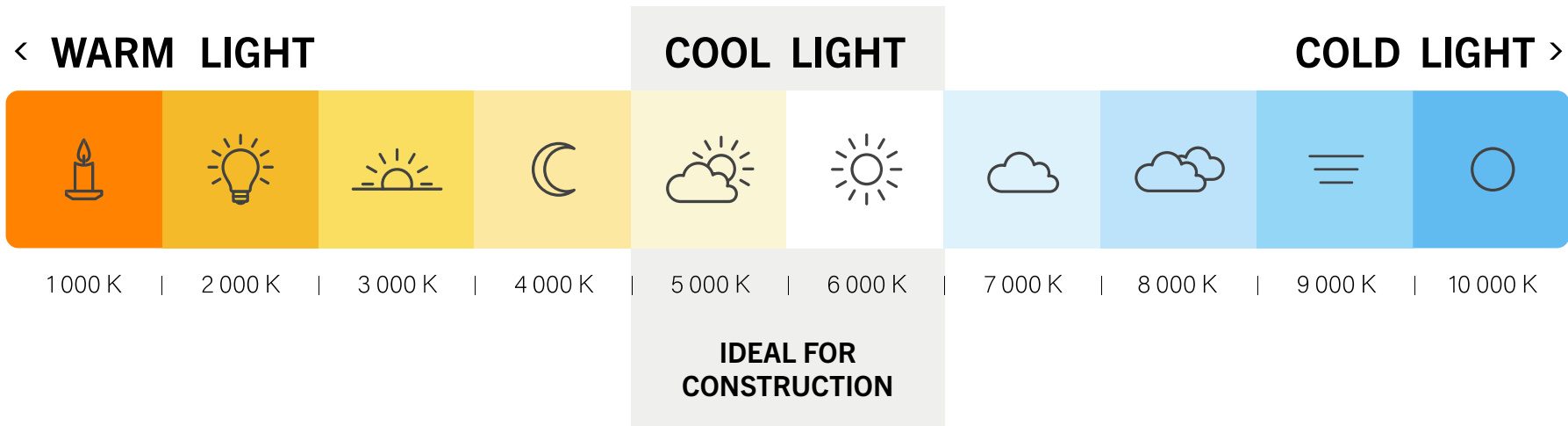
The original setup is what the vehicle comes equipped with when it rolls out of the factory. It provides you with general illumination which is rarely optimized. It does not feature our calculated targeted illumination nor the same optical solutions as the Nordic Lights professional setup.



Boost productivity with the right color

Color temperature, or CCT for short, defines the color appearance of light and is measured in kelvin (K). It tells you whether the light is “warm” (yellow/red) or “cold” (blue). A burning candle has a color temperature of about 1800K (very warm), while a clear blue sky can be up to 10 000K (very cold). CCT impacts how bright a light is perceived when looked at straight on, but it is NOT a measurement of brightness.

Our lights for construction max out at 5700 kelvin, making them an ideal “cool” CCT, like working in daylight. This color temperature energizes operators, reduces eye strain and general fatigue, and keeps personnel alert for longer periods of time, increasing efficiency. Overly cold light (blue light) strains the eyes while extremely warm light (red light) makes operators tired since it increases melatonin production in the central nervous system. Since both can lead to accidents, it is important to strike the right balance in color temperature.



Boost productivity with the right color

DO's

- + Use work lights in the 5000-5700 kelvin range to keep operators more alert and shorten reaction time.
- + Use cool color temperatures similar to daylight to boost the performance of the operators.
- + Minimize the operators' eye strain and general fatigue by choosing a color temperature similar to daylight.



DON'Ts

- Do not use work lights over 5700K in visually challenging environments such as in rain, dust, snow, or fog. Instead, opt for a warmer color temperature.
- Avoid using lights with overly cold color temperatures. Such lights produce inaccurate colors with too much contrast between light and dark, which causes eye strain.
- Do not assume that an overly cold color temperature light is better, simply because it is perceived as brighter. From an operator's perspective, the illumination will not deliver optimal visibility.

Apply the benefits of high CRI

CRI, or Color Rendering Index, measures a light's ability to reproduce colors of objects compared to sunlight. CRI is measured between 0 and 100, with higher values meaning more accurate color rendering. We make lights with a minimum CRI of 80. For comparison, the CRI of the sun is 100.

A high CRI light helps operators identify the correct materials and their respective colour differences on the construction site. Operators will avoid accidents caused by inconsistent CRI, and thus reduce downtime and redoing of the same tasks. A high CRI light setup helps operators make the right decisions at critical moments.

Bad CRI



Good CRI



Apply the benefits of high CRI

DO's

- + Aid operators in making critical decisions by accurately reproducing shades of colors. Move the correct materials and avoid digging into pipes and cables.
- + Utilize high CRI to maximize the workflow and safety of the construction site.
- + Use high CRI lights to increase the situational awareness of operators on busy construction sites.



DON'Ts

- Do not think that brighter lights will result in more accurate colors.
- Do not choose colder temperature lights to get more vibrant colors – it doesn't work.
- Don't underestimate the importance of CRI – bad lighting slows down your business.

