



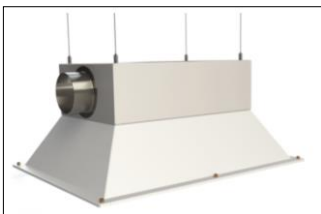
**Cloning GrowLED Batten - pages 2, 3**



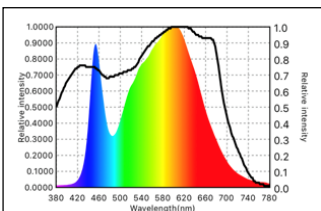
**Bulking and flowering Linear GrowLED - pages 4, 5**



**Bulking and flowering wider areas -  
Megaledbay - pages 6, 7, 8, 9**



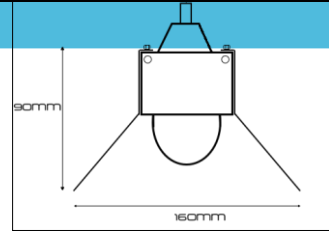
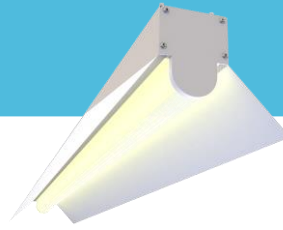
**Bulking and flowering wider areas -  
Growled Maxi - pages 10, 11**



**Definitions and Spectrums - pages 12, 13**

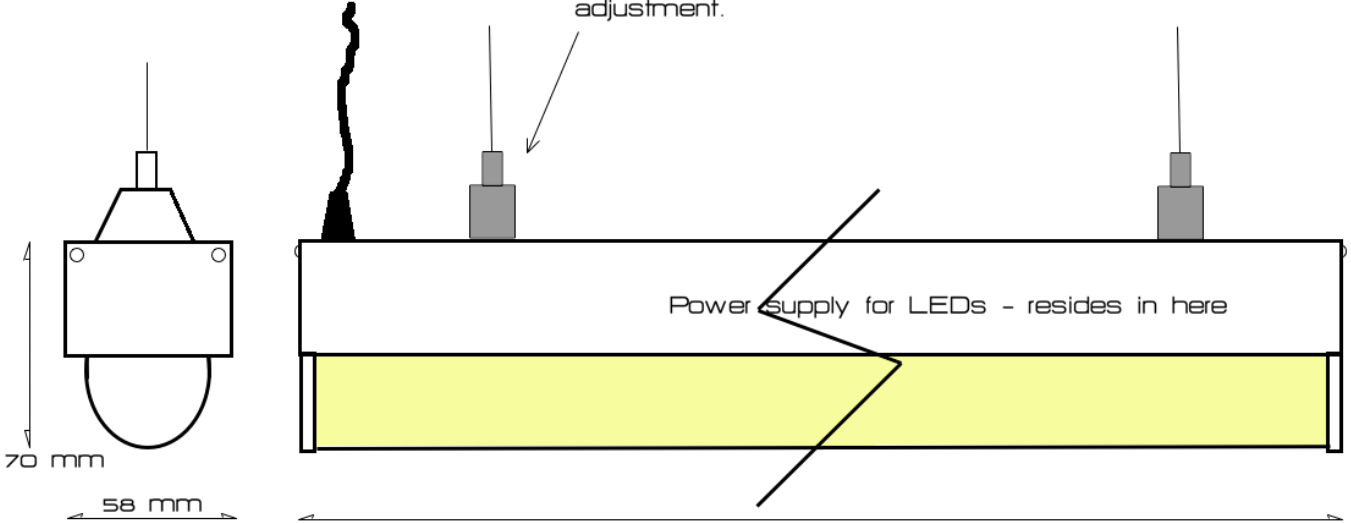
# GrowLED batten – ideal for cloning

FACT FILE



Power cable - for 230V AC in

Hangers with clutch for easy height adjustment.



500mm smallest - up to 5000mm longest

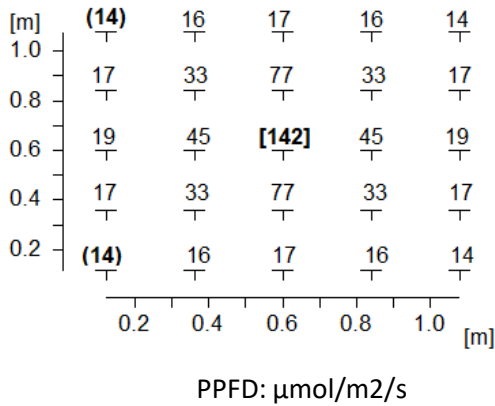
Body Construction	Extruded aluminium - either anodized or powder coated
Lens and Reflector type	190 degree ultra wide distribution Opal lens – impact modified acrylic (PMMA)
Lumen options/Watts Length options	500mm long 24W 4200 lumen (60µmol) 1000mm long 48W 8400lumen (120µmol) 2000mm long 96W 16800lumen (240µmol) 3000mm long 144W 25200lumen (360µmol) 4000mm long 192W 33600lumen (480µmol) 5000mm long 240W 42000lumen (600µmol) Please note – losses will occur through the lens – refer to IES files for accuracy.
Supply Voltage	230V AC 50HZ
CCT options	4000K is standard (3000K and 5000K or anything in between also possible on request)
CRI	>83 minimum – >90 possible on request
IP Rating	IP 44 – splash proof IP 55 on request
Control Gear	50000 hour Tridonic or Helvar or TCI – internally mounted
Installation Data	IES Files – Yes
Dimmable?	Standard – no, but with correct gear – then; Dali – Yes 1-10V – Yes DMX – Yes KNX – Yes

Lumen values are as measured at source - on the PCB - not exiting light fitting.  
Values are subject to change at any time and without notice.

