

MIGRO ARRAY - Instruction Manual & Datasheet



MIGRO-ARRAY

Instruction manual and datasheet

Follow us on IG @advanced_grow_lights #advancedgrowlights

STOP – Please read all these instructions carefully especially the safety section before unboxing and assembling

Safety

Please read this manual thoroughly before assembling and installing the MIGRO grow lights system

Please retain this manual for reference for the lifetime for the product



The MIGRO system limits the voltage in the grow room to 96Vdc and has built in protection for overcurrent, shorts or overheating. However, to minimise any remaining risk please switch the power off while installing and adjusting the MIGRO system. If the mains plug needs to be changed to suit your power socket only a qualified person should carry out this work, in accordance with your local codes.

The MIGRO system will operate on a supply voltage ranging from 100V to 277V AC and from 50 to 60Hz frequency. Any other supply voltage will damage the lighting system.

The grow light and the cabling from the LED driver to the grow light is IP66 rated and can be used in a wet area. The mains power plug is not IP rated for a wet area and should be located in a dry area outside of the grow room. If the cable insulation or glands are damaged switch off the system immediately and return to us for repair.



The MIGRO grow light has a highly efficient and passive cooling heatsink. In order to function correctly air must be able to flow freely across the fins of the heatsink. Do not cover the grow light and restrict the airflow across the heatsink under any circumstances. This will result in heat build up which may damage the grow light and/or cause a fire.

Do not put the grow light down on any surface when the light is on. The light intensity and radiated heat may damage the surface.



The light intensity from each MIGRO grow light is very high. If you look directly at the light source from less than 20cm or 9" away the intensity is equivalent to the sun. To protect your eyes do not look directly at the light source when less than 60cm or 2 feet away.

Setup instructions

Connect the LED bars together with the connector brackets provided. Centre the bracket along the length of the LED bar (line it up with the Cable gland) and screw in place using the allen-wrench provided.



Attach the ratchet hangers to the grow light at the cable splitter splitter.



ARRAY 2 & 3

Attach 2 x ratchet hangers to each light fixture



ARRAY 4, 8 and 12

Attach the 2 x clips to each cable splitter and attach a single ratchet hanger to each cable



Hang the LED driver using the S hook or Carabiner clip



Dimmer adjustment - ARAY 2,3,4,8 & 12



Adjust the Light intensity using the dimmer control on the LED driver

From seedling:

For Seedlings start at a 1/3 turn of the dimmer from off position (about 30% output) and 14" or 35cm hanging height – keep at this level for the first 2 to 3 weeks until two or three sets of true leaves have developed.

Plants over three weeks old, Vegging cycle

Hang at 40cm or 16" over the top of the plant canopy. Set the dimmer to 75%

After initial setup check them after a few hours. Look for signs of plant stress; curled leaf tips, yellowing leaf tips etc. If you see these signs reduce dimmer by 1/5 turn and monitor.

Flowering cycle

Hang at 16cm to 25cm or 6" to 10" over the top of the plant canopy for maximum system efficiency and set the dimmer to 100%

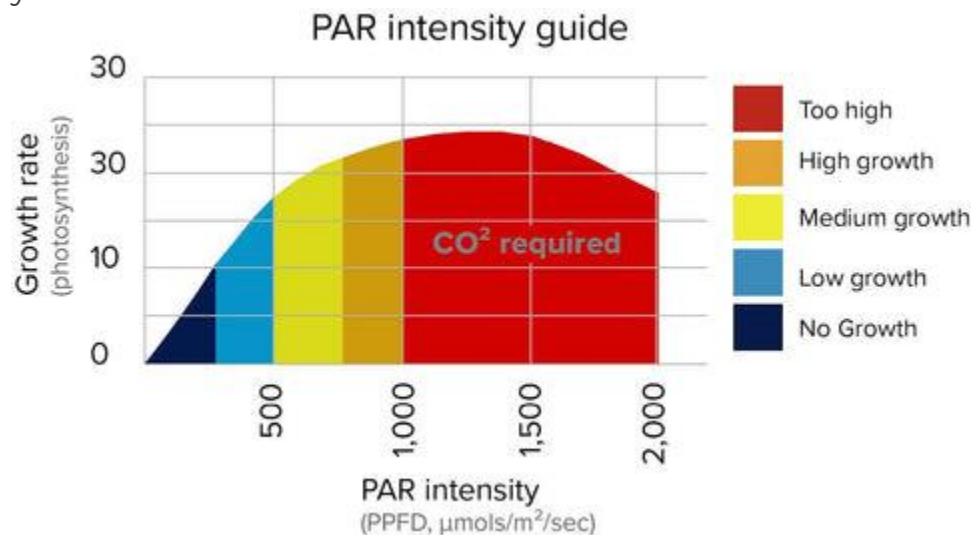
Hang at 16" or 40cm for maximum uniformity and about 5% reduced PAR reaching the canopy.