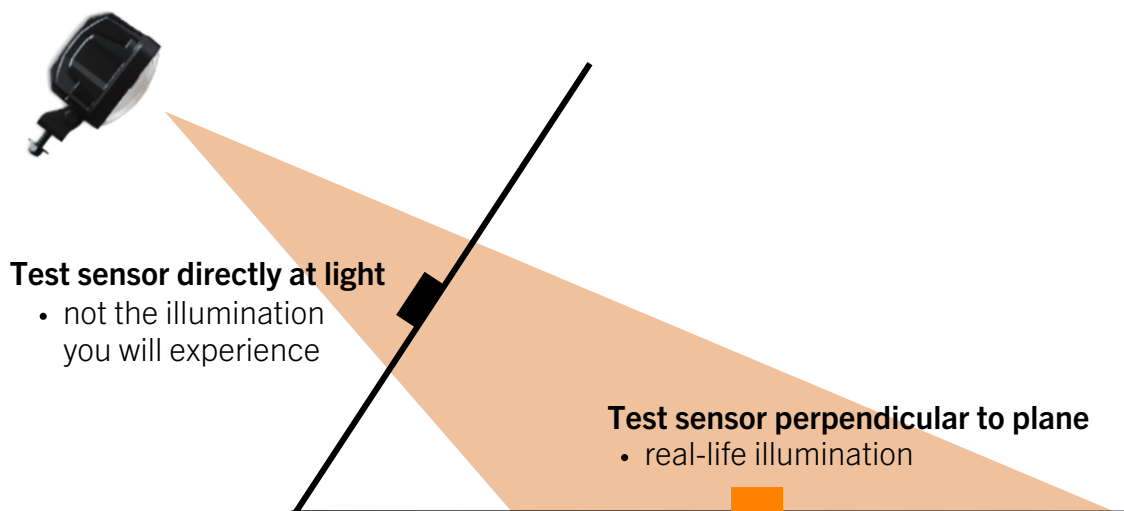
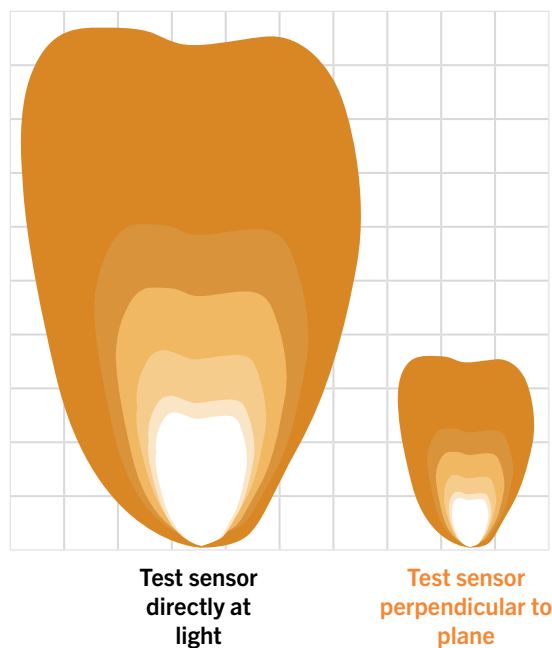
Measuring and selecting light patterns

To determine the light pattern fit for your vehicle, it is important to consider the surrounding circumstances. Are you working in a crowded urban environment, or paving the way for a large-scale infrastructure project? Do you need to light up long distances, or are you looking for excellent near-field illumination? In any case, you will need to choose a suitable pattern for your light.

How a light pattern looks in the field depends on how and where you install the light. We present the light patterns of our work lights with the light tilted at a -17° angle at 3 m height, and always with the test sensor

perpendicular to the test plane. We choose to present our light patterns using this method because, in our opinion, it is the more realistic of the two.

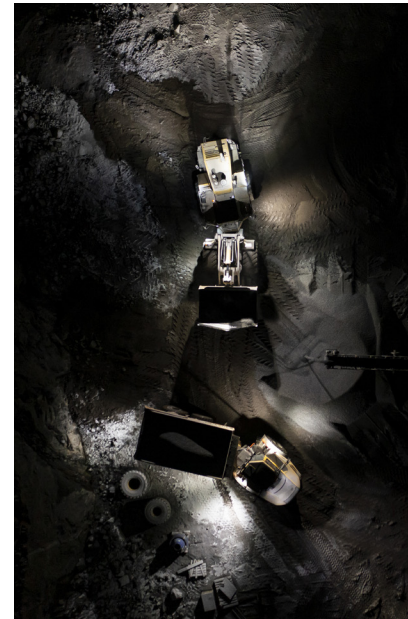
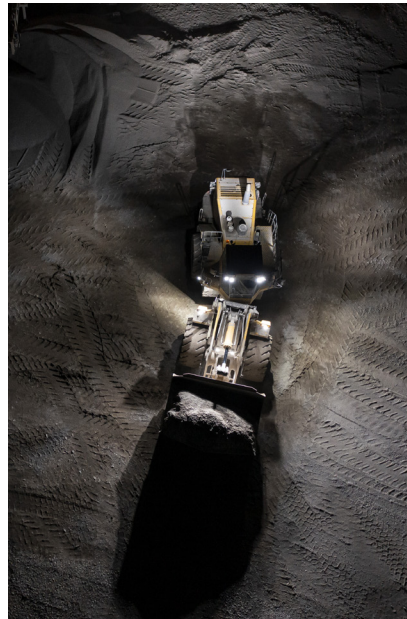
Many light manufacturers present their light patterns with the test sensor pointed directly at the light. This will result in better-looking presentation of the pattern on paper (bigger areas illuminated). It will not depict how much light is actually hitting the work area.



Measuring and selecting light patterns

DO's

- + Pick the right light pattern for the task. Not all patterns are created equal.
- + Trust our experts – our professional upgrade package already ensures even illumination.
- + Compare correctly. Check how the manufacturer measures the illumination.