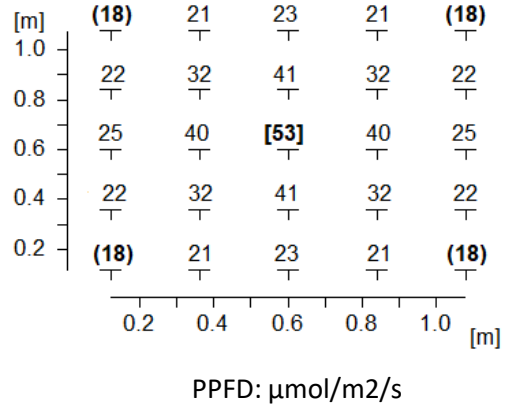
PPFD – Point by Point  
Results for 1.2mx1.2m  
grow area.

## GrowLED batten 24W 500mm - PPFD Results - 1.2m x 1.2m Grow Area

Light Source @ 250mm above plant canopy

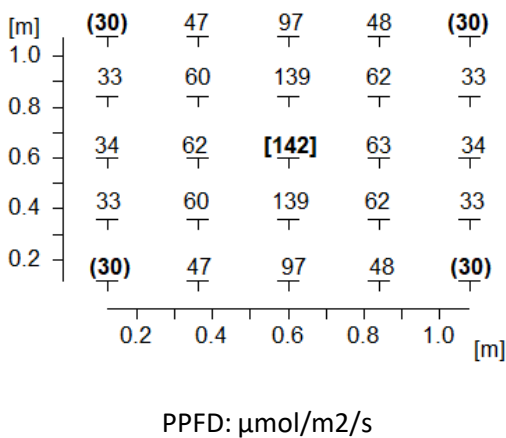


Light Source @ 500mm above plant canopy

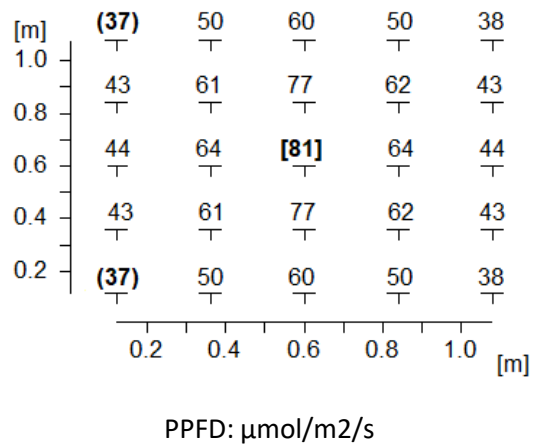


## GrowLED batten 48W 1000mm - PPFD Results - 1.2m x 1.2m Grow Area

Light Source @ 250mm above plant canopy



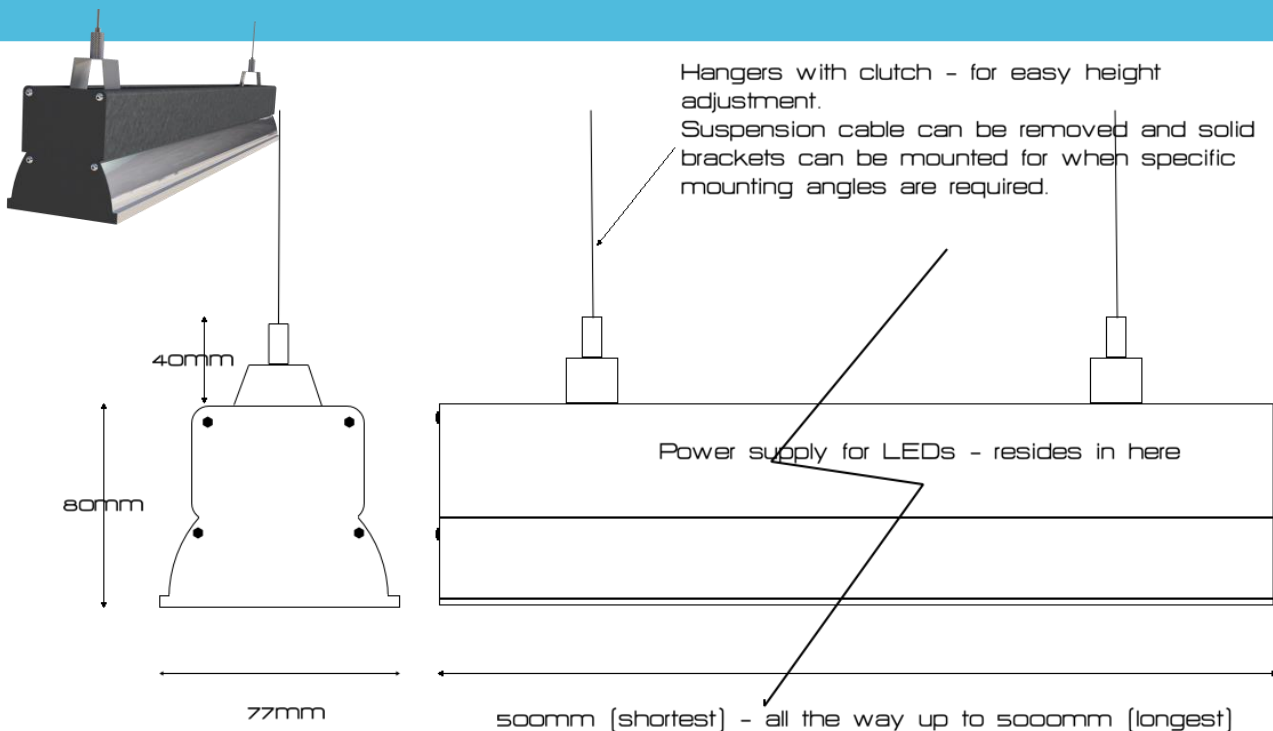
Light Source @ 500mm above plant canopy



# Linear growlight for long linear applications.

For bulking and flowering (flowering on a separate switch)