After initial setup check them after a few hours. Look for signs of plant stress; curled leaf tips, yellowing leaf tips etc. If you see these signs reduce dimmer by 1/5 turn and monitor.

Dimmer adjustment - ARAY 1 & 1L seedling light

How much light plants need for maximum yield

To optimize your grow it is recommended that your plants receive 500-1,000 μmol s of PAR light for every m^2 (PPFD). Less than this and growth rates and yield will be low.



Growth rates at higher PPFD levels do not justify the extra energy cost and heat output and the plants require additional CO_2 to utilize the high PAR intensity

Light Intensity PAR charts

ARRAY 2 +RED PPFD MAP in 2x2 Tent

Designed balanced PAR spread
per plants stage to maximise your yield



**PAR Meter:
Apogee MQ-620**

Seedling Distance: 10" (26cm) Brightness: 30%



Vegetative Distance: 16" (40cm) Brightness: 100%



Flowering Distance: 6" (16cm) Brightness: 100%





**PAR Meter:
Apogee MQ-620**

ARRAY 4 +RED PPFD MAP in 2x4 Tent

Designed balanced PAR spread
per plants stage to maximise your yield

Seedling Distance: 14" (35cm) Brightness: 30%



Vegetative Distance: 20" (50cm) Brightness: 75%



Flowering Distance: 10" (25cm) Brightness: 100%



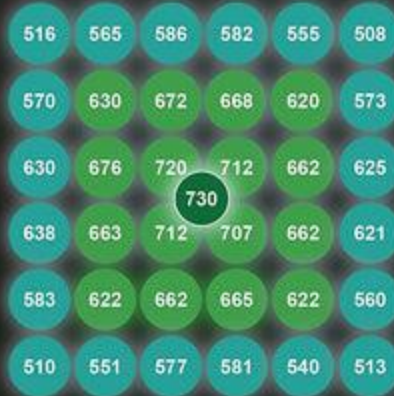
ARRAY 3 +RED PPFD MAP in 3x3 Tent

Designed balanced PAR spread
per plants stage to maximise your yield



PAR Meter:
Apogee MQ-620

Vegetative Distance: 18" (45cm) Brightness: 100%



Seedling Distance: 15" (38cm) Brightness: 30%



Flowering Distance: 11" (28cm) Brightness: 100%



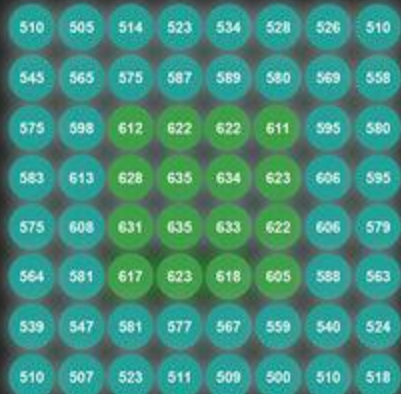
ARRAY 8 +RED PPFD MAP in 4x4 Tent

Average PAR 813 $\mu\text{mol}/\text{m}^2/\text{sec}$
Even light distribution
System efficiency 2.34 $\mu\text{mol}/\text{watt}$