DON'Ts

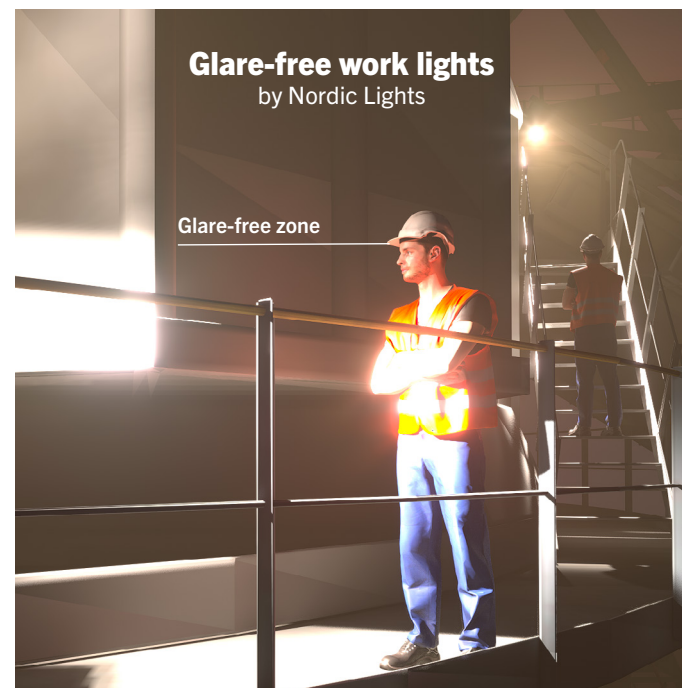
- Do not forget about the ways to measure. We show the illumination as you will experience it in the field.
- Don't look solely at theoretical data – our simulated comparisons illustrate the differences.
- Don't focus on the light pattern of a single product – look at the light distribution of the entire setup.

A glare-free work environment

Standard work lights can cause visibility issues and dangerous situations due to glare. Blinding lights lead to costly mistakes and delays, directly impacting the success of your construction operations.

We offer you different ways to tackle glare on the construction site. The end-results are fewer accidents, less downtime, and a more efficient workflow.

To create a glare-free work environment, we recommend the Canis PRO 415 PH and Scorpius PRO 415 PH. Featuring a clear cut-off-line, these lights eliminate glare on eye-level and provide excellent illumination of the work area. When looked at through mirrors and cameras, these lights minimize disturbing reflections. These work lights feature no stray light, meaning that the illumination is focused on the work area, optimizing lumen output and power consumption.



A glare-free work environment

DO's

- + Ensure safety and efficiency with a glare-free work site
- + Notice the boost in productivity and decrease in accidents.
- + Trust the recommended positioning of the lights. The professional setups feature efficient forward illumination with glare-free lighting in the proper positions.



DON'Ts

- Don't cover or tilt the light. Instead look for a work light with built-in technology.
- Do not underestimate the negative impact of glare – it affects people on and around the construction site.
- Avoid thinking that more lumens equals better illumination of the work area. What matters is the amount of light on the desired area.

PROFESSIONAL SELECTION

Scorpius PRO 445	
Scorpius PRO 430	⤵
Scorpius N4402 WARM	⤵
Canis PRO 330	⤵
Scorpius PRO 415 PH	⤵
Canis PRO 415 PH	⤵
Pictor 620	⤵
Pictor PRO 830	⤵
Sato PRO 725	⤵
Sculptor 2	⤵
Corona 400	⤵

BASIC SELECTION

Scorpius GO 410	⤵
Scorpius GO 420	⤵
Scorpius GO 430	⤵
Canis GO 410	⤵
Canis GO 420	⤵

All of our work lights for construction have the following specifications in common:



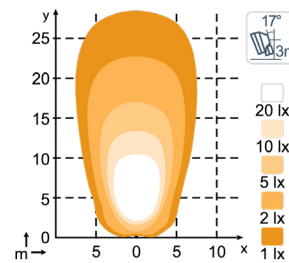
For more specifications, check the product pages below.

Work lights for construction need to be rugged, long-lasting and provide excellent illumination. Both the basic and professional setup include lights suitable for harsh conditions. For ultimate productivity, choose a product from the professional selection.

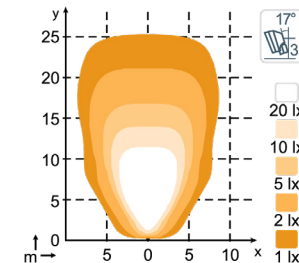


LIGHT PATTERNS

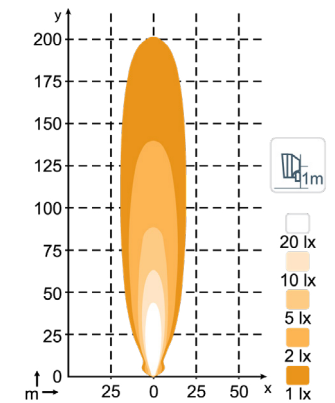
Scorpius PRO 445, 4400lm Flood



Scorpius PRO 445, 4400lm Wide Flood (Asymmetric)

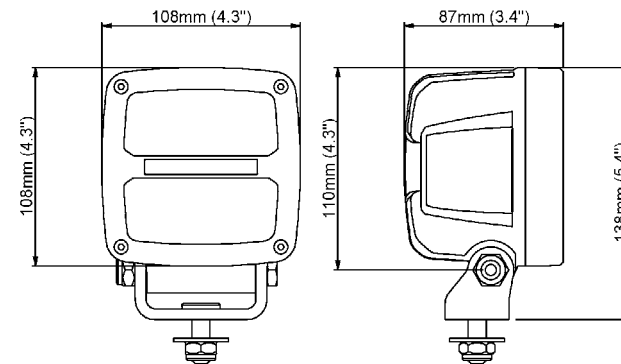


Scorpius PRO 445, 4400lm High Beam



Also available in **Wide Flood (Symmetric)**, find the details on our website nordiclights.com/products