FACT FILE



Body Construction	Extruded aluminium - either anodized or powder coated Standard colours are white or silver or black.
Lens and Reflector type	Lens – impact modified acrylic or polycarbonate Reflector –high purity aluminium electrically polished and sealed with 16 microns of anodic coating – for narrow beam high installations Alternatively – powder coated white for very wide light distribution and low level mounting
Supply Voltage	230V AC 50HZ
Lengths/lumens/Watts and μmols	500mm long 36W 6300 lumens (90μmol) 1000mm long 72W 12600 lumens (180μmol) 2000mm long 144W 25200 lumens (360μmol) 3000mm long 216W 37800 lumens (540μmol) 4000mm long 288W 50400 lumens (720μmol) 5000mm long 360W 63000 lumens (900μmol) Please note – losses will occur through the lens – refer to IES files for accuracy
Adder for far red (730nm) – on a separate switch to white – 4000K	Per 500mm length – add 32W For every 1000mm thereafter add 64W per m when far red is activated.
UV	Provisions are made for UV – however due to the dangers involved, UV will only be added on special request and after receipt of signed health and damage disclaimers.
IP Rating	IP 44
Control Gear	Integral
Dimmable?	Standard – no - but with correct gear – then; Dali – Yes 1-10V – Yes DMX – Yes KNX - Yes
Power factor	Better than 0.94
Installation options	Options are: Pendant with stainless steel cables via a clutch system allowing easy height adjustment. Surface mount directly to a substructure – like cable tray or conduit or metal structure Surface mount directly to slab or flat ceiling.

Lumen values are as measured at source - on the PCB - not exiting light fitting. Values are subject to change at any time and without notice.

Giantlight (PTY) LTD

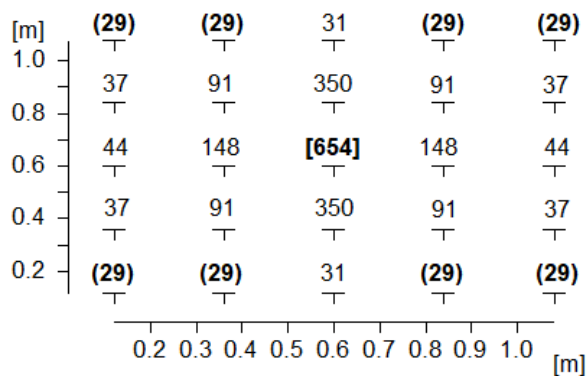
Tel: +27 11 704 1450 / +27 82 451 5506

169 Bush Telegraph Rd, Northlands Business Park North Riding Gauteng South Africa  
www.giantlight.co.za email: otto@giantlight.co.za wolfgang@giantlight.co.za mark@giantlight.co.za

PPFD – Point by Point  
Results for 1.2mx1.2m  
grow area.

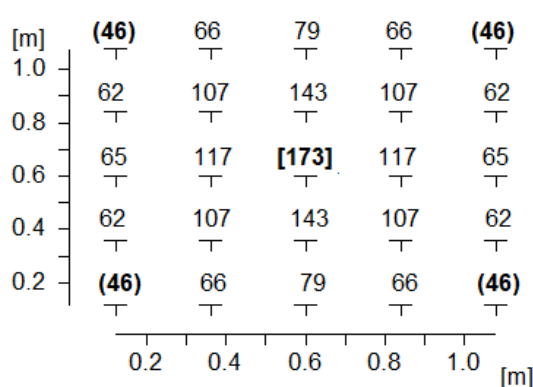
### Linear Growlight 36W 500mm - PPFD Results - 1.2m x 1.2m Grow Area

Light Source @ 250mm above plant canopy



PPFD:  $\mu\text{mol}/\text{m}^2/\text{s}$

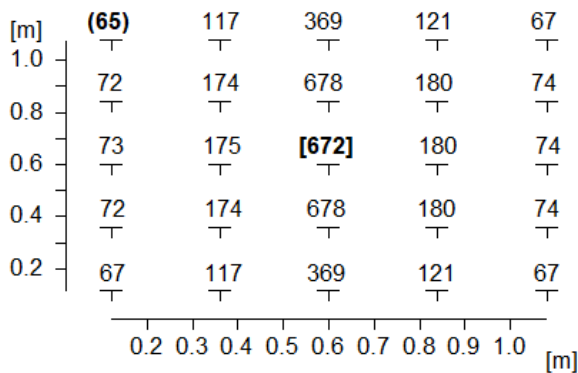
Light Source @ 500mm above plant canopy



PPFD:  $\mu\text{mol}/\text{m}^2/\text{s}$

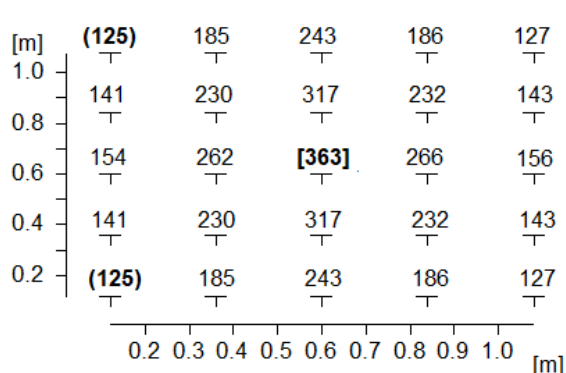
### Linear Growlight 72W 1000mm - PPFD Results - 1.2m x 1.2m Grow Area

