
# CARBON-6 SPOT

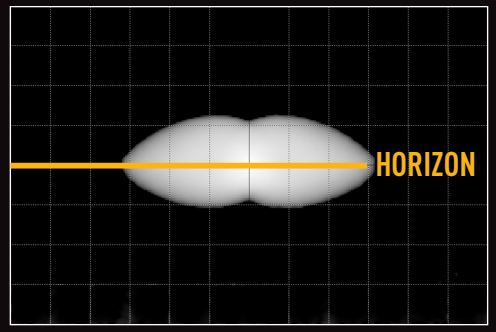
## WITH WHITE DIP BEAM

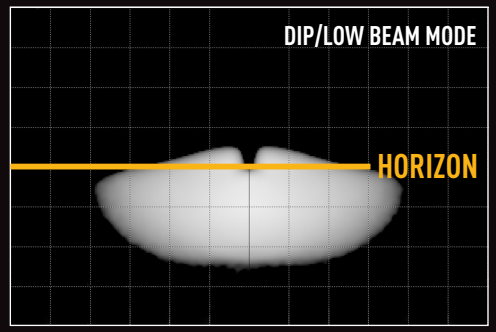
The latest generation of Carbon-6 LED driving lights reflects years of development and testing in top-level rally, track, and off-road motorsport, delivering more light, less weight, and enhanced functionality, with full UNECE Reg 149 approval.

Carbon-6 Spot offers outstanding long-range visibility with a 32° left/right spread. Full beam mode operates in either low output (UNECE Reg 149 compliant) or boost mode (100% output), plus a dip/low beam setting that angles the beam to reduce glare. Each unit remains ultra-lightweight, featuring a high-strength, heat-resistant PC-ABS housing and a CAE-optimized anodized aluminum heat sink for optimal thermal and lighting performance.

Designed, engineered, and manufactured in the UK, Carbon-6 upholds Lazer's uncompromising standards in components and build quality. A black lens cover is included for added daytime protection.

**BEAM DISTRIBUTION**
(HORIZONTAL: 32° / VERTICAL: 12°)




**BEAM PATTERN** (BOOST MODE)

E9 APPROVED HEADLIGHT

5 YEAR WARRANTY

IP68 WATERPROOF

LAZER
HIGH PERFORMANCE LIGHTING

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## KEY FEATURES

- Ultra-lightweight, PC-ABS material housing with a combination of premium-bin, high intensity LEDs.
- Low/dipped beam mode, optimised to prevent glare off road signs during road stage events.
- Dual-output functionality – High and Low output modes.
- UNECE Reg 149 Class RA Supplemental Driving Lights, approved for on-road high beam (Low Output mode only).
- CAE-optimised heatsink requires minimal airflow to maintain 100% light output.
- Dynamic drive modulation preserves electronic components in adverse conditions.
- Low profile, edge-to-edge design for improved aerodynamic performance.
- Lamp features a built-in DT04-4P Deutsch Connector (gold plated solid DT contacts).
- Vehicle side connector, plus 150mm cable length supplied with each lamp.
- 'Unbreakable' polycarbonate lens.
- Designed & manufactured in the UK.

## SPECIFICATIONS

| | |
|---|---|
| WEIGHT (G) | 400 |
| VOLTAGE RANGE | 10V-32V |
| RAW LUMENS (BOOST MODE) | 9360 |
| TOTAL DRIVER 'FOV' FLUX (BOOST MODE) | 6560 |
| HIGH BEAM COLOUR TEMP | 5000K |
| DIP BEAM COLOUR | WHITE |
| POWER CONSUMPTION (BOOST MODE) | 85 WATTS |
| PEAK CURRENT DRAW (BOOST MODE) | 7.2 AMPS |
| CURRENT DRAW (14.4V) (BOOST MODE) | 5.9 AMPS |
| CONNECTOR | 4-PIN DEUTSCH DT (+15CM CABLE) |

Carbon-6 LED Lights are PMW compatible, please see next page for more info.

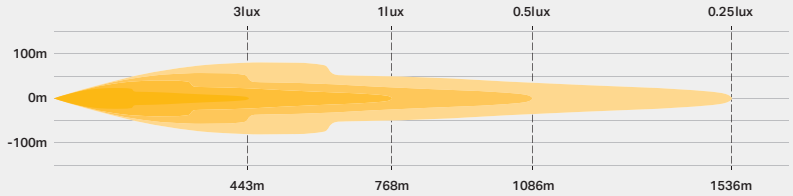
## CERTIFICATION

| | |
|---|---|
| HIGH BEAM (LOW OUTPUT ONLY) | ECE REG 149 (REF 37.5) |
| EMC CERTIFICATION | ECE REG 10 |
| IP RATING | IP68 |

Scan the QR code to view/download the ECE certificates.