DRAWINGS



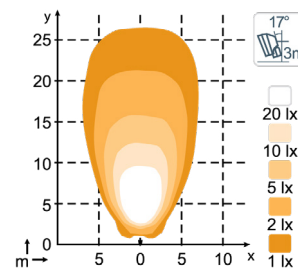
Scorpius PRO 445

TECHNICAL SPECIFICATIONS	SCORPIUS PRO 445
Theoretical / Operational Lumens	7000lm / 4400lm
Power Consumption	50W
Vibration	15.3Grms 24-2000Hz
Nominal Current	24V=2.1A, 12V=4.2A

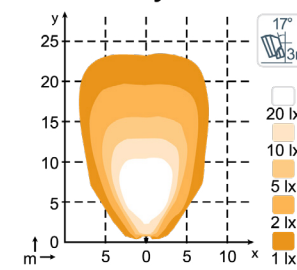


LIGHT PATTERNS

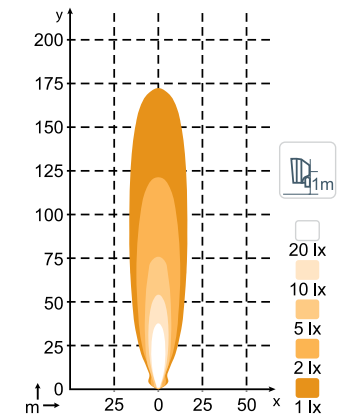
Scorpius PRO 430, 3000lm Flood



Scorpius PRO 430, 3000lm Wide Flood (Asymmetric)

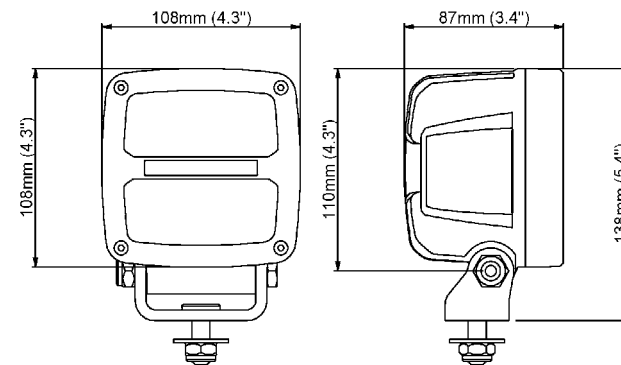


Scorpius PRO 430, 3000lm High Beam



Also available in **Wide Flood (Symmetric)**, find the details on our website nordiclights.com/products

DRAWINGS



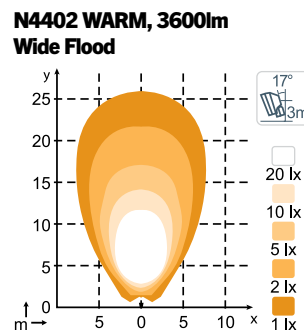
Scorpius PRO 430

TECHNICAL SPECIFICATIONS	SCORPIUS PRO 430
Theoretical / Operational Lumens	4800lm / 3000lm
Power Consumption	33W
Vibration	15.3Grms 24-2000Hz
Nominal Current	24V=1.4A, 12V=2.8A

Color temperature 2700K,
ideal for environments with
snow, dust and fog



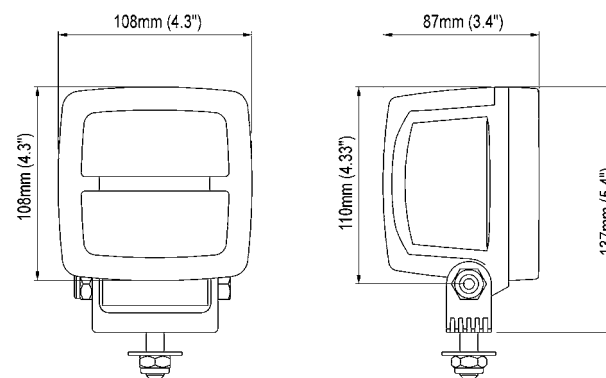
LIGHT PATTERNS



Scorpius N4402 WARM

TECHNICAL SPECIFICATIONS	SCORPIUS N4402 WARM
Theoretical / Operational Lumens	5700lm / 3600lm
Power Consumption	50W
Vibration	15.3Grms 24-2000Hz
Nominal Current	24V=2.0A, 12V=3.9A

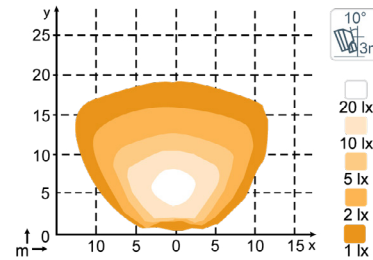
DRAWINGS



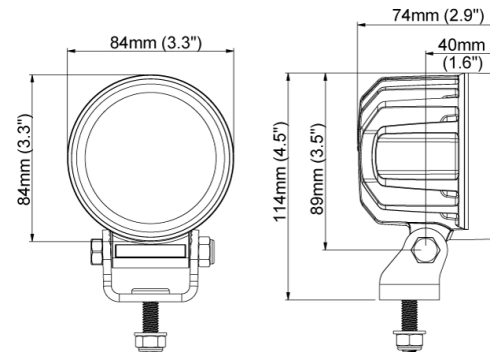


LIGHT PATTERNS

Canis PRO 330, 3000lm
Wide Flood



DRAWINGS



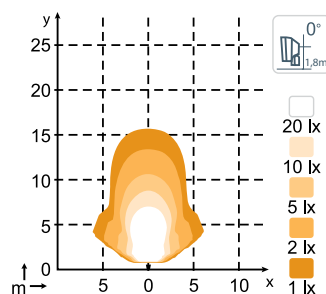
Canis PRO 330

TECHNICAL SPECIFICATIONS	CANIS PRO 330
Theoretical / Operational Lumens	4800lm / 3000lm
Power Consumption	28W
Vibration	15.3Grms 24-2000Hz
Nominal Current	24V=1.15A, 12V=2.3A