Light Source @ 250mm above plant canopy



PPFD:  $\mu\text{mol}/\text{m}^2/\text{s}$

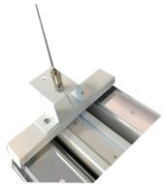
Light Source @ 500mm above plant canopy



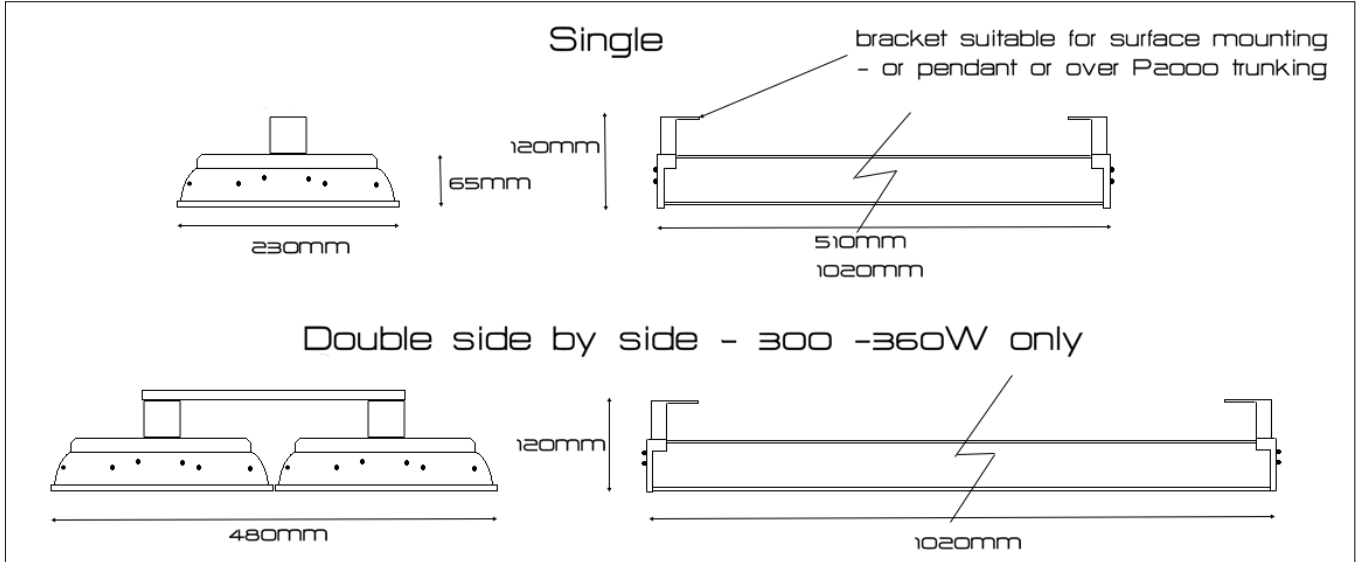
PPFD:  $\mu\text{mol}/\text{m}^2/\text{s}$

# Megaledbay growlight – for bulking and flowering – wider distribution than the linear growlight

FACT FILE



Pendant cable – with clutch for easy suspension and height adjustment.



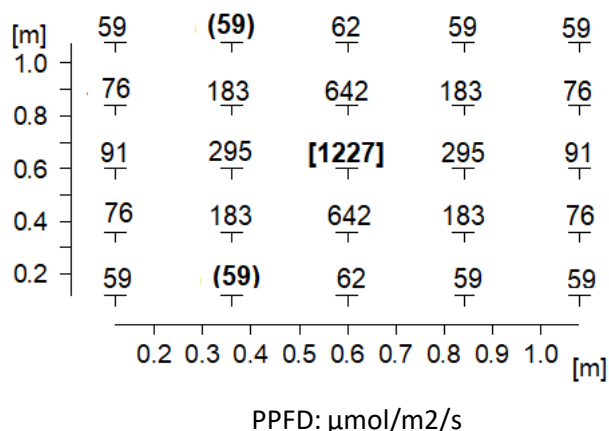
Body construction	Extruded LM6 aluminium anodised and powder coated End caps – ABS, UV stabilised Reflector – high purity anodised aluminium for narrow beam/ powder coated white for wide beam.
Lens type	Polycarbonate or impact modified acrylic
Supply voltage	230V AC 50HZ
Lengths/lumens/Watts and μmols	85W 11812 lumens at source (338 μmols) 247mm wide x 507mm long x 120mm high 170W 23624 lumens (559 μmols) 247mm wide x 1015mm long x 120mm high 340W 47248 lumens (1056 μmols) 500mm wide x 1015mm long x 120mm high
Adder for far red (730nm) – on a separate switch to white – 4000K	Per 85W– add 16W Per 170W – add 32W Per 340W - add 64W
UV	Provisions are made for UV – however due to the dangers involved, UV will only be added on special request and after receipt of signed health and damage disclaimers.
IP rating	IP 44 standard – IP 65 on request
Control Type	Standard - no control, on or off. On request I-10V/DMX/DALI KNX
Power factor	Better than 0,97
Installation options	Options are: Pendant with stainless steel cables via a clutch system allowing easy height adjustment. Surface mount directly to a substructure – like cable tray or conduit or metal structure Surface mount directly to slab or flat ceiling.

**Note – Lumens are measured at source on the PCB – not exiting the light fitting, refer to IES files for exact information**

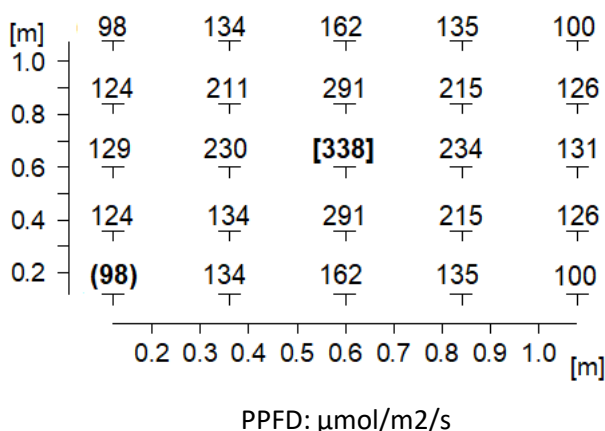
PPFD – Point by Point  
Results for 1.2mx1.2m  
grow area.

