



## CARBON 6

THE 3RD GENERATION OF LAZER LAMPS' ULTRA-LIGHTWEIGHT MOTORSPORT LIGHTING SOLUTIONS SEES THE RE-DESIGN AND RE-ENGINEERING OF OUR CARBON-6 LED DRIVING LIGHTS TO DELIVER MORE LIGHT, LESS WEIGHT, AND GREATER FUNCTIONALITY. AVAILABLE AS 'SPOT' OR 'WIDE' BEAM PATTERN, EACH LIGHT CAN OPERATE IN FULL BEAM MODE, OR IN A SECONDARY 'FOG' BEAM MODE. ADDITIONAL LIGHTING MODES ARE PERMISSIBLE WHERE VARIABLE PWM INPUT SIGNALS AS ACHIEVABLE.

Advances in electronic design and component technologies, has allowed us to increase the light output through placing additional LEDs on the lamp's circuit board. Ultra-reflective vacuum-metallised optics harness the maximum light output for the road and track ahead. The lamp housing is constructed from high-strength and heat-resistant PC-ABS material. Thermal control of the lamp is managed through a CAE-optimised anodised aluminium element, meticulously engineered to maintain full and optimal lighting performance of the LEDs, while minimising weight. Dynamic drive modulation within the lamps, prevents damage to the electronic components in more extreme environmental and thermal conditions. The Carbon-6 lamps have been designed alongside a range of carbon-fibre rally pods, compatible across a wide range of vehicle makes and models. Pod adjustment and fine-tuning elements, alongside compatible lens cover options, ensures a superior rally lighting solution.



SEE MORE GO FASTER GO SAFER

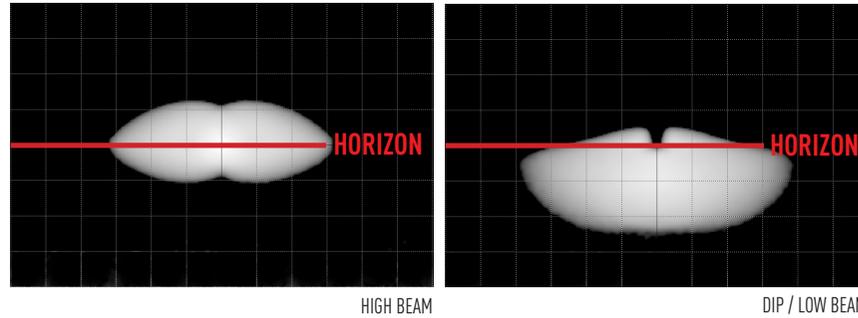
# CARBON-6 SPOT



VOLTAGE RANGE	10V - 32V
RAW LUMENS (E-BOOST   LOW OUTPUT)	9360 / 2340
EFFECTIVE LUMENS *	6550
BEAM PATTERN	Spot
BEAM DISTANCE (1LX) (BOOST   LOW OUTPUT   DIP BEAM)	768m / 344m / 319m
# HIGH POWER LEDS	36 LED's
POWER CONSUMPTION (BOOST   LOW OUTPUT   DIP BEAM)	85W / 21W / 85W
CURRENT DRAW (@ 14.4V) (BOOST   LOW OUTPUT   DIP BEAM)	5.9A / 1.5A / 5.9A
MAX CURRENT DRAW (@ 12V) (BOOST   LOW OUTPUT   DIP BEAM)	7.2A / 1.8A / 7.2A
EFFICIENCY	69.9%
E-MARK REF	37.5
WEIGHT	400g