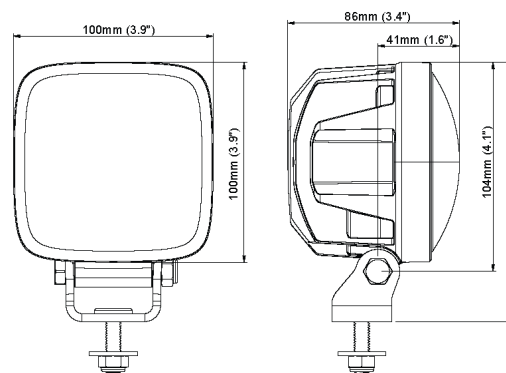
LIGHT PATTERNS

Scorpius PRO 415 PH, 1500lm
Glare-Free



Also available in a [top-down version](#), find the details on our website nordiclights.com/products

DRAWINGS



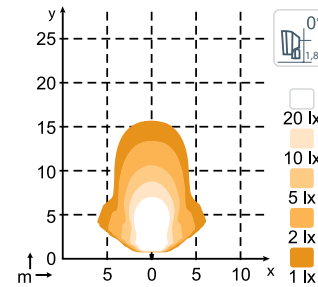
Scorpius PRO 415 PH

TECHNICAL SPECIFICATIONS	SCORPIUS PRO 415 PH
Theoretical / Operational Lumens	1950lm / 1500lm
Power Consumption	28W
Vibration	8Grms 24-2000Hz
Nominal Current	24V=1.2A, 12V=2.4A



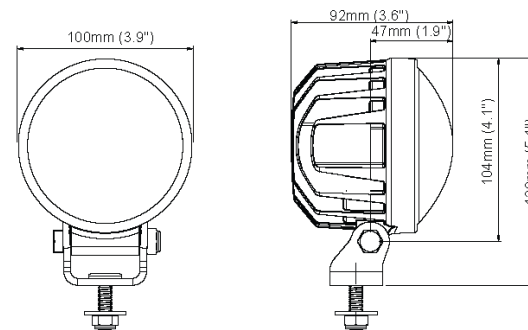
LIGHT PATTERNS

**Canis PRO 415 PH, 1500lm
Glare-Free**



Also available in a [top-down version](#), find the details on our website nordiclights.com/products

DRAWINGS

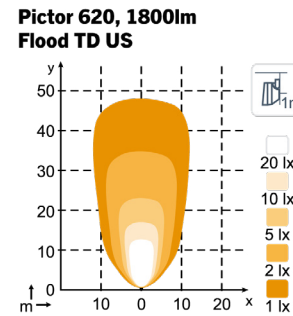


Canis PRO 415 PH

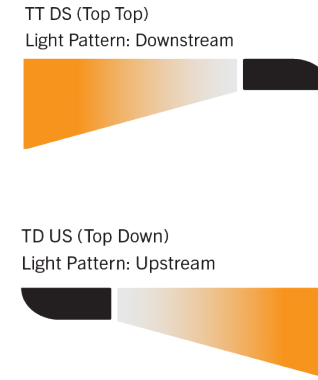
TECHNICAL SPECIFICATIONS	CANIS PRO 415 PH
Theoretical / Operational Lumens	1950lm / 1500lm
Power Consumption	28W
Vibration	8Grms 24-2000Hz
Nominal Current	24V=1.2A, 12V=2.4A



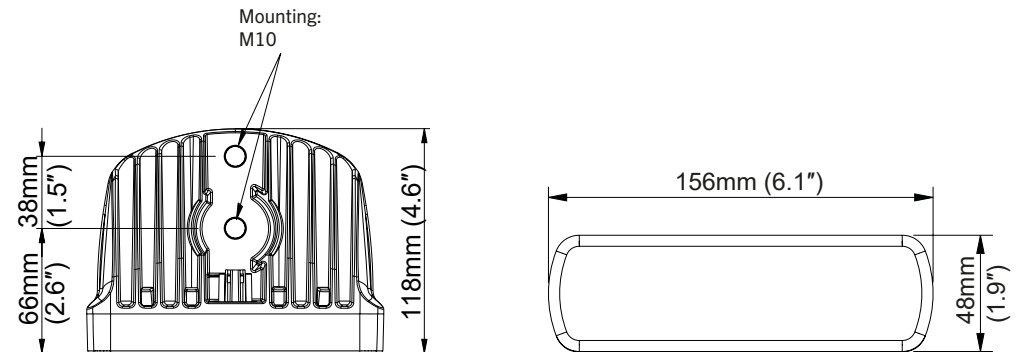
LIGHT PATTERNS



PROJECTION ANGLE



DRAWINGS



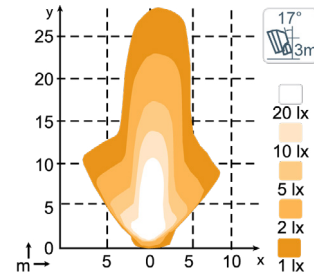
Pictor 620

TECHNICAL SPECIFICATIONS	PICTOR 620
Theoretical / Operational Lumens	2700lm / 1800lm
Power Consumption	28W
Vibration	15.3Grms 24-2000Hz
Nominal Current	24V=1.0A, 12V=2.0A