### Megaledbay Growlight 85W - PPFD Results - 1.2m x 1.2m Grow Area

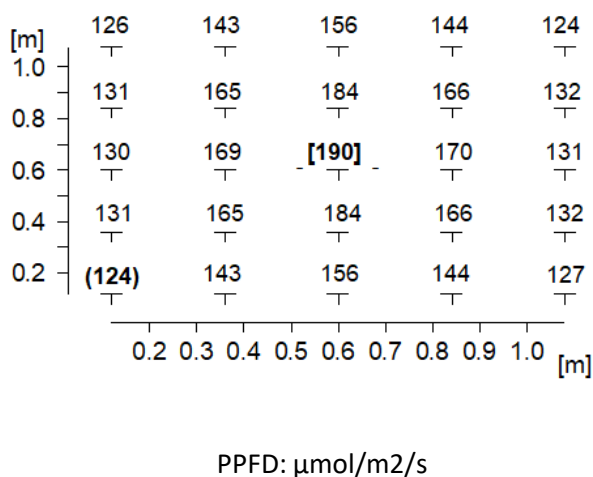
**Light Source @ 250mm above plant canopy**



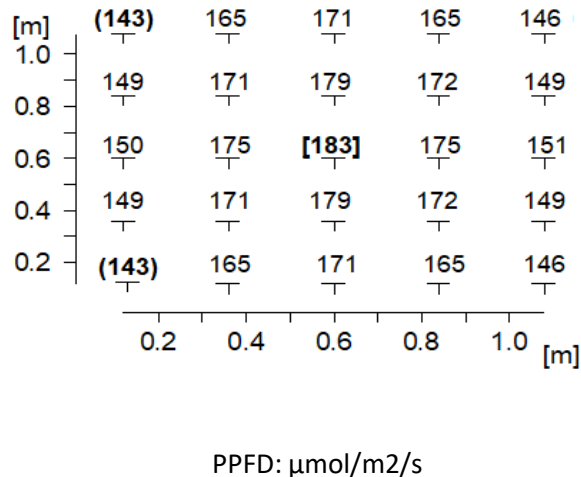
**Light Source @ 500mm above plant canopy**



**Light Source @ 750mm above plant canopy**



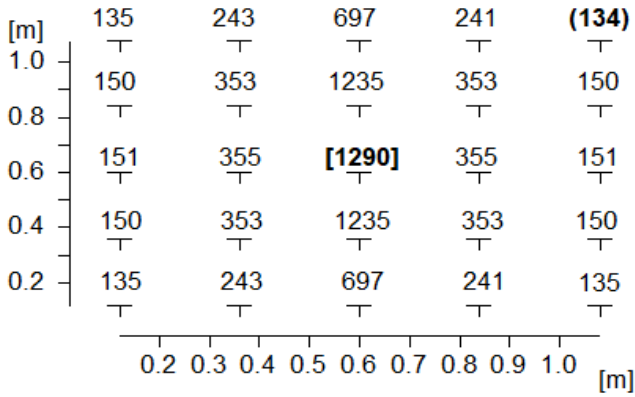
**Light Source @ 1000mm above plant canopy**



PPFD – Point by Point  
Results for 1.2mx1.2m  
grow area.

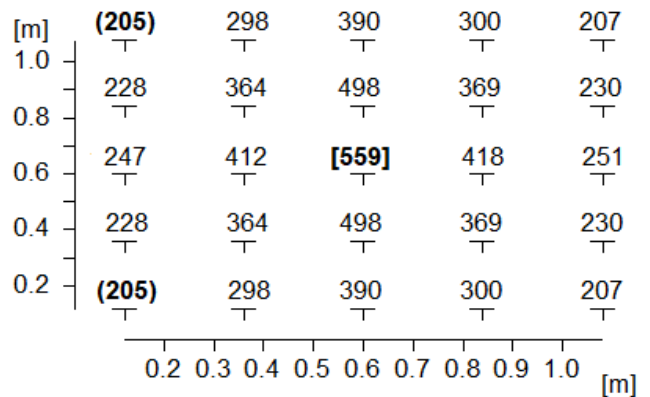
Megaledbay Growlight 170W - PPFD Results - 1.2m x 1.2m Grow Area