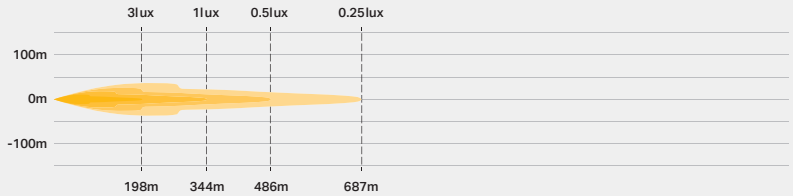
## PHOTOMETRICS

### BOOST MODE

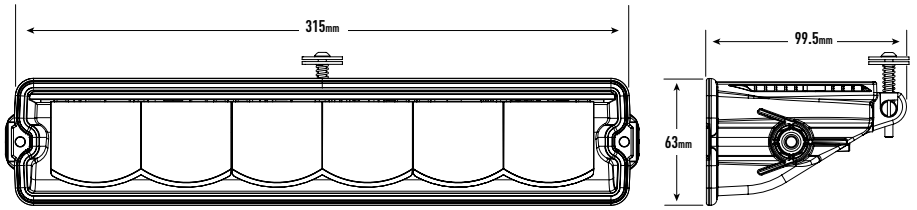



### LOW OUTPUT MODE

E9




## LAMP DIMENSIONS




**FINE ADJUSTMENT SCREW**
1 turn = 0.83 degrees of **up** (anti-clockwise) or **down** (clockwise) adjustment.

Lamp features a built-in DT04-4P Deutsch Connector.


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

**Pin 1: Red (1mm²)** - Positive (+V)
**Pin 2: Black (1mm²)** - Negative (-V)
**Pin 3: Grey (1mm²)** - Low Output / E-Mark Mode
**Pin 4: Yellow (1mm²)** - Dip / Low Beam Mode

# 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.

* Approved Road Legal to UNECE Class B

| LAMP MODE | INPUT SIGNAL | | BEAM PATTERNS | | CARBON-6 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 | 6.5 |
| HIGH BEAM (REDUCED OUTPUT) * | HIGH | LOW | 25 | 0 | 1.625 |
| DIPPED BEAM | LOW | HIGH | 0 | 100 | 6.5 |
| DIPPED BEAM (REDUCED OUTPUT) | HIGH | HIGH | 0 | 25 | 1.625 |

| AVAILABLE PWM MODES | INPUT SIGNAL | | BEAM PATTERNS | | CARBON-6 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 | 6.5 |
| | 10 | 0V | 90 | 0 | 5.9 |
| | 18 | 0V | 80 | 0 | 5.2 |
| | 26 | 0V | 70 | 0 | 4.6 |
| | 34 | 0V | 70 | 30 | 6.5 |
| | 42 | 0V | 70 | 40 | 7.2 |
| | 50 | 0V | 60 | 60 | 7.8 |
| | 58 | 0V | 40 | 70 | 7.2 |
| | 66 | 0V | 30 | 70 | 6.5 |
| | 74 | 0V | 0 | 80 | 5.2 |
| | 82 | 0V | 0 | 90 | 5.9 |
| | 90 | 0V | 0 | 100 | 6.5 |
| | 100 | 0V | 25 | 0 | 1.6 |
| | 0 | 12V | 0 | 100 | 6.5 |
| | 10 | 12V | 0 | 95 | 6.2 |
| | 18 | 12V | 0 | 90 | 5.9 |
| | 26 | 12V | 0 | 85 | 5.5 |
| | 34 | 12V | 0 | 80 | 5.2 |
| | 42 | 12V | 0 | 75 | 4.9 |
| | 50 | 12V | 0 | 70 | 4.6 |
| | 58 | 12V | 0 | 65 | 4.2 |
| | 66 | 12V | 0 | 60 | 3.9 |
| | 74 | 12V | 0 | 55 | 3.6 |
| | 82 | 12V | 0 | 50 | 3.3 |
| | 90 | 12V | 0 | 45 | 2.9 |
| | 100 | 12V | 0 | 25 | 1.6 |