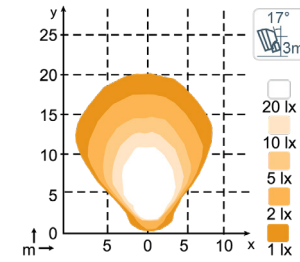


LIGHT PATTERNS

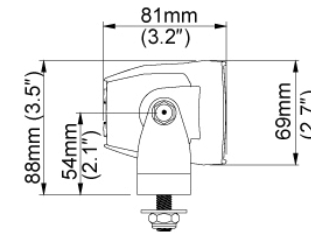
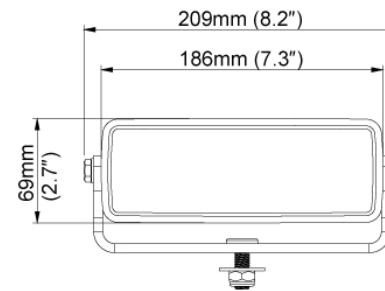
**Pictor PRO 830, 3000lm
Wide Flood RH (Asymmetric)**



**Pictor PRO 830, 3000lm
Wide Flood (Asymmetric)**



DRAWINGS



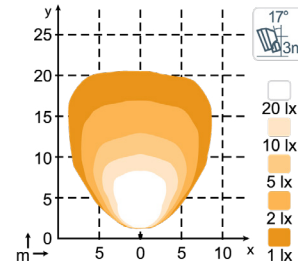
Pictor PRO 830

TECHNICAL SPECIFICATIONS	PICTOR PRO 830
Theoretical / Operational Lumens	4800lm / 3000lm
Power Consumption	46W
Vibration	15.3Grms 24-2000Hz
Nominal Current	24V=1.6A, 12V=2.9A



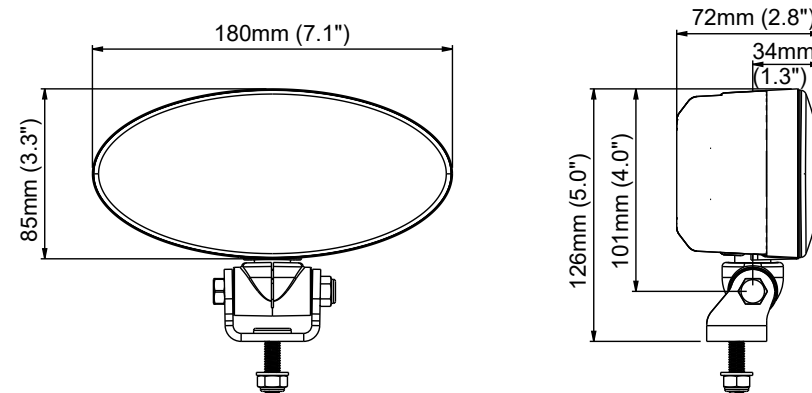
LIGHT PATTERNS

Sato PRO 725, 2200lm
Flood



Also available in **Snap-In** and **Top-Down versions**, find the details on our website nordiclights.com/products

DRAWINGS



Sato PRO 725

TECHNICAL SPECIFICATIONS	SATO PRO 725
Theoretical / Operational Lumens	3500lm / 2200lm
Power Consumption	32W
Vibration	8Grms 24-2000Hz
Nominal Current	24V=1.4A, 12V=2.5A

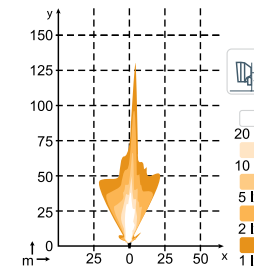


Sculptor 2

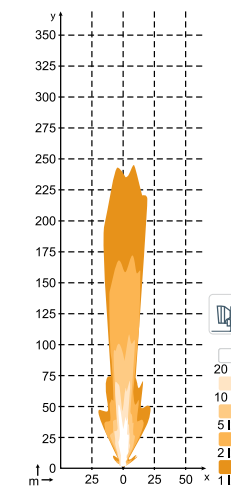
TECHNICAL SPECIFICATIONS	SCULPTOR 2
Functions	Daytime Running Light (DRL), Position Light, Direction Indicator, Low Beam, High Beam.
Power Consumption	High Beam 57.5W, Low Beam 38.5W, Park 4.0W, DRL 17.5W, Direction Indicator 21W
ECE Approvals	Passing beam: ECE R149 (Class B) Driving beam: ECE R149 (Class B) Position light: ECE R148 (Symbol A) DRL: ECE R148 (Symbol RL) Direction indicator: ECE R148 [Symbol 1B (front) & symbol 5 (side)]
Material Housing / Lens	Plastic / Glass