Light Source @ 250mm above plant canopy



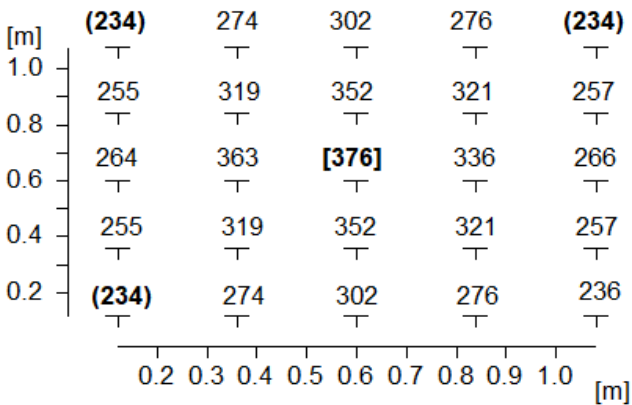
PPFD: µmol/m2/s

Light Source @ 500mm above plant canopy



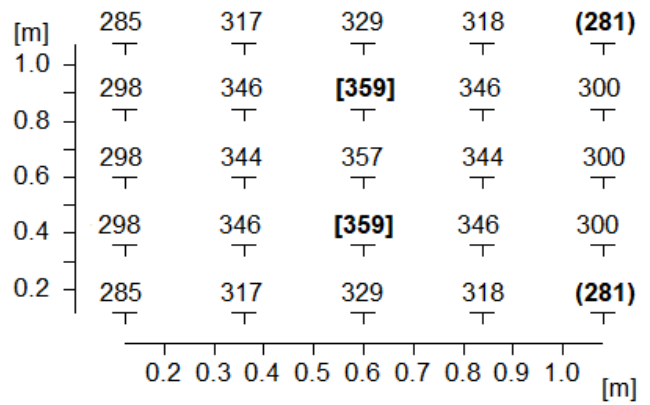
PPFD: µmol/m2/s

Light Source @ 750mm above plant canopy



PPFD: µmol/m2/s

Light Source @ 1000mm above plant canopy



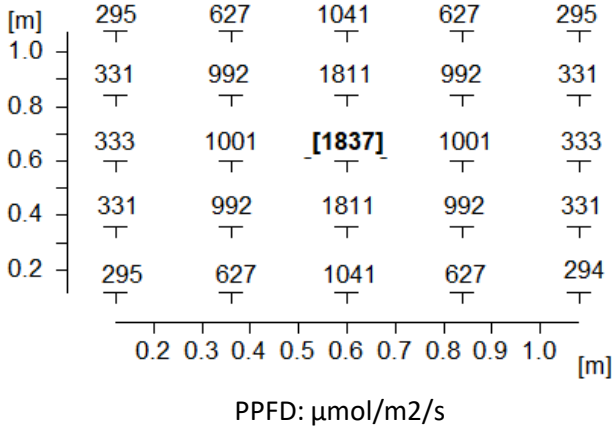
PPFD: µmol/m2/s



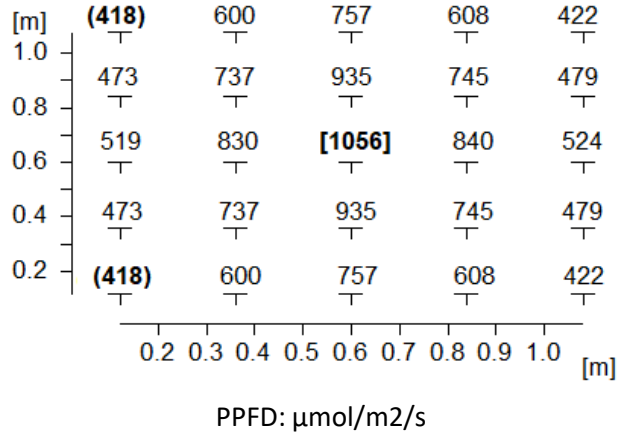
PPFD – Point by Point  
Results for 1.2mx1.2m  
grow area.

Megaledbay Growlight 340W - PPFD Results - 1.2m x 1.2m Grow Area

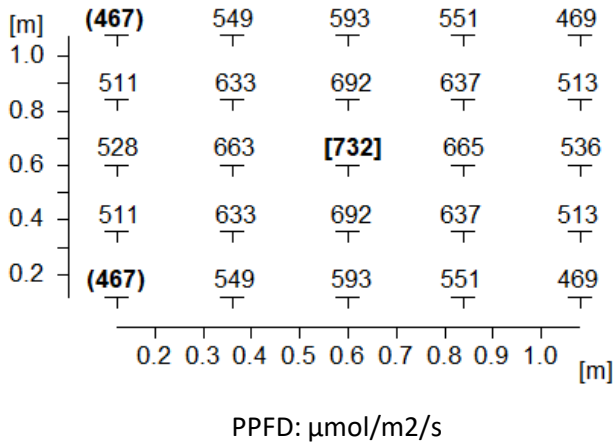
Light Source @ 250mm above plant canopy



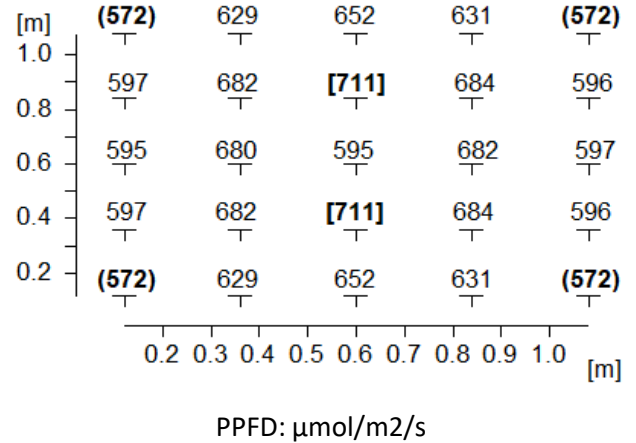
Light Source @ 500mm above plant canopy



Light Source @ 750mm above plant canopy



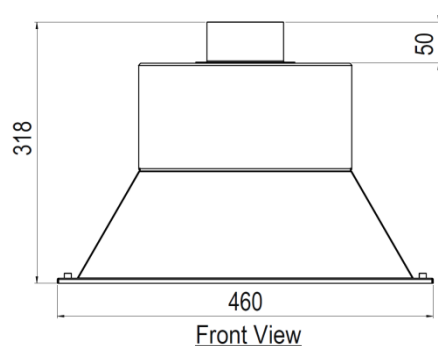
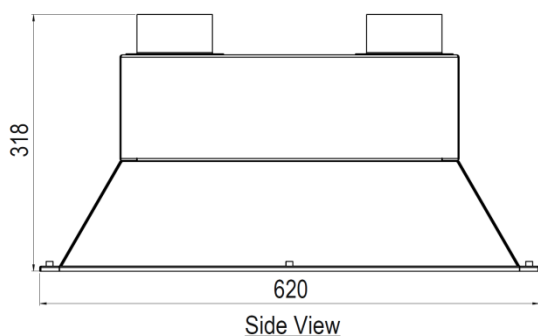
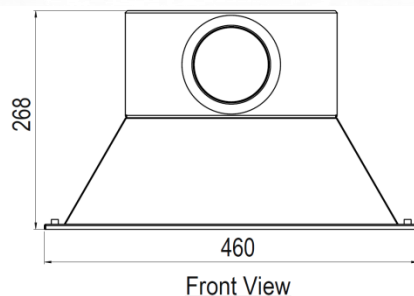
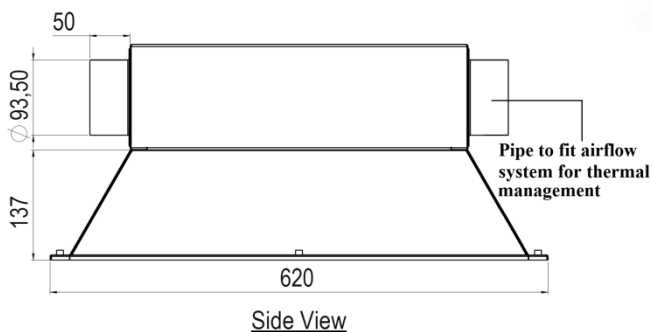
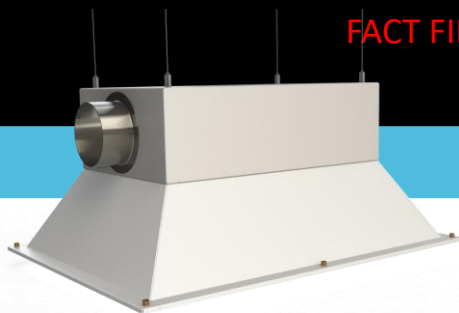
Light Source @ 1000mm above plant canopy



# GrowLed Maxi - In line thermal management arrangement

This product is force cooled and can be used to 'warm' areas

FACT FILE



Body construction	Powder coated mild steel – Available in SS on request.
Lens type	4mm Polycarbonate
Supply voltage	230V AC 50HZ
Total circuit load	440W 460W – With Far red
Lumens	59 560 (850µmols) 4000K
IP rating	IP 65
Control Type	Standard - no control, on or off I-10V control available DMX control available DALI control available
Power factor	Better than 0,97

Lumen values are as measured at source - on the PCB - not exiting light fitting.  
Values are subject to change at any time and without notice.