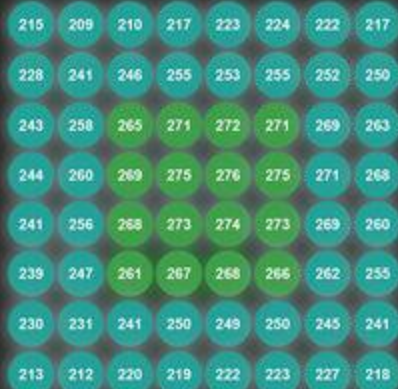


**PAR Meter:
Apogee MQ-620**

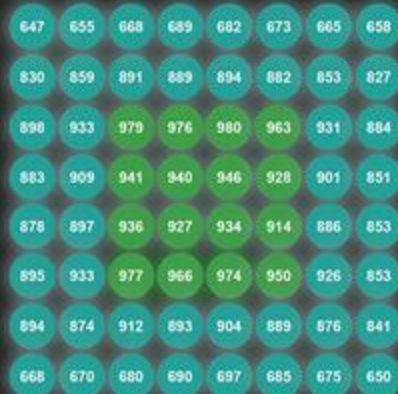
Vegetative Distance: 20" (51cm) Brightness: 75%



Seedling Distance: 18" (45cm) Brightness: 30%



Flowering Distance: 11" (28cm) Brightness: 100%



ARRAY 12 +RED PPFD MAP in 5x5 Tent

Average PAR 780 $\mu\text{mol}/\text{m}^2/\text{sec}$
Even light distribution
System efficiency 2.34 $\mu\text{mol}/\text{watt}$



**PAR Meter:
Apogee MQ-620**

Seedling Distance: 21" (54cm) Brightness: 30%

208	230	242	253	260	259	260	247	225	205
228	245	267	281	292	289	281	265	244	228
243	259	283	299	310	310	301	283	258	240
243	263	294	313	324	324	316	296	263	242
248	261	296	320	330	330	320	300	264	239
245	261	298	320	331	331	320	300	261	235
255	268	297	319	325	324	313	292	259	240
237	260	285	305	312	306	299	281	250	240
228	241	268	284	281	279	276	259	232	221
208	216	227	230	231	231	228	235	220	206

Vegetative Distance: 23" (58cm) Brightness: 75%

501	542	580	596	614	614	617	582	536	492
550	573	622	656	682	674	661	619	576	550
579	603	655	691	714	714	696	653	603	575
571	609	675	717	739	739	722	679	616	580
566	600	679	727	745	746	725	680	604	558
564	595	688	723	746	744	722	666	598	548
579	609	665	719	732	729	705	663	597	556
53	585	636	697	711	691	674	635	578	557
517	544	584	650	649	631	628	584	533	520
493	505	561	553	558	536	541	526	519	493

Flowering Distance: 21" (54cm) Brightness: 100%

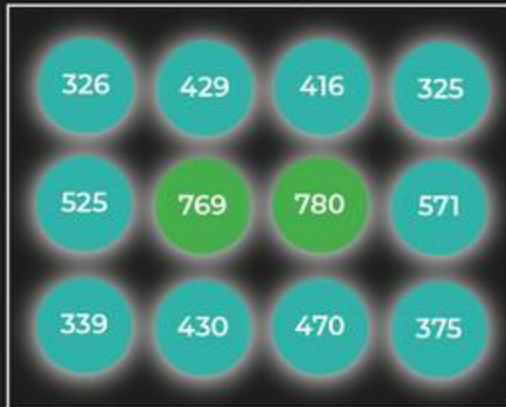
640	717	746	767	793	789	795	755	679	622
701	740	807	854	888	879	855	805	736	691
744	783	858	903	937	930	907	855	780	710
737	789	880	940	969	969	945	886	790	717
727	778	886	949	961	960	951	889	782	700
722	780	887	947	978	978	950	887	772	699
741	794	872	940	956	954	920	868	764	707
700	756	839	890	922	909	880	828	741	708
664	705	786	825	846	817	811	753	680	648
624	648	722	727	716	705	708	707	670	628