LIGHT PATTERNS

Sculptor 2 Low Beam RHT

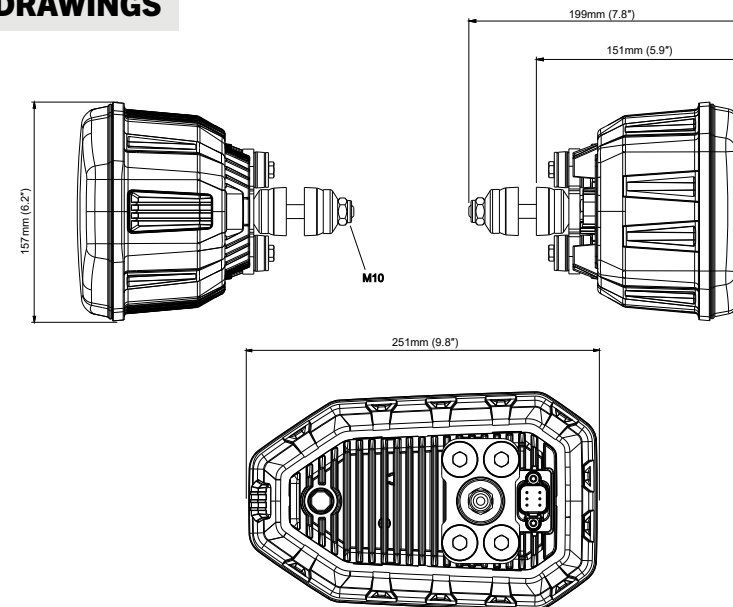


Sculptor 2 High Beam RHT



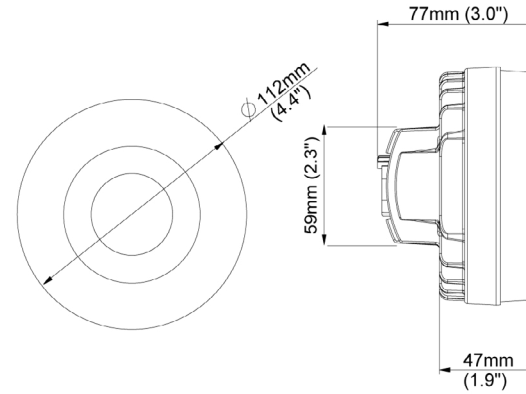
Also available in [LHT](#) and [pedestal mount versions](#), find the details on our website nordiclights.com/products

DRAWINGS

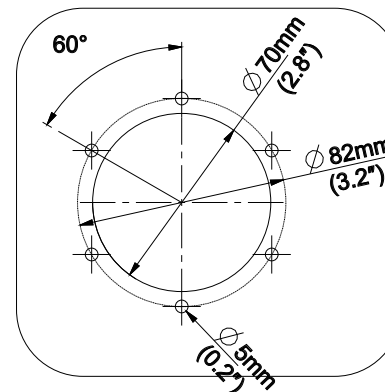




DRAWINGS



CUT-OUT DRAWING



Also available with **retroreflector (ECE R23-approved)**, find the details on our website nordiclights.com/products.

Corona 400

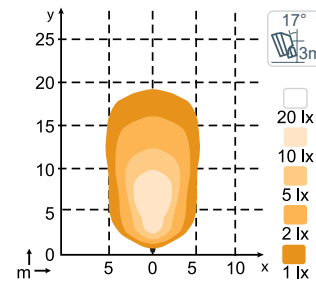
TECHNICAL SPECIFICATIONS	CORONA 400
Functions	Direction Indicator, Position Light, Stop Light, Reverse Light
Power Consumption 12 / 24V	Direction indicator 21W, Position light 0.2 / 0.5 W, Stop light 1.5 / 3.0 W, Reverse light 2.0 / 4.0 W
ECE Approvals	Direction Indicator: ECE R6 Cat 2a, Position Light: ECE R7 Cat R1, Stop Light: ECE R7 Cat S1, Reverse Light: ECER2
Material Housing / Lens	Aluminum / Plastic

High-quality and cost-effective alternative for basic illumination



LIGHT PATTERNS

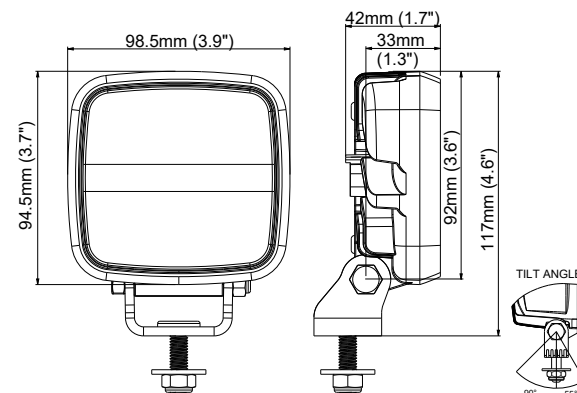
Scorpius GO 410, 1200lm Flood



Scorpius GO 410

TECHNICAL SPECIFICATIONS	SCORPIUS GO 410
Theoretical / Operational Lumens	1900lm / 1200lm
Power Consumption	18W
Vibration	8Grms 24-2000Hz
Nominal Current	36-48V=0.38A 24V=0.6A, 12V=1.05A

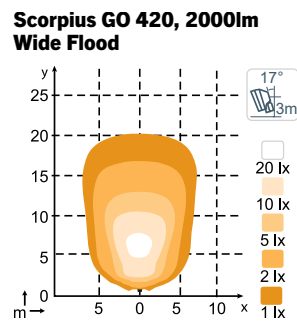
DRAWINGS



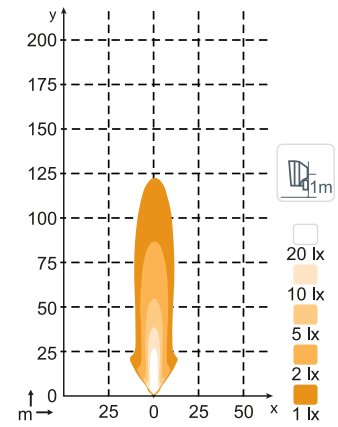
High-quality and cost-effective alternative for basic illumination



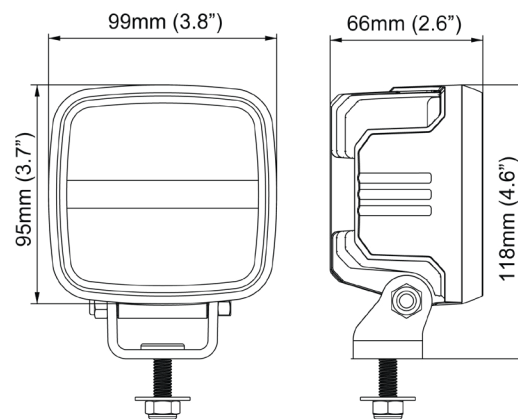
LIGHT PATTERNS



Scorpius GO 420, 2000lm High Beam



DRAWINGS



Scorpius GO 420

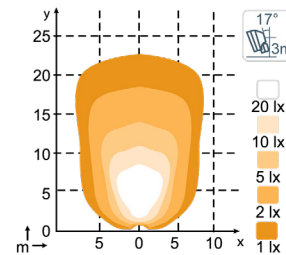
TECHNICAL SPECIFICATIONS	SCORPIUS GO 420
Theoretical / Operational Lumens	3000lm / 2000lm
Power Consumption	29W
Vibration	8Grms 24-2000Hz
Nominal Current	24V=1.00A, 12V=1.80A