# GrowLed Maxi - In line thermal management arrangement

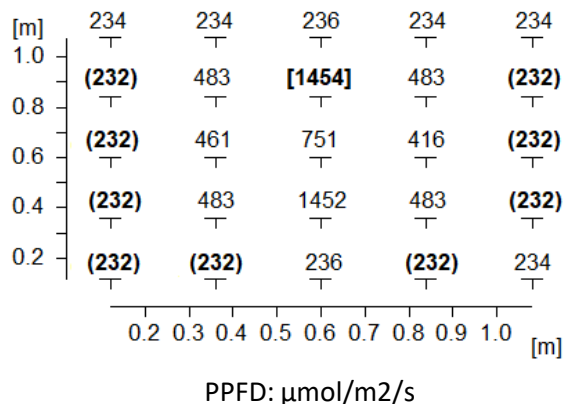
This product is force cooled and can be used to 'warm' areas

FACT FILE

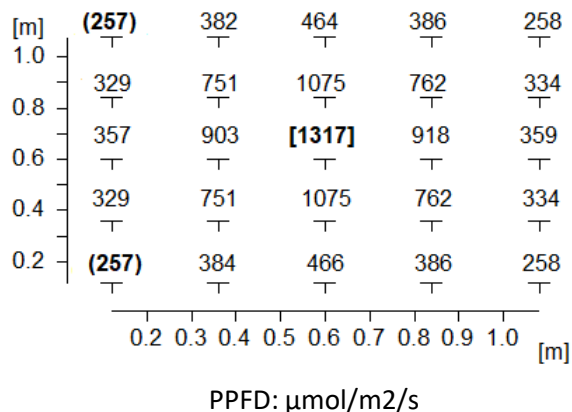
PPFD – Point by Point  
Results for 1.2mx1.2m  
grow area.

## GrowLed Maxi 460W - PPFD Results - 1.2m x 1.2m Grow Area

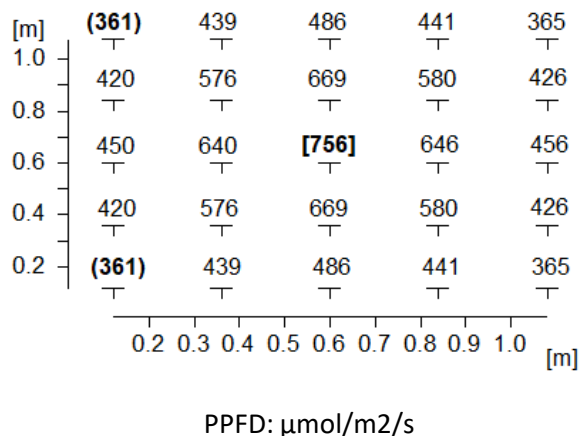
Light Source @ 250mm above plant canopy



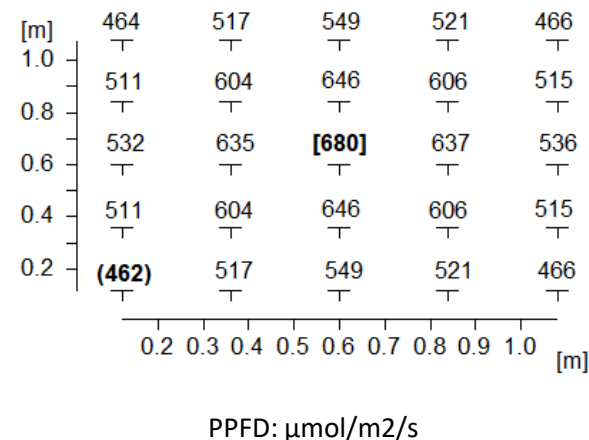
Light Source @ 500mm above plant canopy



Light Source @ 750mm above plant canopy



Light Source @ 1000mm above plant canopy



## Parameters and descriptions

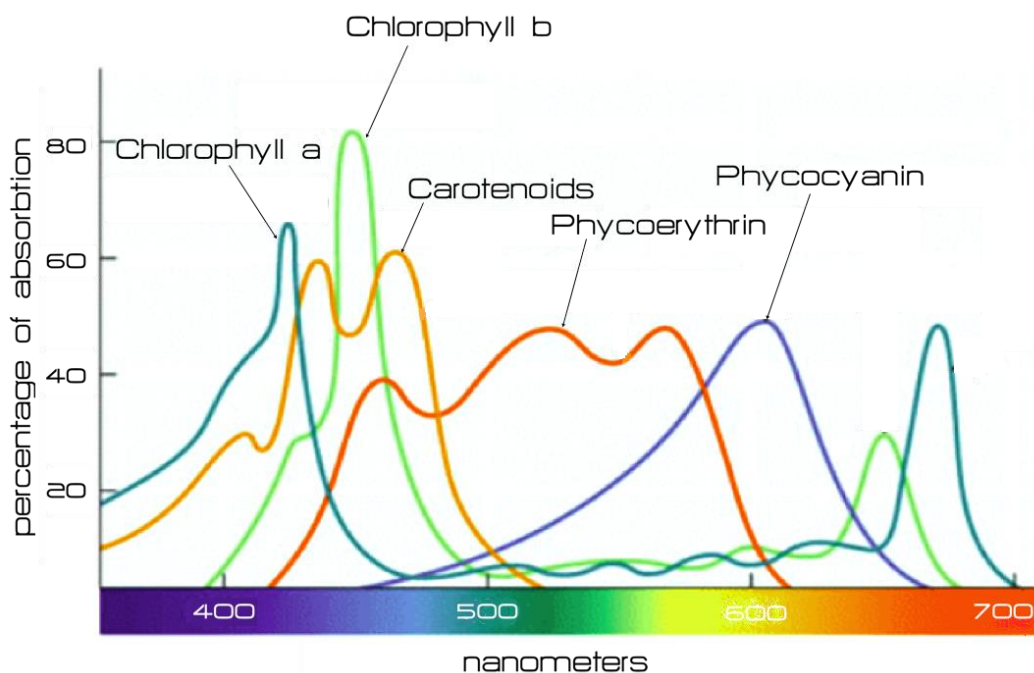
PPFD – Photosynthetic Photon Flux Density. The number of photons reaching the plant are more important than the energy of the photons themselves. Red – having a longer wavelength carries more photons than blue – and so is considered more effective in promoting photosynthesis