MIGRO ARAY

ARAY 1 seedling
100% power | 65W

60cm x 45cm / 2ft x 1,5ft | Hanging height: 20cm

Reflective Mylar walls



Average PPF: 479 $\mu\text{mol}/\text{m}^2/\text{sec}$

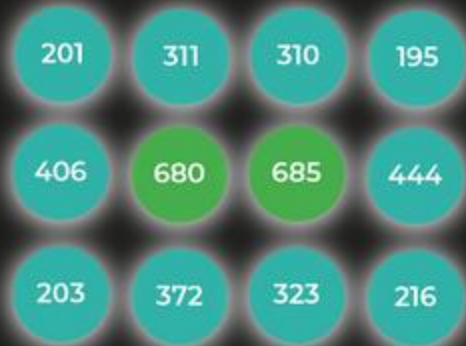
www.migrolight.com

MIGRO ARAY

ARAY 1 seedling
100% power | 65W

60cm x 45cm / 2ft x 1,5ft | Hanging height: 20cm

No reflective walls



Average PPFD: 360 $\mu\text{mol}/\text{m}^2/\text{sec}$

www.migrolight.com

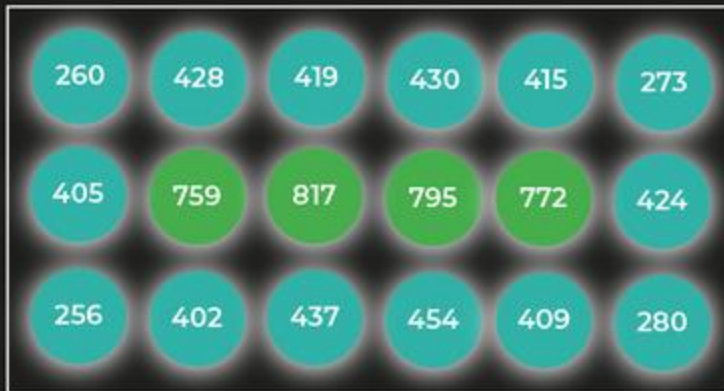
MIGRO ARAY

ARAY 1L seedling

100% power | 95W

90cm x 45cm / 3ft x 1,5ft | Hanging height: 20cm

Reflective Mylar walls



Average PPF: 468 $\mu\text{mol}/\text{m}^2/\text{sec}$

www.migrolight.com

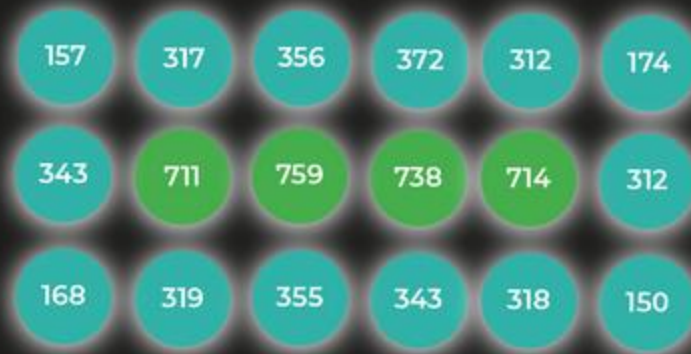
MIGRO ARAY

ARAY 1L seedling

100% power | 95W

90cm x 45cm / 3ft x 1,5ft | Hanging height: 20cm

No reflective walls



Average PPF: 384 $\mu\text{mol}/\text{m}^2/\text{sec}$

www.migrolight.com

Light Spectrum

Full Spectrum Inspired By Nature

The ARAY spectrum is designed for full-cycle growth from seed to harvest.