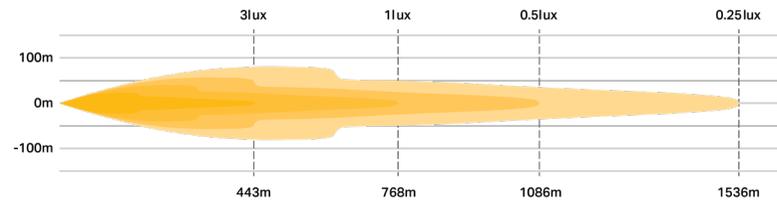
## BEAM DISTRIBUTION

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

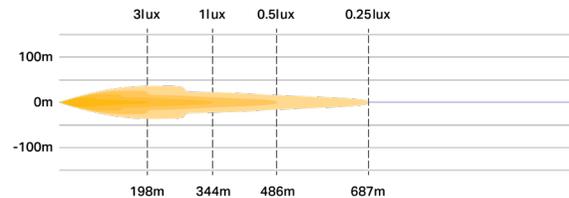


## PHOTOMETRIC DIAGRAMS

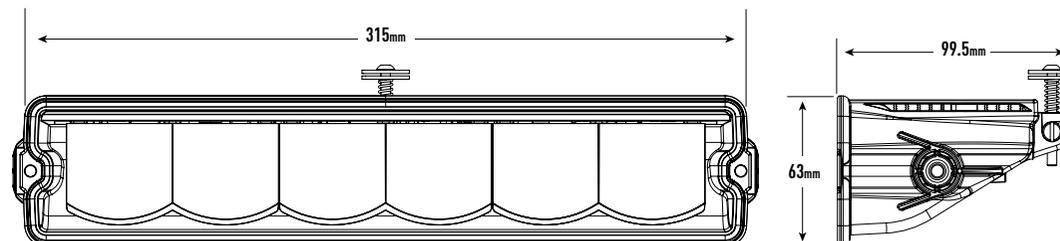
### BOOST MODE



### LOW OUTPUT MODE



## 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.  
(Gold plated solid DT contacts)



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

### PIN 1

**Red** - Positive (+V)  
1mm<sup>2</sup> (OD 2mm)

### PIN 2

**Black** - Negative (-V)  
1mm<sup>2</sup> (OD 2MM)

### PIN 3

**Grey** - Low Output / E-Mark Mode  
(Signal) 0.5mm<sup>2</sup> (OD 1.5MM)

### PIN 4

**Yellow** - Dip / Low Beam Mode  
(Signal) 0.5mm<sup>2</sup> (OD 1.5MM)

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

# CARBON-6 DRIVE

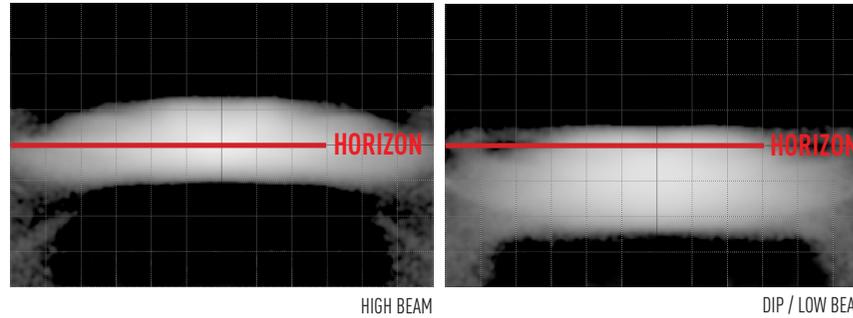


<b>VOLTAGE RANGE</b>	10V - 32V
<b>RAW LUMENS</b> (E-BOOST   LOW OUTPUT)	9360 / 2340
<b>EFFECTIVE LUMENS *</b>	6550
<b>BEAM PATTERN</b>	Drive
<b>BEAM DISTANCE (1LX)</b> (BOOST   LOW OUTPUT   DIP BEAM)	480m / 214m / 238m
<b># HIGH POWER LEDS</b>	36 LED's
<b>POWER CONSUMPTION</b> (BOOST   LOW OUTPUT   DIP BEAM)	85W / 21W / 85W
<b>CURRENT DRAW (@ 14.4V)</b> (BOOST   LOW OUTPUT   DIP BEAM)	5.9A / 1.5A / 5.9A
<b>MAX CURRENT DRAW (@ 12V)</b> (BOOST   LOW OUTPUT   DIP BEAM)	7.2A / 1.8A / 7.2A
<b>OPTICAL EFFICIENCY</b>	69.8%
<b>E-MARK REF</b>	12.5
<b>WEIGHT</b>	400g

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

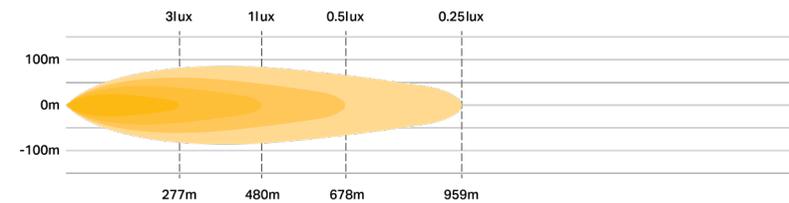
## BEAM DISTRIBUTION

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

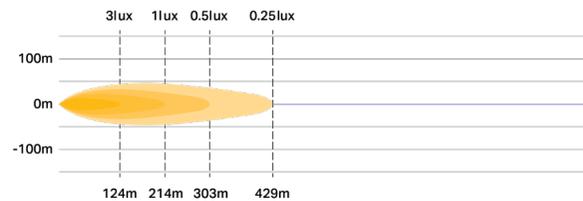


## PHOTOMETRIC DIAGRAMS

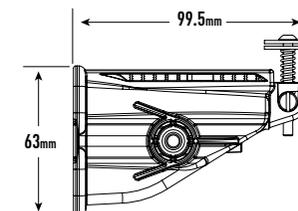
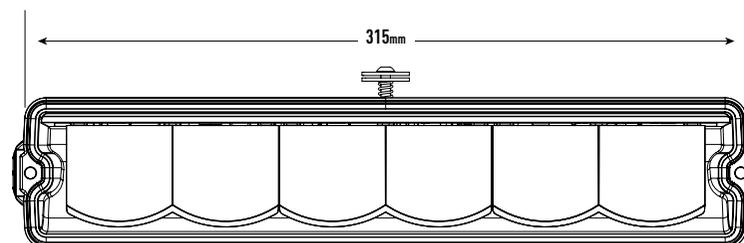
### BOOST MODE