High-quality and cost-effective alternative for basic illumination

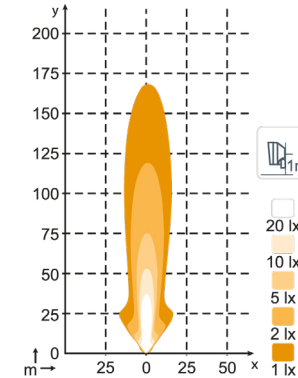


LIGHT PATTERNS

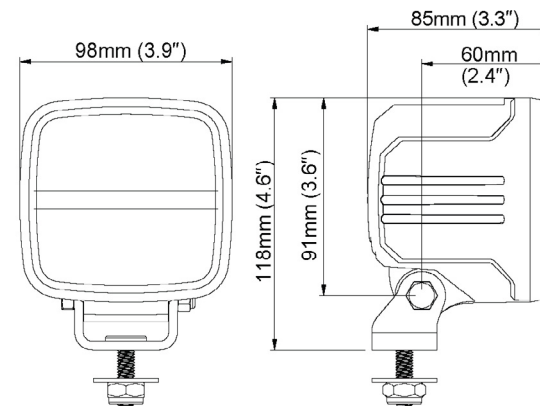
Scorpius GO 430, 3000lm
Wide Flood



Scorpius GO 430, 3000lm
High Beam



DRAWINGS



Scorpius GO 430

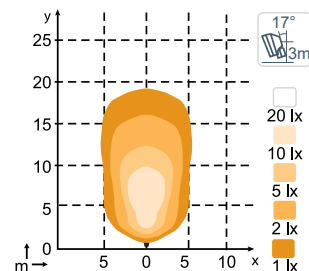
TECHNICAL SPECIFICATIONS	SCORPIUS GO 430
Theoretical / Operational Lumens	4800lm / 3000lm
Power Consumption	44W
Vibration	8Grms 24-2000Hz
Nominal Current	24V=1.5A, 12V=2.8A

High-quality and cost-effective alternative for basic illumination

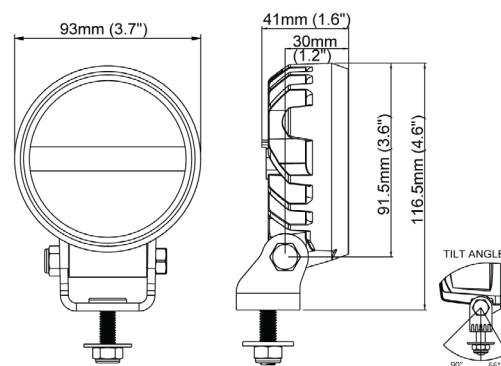


LIGHT PATTERNS

Canis GO 410, 1200lm Flood



DRAWINGS



Canis GO 410

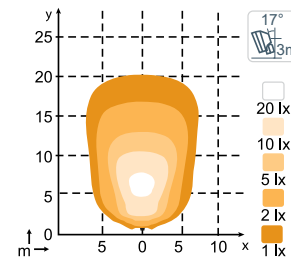
TECHNICAL SPECIFICATIONS	CANIS GO 410
Theoretical / Operational Lumens	1900lm / 1200lm
Power Consumption	18W
Vibration	8Grms 24-2000Hz
Nominal Current	36-48V=0.38A, 24V=0.6A, 12V=1.05A

High-quality and cost-effective alternative for basic illumination

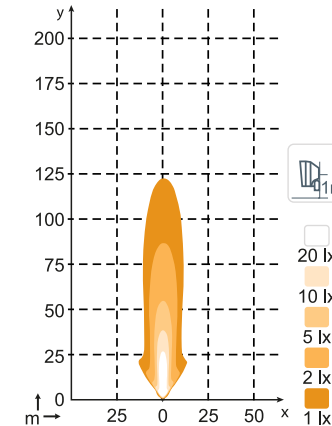


LIGHT PATTERNS

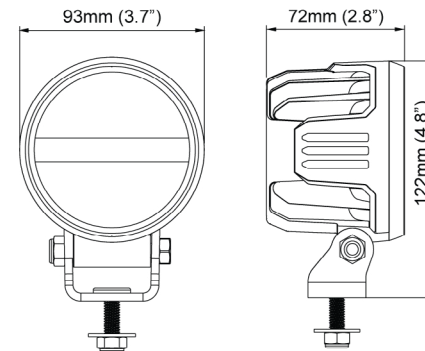
Canis GO 420, 2000lm Wide Flood



Canis GO 420, 2000lm High Beam



DRAWINGS



Canis GO 420

TECHNICAL SPECIFICATIONS	CANIS GO 420
Theoretical / Operational Lumens	3000lm / 2000lm
Power Consumption	29W
Vibration	8Grms 24-2000Hz
Nominal Current	24V=1.00A, 12V=1.80A



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Nordic Lights was born in the darkness of the harsh Finnish landscape, where the need for illumination came out of pure necessity. During the years, we have learned just what it takes to develop the perfect work lights for construction. No need to worry about which lights fit your specific type of vehicle, we already did the planning for you. We produce world-class simulations to exactly determine which lights are optimal for the specific task and conditions. Our planning is meticulous, and we execute by the same standards. Our knowledge is extensive, yet we learn more with each new case.

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