5000k

Promotes plants germination



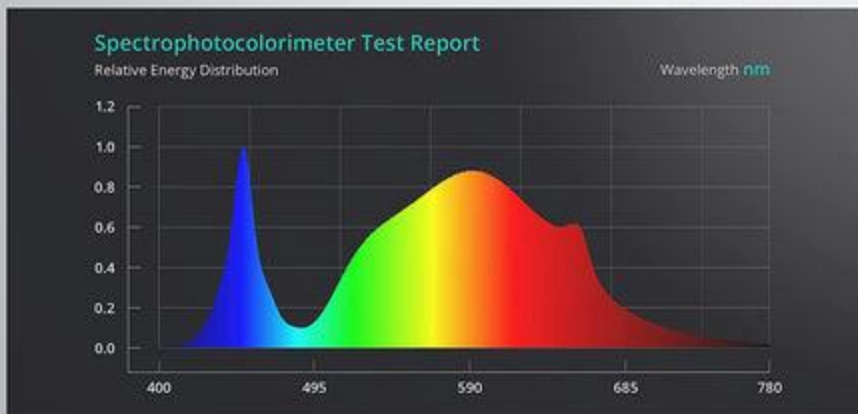
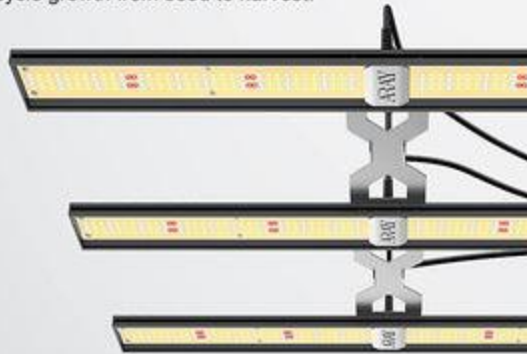
3000k

Boosts plants flowering



660nm

Promotes plants flowering



Hardware overview

LED bar

The small LEDs (surface mounted diodes, SMDs) are delicate and can be easily damaged.

Take care putting them down and during assembly. They are protected from water and dust with a conformal coating so they can be wiped clean of dust and dirt.



LED driver

The LED driver is highly efficient and reliable constant current transformer and has inbuilt protection from:

- Output over voltage
- Over temperature
- Short circuits

In the event of any of the above the driver will shut down. The driver will automatically restart if the conditions return to normal.

Remote LED Driver, Lightweight & Durable

Minimize hanging weight of the fixture, remove heat from tent.
Increase the driver lifespan and reduce light decay.



The driver and the mains plug connection should be located outside of the grow area in a dry and safe position with adequate ventilation. The life of the LED driver is related to its operating temperature. Keeping it as cool as possible will extend its life.

The driver is dimmer controlled and has an inbuilt dial for adjusting the output from 10% to 100%. Up to 15 drivers can be connected together in daisy chain connection for simultaneous dimming control.

Set the toggle switch on for master dimmer driver and off for slave dimmer drivers.



Airflow and ventilation

Whatever position the grow light is fixed always ensure there is adequate room for airflow around the heatsink to prevent heat buildup. There should be at least 5cm or 2" clearance on three sides of the heatsink.

The heatsink is a 'fast flow' passive heatsink allowing air to move quickly over the heatsink surface and remove the heat at a high rate.

Driver and Lamp operating temperature

Both the led bar heatsinks and led driver both operate at about 25 deg. C or 45 F above ambient temperature. So, at 25 degrees C or 77 F room temp the driver and heatsink will be about 50 deg. C or 122 F. This is perfectly normal and safe.

To minimize the temperature locate the driver down low at the air intake and have the out take moving air across the heatsink.

If the driver case temperature gets to 90 Deg C or 195 F the output current will be reduced. If the temperature does not reduce, then it powers off until temperatures have reduced.

Maintenance

The MIGRO grow light system requires almost no maintenance. In ordinary use the only maintenance required is to keep the heatsink and the led surface clean. This will ensure the cooling performance and light output are maintained, respectively.

To clean all of the components switch off the power and use warm water and soap with a damp cloth. Do not under any circumstances use a solvent, acid based or an abrasive cleaner on any of the components. Doing so may damage the finish of the product and the electrical and led coating

Typical Package contents:



Email: info@advancedgrowlights.com

Website: <https://advancedgrowlights.com>

YouTube: [MIGRO channel – optimize your grow light setup](#)