

LAZER
HIGH PERFORMANCE LIGHTING



SEE MORE GO FASTER GO SAFER

MADE IN THE UK /LAZERLAMPS

CARBON 4

NOW IN ITS 3RD GENERATION, THE CARBON SERIES LED DRIVING LIGHTS REPRESENT YEARS OF CONTINUED DEVELOPMENT AND TESTING AT THE VERY HIGHEST LEVELS OF PROFESSIONAL RALLY, TRACK, AND OFF-ROAD MOTORSPORT. THE RE-DESIGN AND RE-ENGINEERING OF THE PRODUCTS DELIVERS MORE LIGHT, LESS WEIGHT, GREATER FUNCTIONALITY, AND EASE OF FITMENT.

The Carbon-4 comes with the option for either a 'Spot' or 'Drive' beam pattern. The Spot version delivers 1 lux to 675m (per lamp) with a 32 degree left/right spread. By contrast the

Drive version provides a wider left/right spread of light equivalent to 60 degrees with the compromise being that the 1 lux line reaches measures at 374m. As well as operating in 'full beam' mode, the lights can also be easily switched to a low/dipped beam mode during operation, a function shared

with other lamps in the Carbon Series range, which reduces the light output and vertical beam angle making these products especially adaptable to varying conditions where a reduced light output which avoids glare, might be preferable. Additional lighting modes are also possible for race teams who want maximum flexibility, by application of a PWM signal from the vehicle.



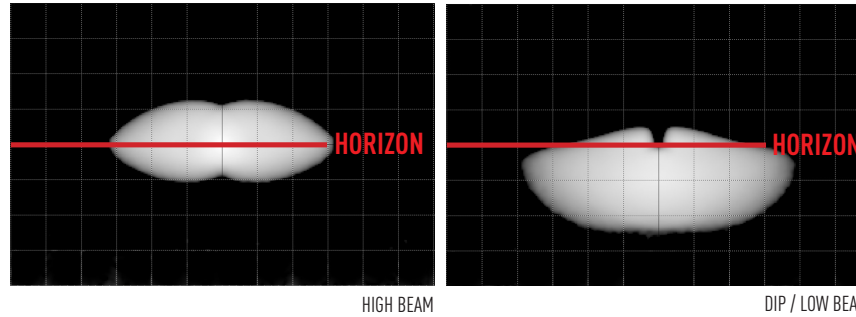
CARBON
SERIES

CARBON-4 SPOT



BEAM DISTRIBUTION

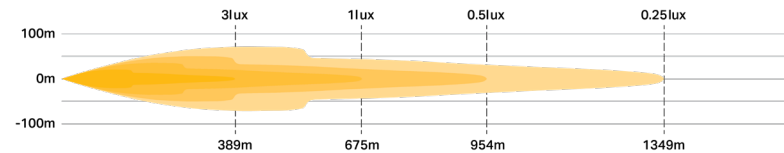
Horizontal Beam Spread: **32°** | Vertical Beam Spread: **12°**



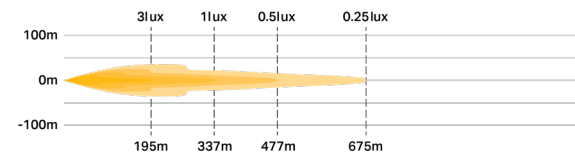
Lamp features a built-in DT04-4P Deutsch Connector. (Gold plated solid DT contacts)

PHOTOMETRIC DIAGRAMS

BOOST MODE

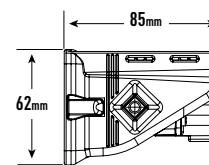
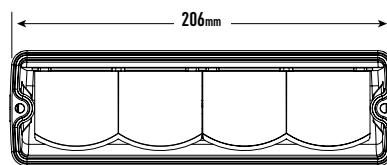


LOW OUTPUT MODE

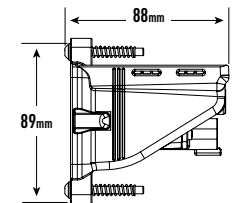
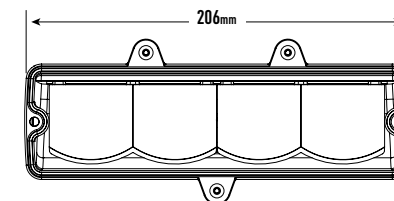