YFPD – Yield Photosynthetic flux density. Not each photon equally contributes to photosynthetic activity. Therefore if the exact response of a plant is to be considered –then a more accurate measurement is required. YFPD – also known as weighted spectrum

DLI – Daily light integral – the number of photons falling on a square m in one day – each plant has different requirements – these range between 6-18  $\mu\text{mol}/\text{m}^2/\text{day}$   $\text{DLI} = \text{PPFD} \times \text{light hours per day} \times (3600/1000,000)$

PAR – Photosynthetic Active Radiation – what plants require for photosynthesis – refer to McCree action spectrum for ideal light quality.

### Absorption spectrum



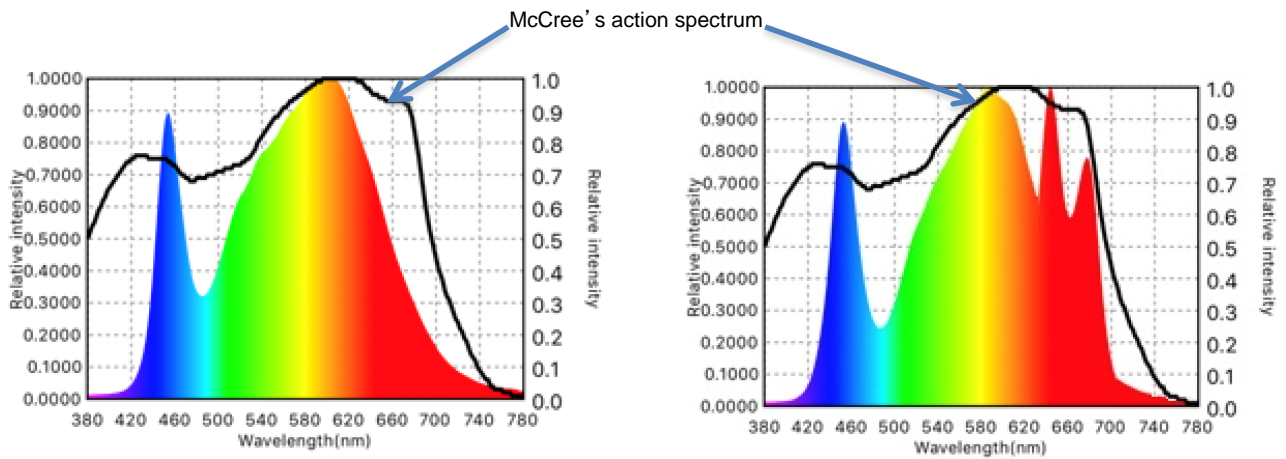
Photosynthesis depends upon the absorption of light by pigments in the leaves of plants. The most important of these is chlorophyll-a, but there are several accessory pigments that also contribute.

There is another photosynthetic pigment called carotenoid in plants. The carotenoids also absorb light energy that they pass it to the chlorophyll molecules. Chlorophylls. Carotenoids are orange (carotenes) or yellow (xanthophyll).

The measured rate of photosynthesis as a function of absorbed wavelength correlates well with the absorption frequencies of chlorophyll a, but makes it evident that there are some other contributors to the absorption.

The plot of the absorption spectra of the chlorophylls plus beta carotene correlates well with the observed photosynthetic output. The measure of photochemical efficiency is made by measuring the amount of oxygen produced by leaves following exposure to various wavelengths.

## Standard spectrum menu's available



### Suggested light levels.

Cloning and seedlings - 5000 – 10 000 lux (71 – 142  $\mu$ mol/s)

Vegetative growth - 15 000 - 25 000 lux (214 – 357  $\mu$ mol/s)

Flowering - 25 000 - 50 000 lux (357 – 714  $\mu$ mol/s)

We manufacture our own PCB arrays, in house, in our factory in Northlands Business Park – North Riding – South Africa – using only known and trusted LED chips. We are therefore able to assemble most wavelength mixes you might want.

We have our own in-house photo goniometer and integrating sphere – with calibrated spectrometer and light meter – so we know exactly what we are producing.

### Ultraviolet Light (UV)

Ultraviolet light is comprised of three different wavelength ranges of light; UV-A, UV-B and UV-C

**UV-A** is known to promote robust yields for most plant types. When combined with Far Red, it is ideal for robust stem growth, proper nodes spacing, more flowers and fruit. It also enhances flavours and aromas.

Research has shown that exposing plants to UV-A light can also inhibit mould growth and fungal development.

**UV-B** can have positive effects for plants, for example, plants respond to the stress and sunburn from UV-B wavelengths, by creating its own sunscreen in the form of trichomes.

**UV-C** has the shortest wavelength and most energy but is potentially the most stressful to plants and human skin causing sunburn and can be very damaging to human eyes. It is very effective for grow room and tunnel clean up and disinfection. It is also very effective in clearing plant mould growth and fungal infections like Powdery mildew on plants during growth.

**The correct doses must be used, and appropriate protective gear should always be worn when using the UV-C light. UV-A and UV-B is not as harmful but prolonged exposure can cause skin irritation.**