### LOW OUTPUT MODE



## DIMENSIONS



### FINE ADJUSTMENT SCREW

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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)  
1mm<sup>2</sup> (OD 2mm)

### PIN 2

**Black** - Negative (-V)  
1mm<sup>2</sup> (OD 2MM)

### PIN 3

**Grey** - Low Output / E-Mark Mode (Signal) 0.5mm<sup>2</sup> (OD 1.5MM)

### PIN 4

**Yellow** - Dip / Low Beam Mode (Signal) 0.5mm<sup>2</sup> (OD 1.5MM)

# 4-LAMP SYSTEM

(0064-MKII/SKODA/C3)

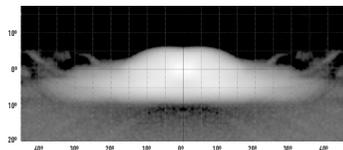
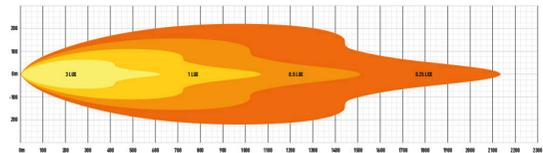


### 4 WAY RALLY PODS (0064-MKII/SKODA/C3)

Our ultimate solution for easy adjustment on vehicle, and maximum lighting performance. Pods include fine tuning adjustment mechanism as refined and used in the World Rally Championship.

RAW LUMENS	37,440
EFFECTIVE LUMENS	26,100
QUICK RELEASE CAPABLE	YES
CURRENT DRAW (AT 14.4V)	24A (BOOST MODE)

4-WAY RALLY POD (2x CARBON-6 SPOT & 2x CARBON-6 DRIVE) - BOOST MODE



# 3-LAMP SYSTEM

(0068-B & 1117K)



### BOOMER SINGLE (0062-00C6)

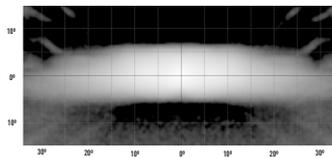
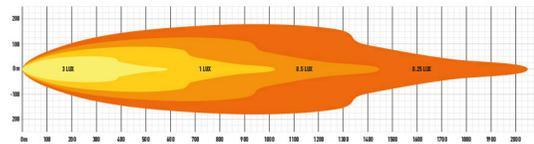
features quick release fasteners, including mounting fasteners to the bonnet. We recommend 2x DRIVE for maximum spread.

### ALUMINIUM SIDE BRACKETS (1117K)

No left/right adjustment. Should be combined with a SPOT product aimed at the centre of the horizon for maximum distance. *NOTE: Fasteners for mounting to vehicle are not supplied with this kit.*

RAW LUMENS	28,080
EFFECTIVE LUMENS	19,619
QUICK RELEASE CAPABLE	YES
CURRENT DRAW (AT 14.4V)	18.3A (BOOST MODE)

2x CARBON-6 DRIVE & 1x CARBON-6 SPOT - BOOST MODE



# 2-LAMP SYSTEM

(0062-00C6)

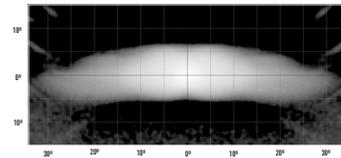
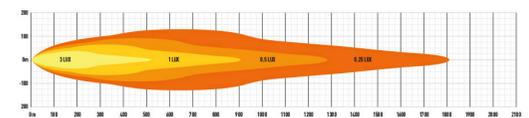


### BOOMER SINGLE (0062-00C6)

features quick release fasteners, including mounting fasteners to the bonnet. We recommend 1x SPOT and 1x DRIVE for maximum distance and spread. Both lamps should be aimed dead ahead

RAW LUMENS	18,720
EFFECTIVE LUMENS	13,050
QUICK RELEASE CAPABLE	YES
CURRENT DRAW (AT 14.4V)	12A (BOOST MODE)

1x CARBON-6 DRIVE & 1x CARBON-6 SPOT - BOOST MODE



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