DIMENSIONS

SIDE MOUNT



FRONT MOUNT



VOLTAGE RANGE	10V - 32V
RAW LUMENS (E-BOOST LOW OUTPUT)	6240 / 1384 Lm
EFFECTIVE LUMENS * (E-BOOST LOW OUTPUT)	3679 / 919 Lm
BEAM PATTERN	SPOT
BEAM DISTANCE (1LX) (BOOST LOW OUTPUT)	675m / 337m
# HIGH POWER LEDs	24 LEDs
POWER CONSUMPTION (BOOST LOW OUTPUT)	56W / 14W
CURRENT DRAW (@ 14.4V) (BOOST LOW OUTPUT)	3.9A / 1A
MAX CURRENT DRAW (@ 11V) (BOOST LOW OUTPUT)	5.25A / 1.3A
OPTICAL EFFICIENCY	70%
WEIGHT	SIDE MOUNT: 355g FRONT MOUNT: 363g

* Effective lumens measured in a 90° horizontal and 20° vertical field-of-view.

PIN 1

Red - Positive (+V)
1mm² (OD 2mm)

PIN 2

Black - Negative (-V)
1mm² (OD 2MM)

PIN 3

Grey - Low Output Mode
(Signal) 0.5mm² (OD 1.5MM)

PIN 4

Yellow - Dip / Low Beam Mode
(Signal) 0.5mm² (OD 1.5MM)



Vehicle side will require the a DT06-4S Deutsch Connector.

CARBON-4 DRIVE

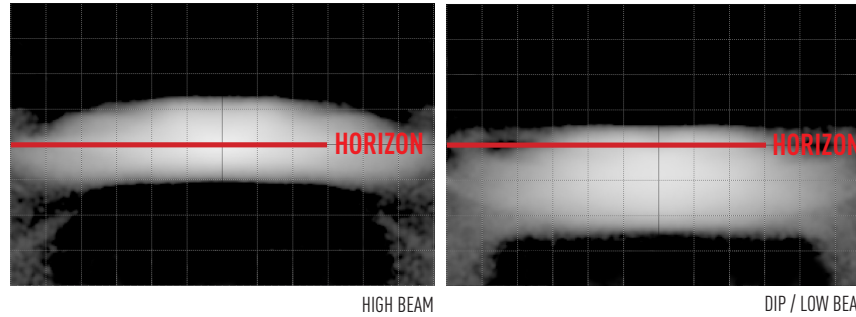


VOLTAGE RANGE	10V - 32V
RAW LUMENS (E-BOOST LOW OUTPUT)	6240 / 1384 Lm
EFFECTIVE LUMENS * (E-BOOST LOW OUTPUT)	3673 / 918 Lm
BEAM PATTERN	DRIVE
BEAM DISTANCE (1LX) (BOOST LOW OUTPUT)	374m / 187m
# HIGH POWER LEDs	24 LEDs
POWER CONSUMPTION (BOOST LOW OUTPUT)	56W / 14W
CURRENT DRAW (@ 14.4V) (BOOST LOW OUTPUT)	3.9A / 1A
MAX CURRENT DRAW (@ 11V) (BOOST LOW OUTPUT)	5.25A / 1.3A
OPTICAL EFFICIENCY	70%
WEIGHT	SIDE MOUNT: 355g FRONT MOUNT: 363g

* Effective lumens measured in a 90° horizontal and 20° vertical field-of-view.

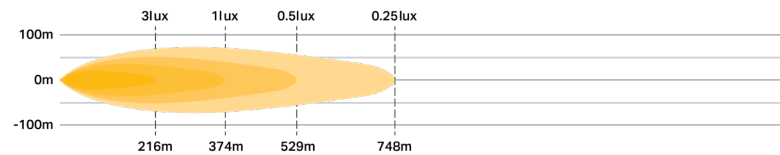
BEAM DISTRIBUTION

Horizontal Beam Spread: 60° | Vertical Beam Spread: 15°

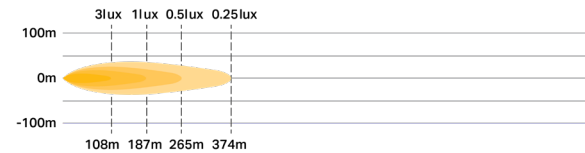


PHOTOMETRIC DIAGRAMS

BOOST MODE

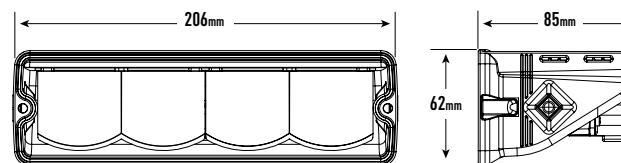


LOW OUTPUT MODE

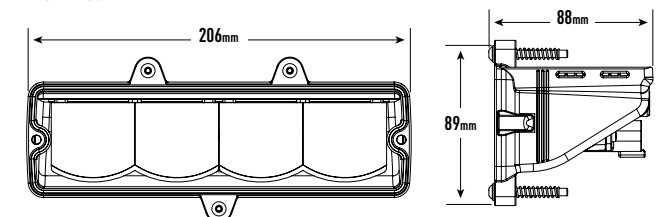


DIMENSIONS

SIDE MOUNT



FRONT MOUNT



Lamp features a built-in DT04-4P Deutsch Connector. (Gold plated solid DT contacts)



Vehicle side will require the a DT06-4S Deutsch Connector.

PIN 1

Red - Positive (+V)
1mm² (OD 2mm)

PIN 2

Black - Negative (-V)
1mm² (OD 2MM)

PIN 3

Grey - Low Output Mode
(Signal) 0.5mm² (OD 1.5MM)

PIN 4

Yellow - Dip / Low Beam Mode
(Signal) 0.5mm² (OD 1.5MM)

PMW INFORMATION

PWM SIGNAL REQUIREMENTS	
PWM SIGNAL FREQUENCY	100 Hz
TOLERANCE DUTY CYCLE	±2%
VOLTAGE AT "HIGH"	12V
VOLTAGE AT "LOW"	0V

Some race teams may wish to activate the different modes of these lamps by using a PWM signal. PIN 3 is PWM capable, so race teams should use a 100Hz PWM frequency, in order to obtain different beam patterns. See table.

LAMP MODE	INPUT SIGNAL		BEAM PATTERNS		CARBON-4 CURRENT @ 13.5V (A)
	GREY WIRE (LOW OUTPUT) PIN 3	YELLOW WIRE (DIP / LOW BEAM) PIN 4	HIGH BEAM	DIP / LOW BEAM	
HIGH BEAM	LOW	LOW	100	0	4.1
HIGH BEAM (REDUCED OUTPUT)	HIGH	LOW	25	0	1
DIPPED BEAM	LOW	HIGH	0	100	4.1
DIPPED BEAM (REDUCED OUTPUT)	HIGH	HIGH	0	25	1

	INPUT SIGNAL		BEAM PATTERNS		CARBON-4 CURRENT @ 13.5V (A)
	12V PWM SIGNAL ON PIN 3 (LOW OUTPUT) DUTY CYCLE %	VOLTAGE ON PIN 4 (DIP / LOW BEAM)	HIGH BEAM % LUMEN OUTPUT	DIP / LOW BEAM % LUMEN OUTPUT	
	0	0V	100	0	4.1
	10	0V	90	0	3.7
	18	0V	80	0	3.3
	26	0V	70	0	2.9
	34	0V	70	30	4.1
	42	0V	70	40	4.6
	50	0V	60	60	5
	58	0V	40	70	4.6
	66	0V	30	70	4.1
	74	0V	0	80	3.3
	82	0V	0	90	3.7
	90	0V	0	100	4.1
	100	0V	25	0	1
	0	12V	0	100	4.1
	10	12V	0	95	3.9
	18	12V	0	90	3.7
	26	12V	0	85	3.5
	34	12V	0	80	3.3
	42	12V	0	75	3.1
	50	12V	0	70	2.9
	58	12V	0	65	2.7
	66	12V	0	60	2.5
	74	12V	0	55	2.3
	82	12V	0	50	2.1
	90	12V	0	45	1.9
	100	12V	0	25	1

AVAILABLE PWM MODES