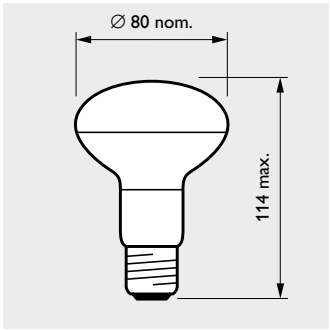
Incandescent reflector lamps

Flower Power



Dimensions in mm

Description and application

Satinised blown-bulb reflector lamp with an internal aluminium mirror reflector, giving a light beam of 115 degrees.
The diameter of the lamp is 80 mm and it has an E27 brass nickel-plated lamp cap. The lamp wattage is 100 W and it is for 230 V or 240 V operation.
The Flower Power lamp is specially designed for new or existing photoperiodic lighting installations and is suitable for use both in greenhouses and in the open air. The light-technical features of the lamp are such that it can directly replace existing light sources of 100 W or 150 W, clear or diffuse, e.g. Argenta Superlux.

Features and benefits

Energy saving

Thanks to the internal reflector system, the lamp directs all its light in the direction where it is needed, so there is no spill light: In a practical installation where lamps are mounted in a module of 3 x 3.2 m, a Superlux 150 W has an installed power of 15.6 W/m^2.
The Flower Power 100 W has an installed power of 10.4 W/m^2, resulting in a reduction of the power load of 30%.

Longer life

Thanks to the design of the lamp and the use of special filling gases, its average life will be longer and earlier lamp failure will be less compared to a Superlux lamp.
Deviation from the nominal supply voltage, versus the lamp voltage, can affect the lifetime either favourably (lower voltage) or unfavourably (higher voltage). Fluctuations in the mains voltage naturally also have an influence on the light output.

Corrosion-free

The lamp is provided with a nickel-plated brass cap which cannot corrode. This prevents rust and means that the lamp can be easily removed from the lampholder during replacement.

No luminaire needed

Due to its in-built reflector, the lamp does not require a luminaire or reflector system to distribute its light, thus saving on material and reducing shadow on the crop during daytime.

Bulk packed

In order to limit unpacking time and to save on unpacking costs, the lamps are not supplied in individual cartons but in bulk packing containing 90 pieces.

Applications

Practice has proven that the spectral energy distribution of the incandescent lamp is most suited for photoperiodic lighting ("day lengthening" or "night break" lighting), which causes the suppression or initiation of the flowering process in cut-flowers and flowering pot plants. The light output of the Flower Power lamp is such that it can replace lamps in existing installations, retaining the photoperiodic effect.

Installation and application data

To obtain optimal lighting results, the application of the Flower Power lamp is subject to a number of installation criteria.

General application criteria

The lamps can be applied:
- in new photoperiodic lighting installations in greenhouses, or
- as replacements for lamps in existing lighting installations, such as Superlux or other similar incandescent lamps.

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When applying these lamps above cut-flower plants such as chrysanthemums it is recommended to install:
- one lamp per .7.5 m^2 above the stock plants,
- one lamp per .9.6 m^2 above cut-flower production.

Flower Power 100 W
This lamp is suitable for all applications where:
- the electrotechnical installation has a mains voltage 220-230 volt (230 V lamp) or 230-240 volt (240 V lamp);
- obstacles are unavoidable; to avoid the effect of shadows on the plants there should be a minimum distance between obstacles and lamps of 80 cm;
- the lamps in the installation are mounted perpendicular to the plant.

Application criteria for 100 W Flower Power lamp:

Criteria		
- Min. net height*	(m)	2.00
- Spacing (width + length)		
6.40 m. bay	(m)	3.20 x 3.0
8.00 m. bay (single span)		
(net height ≥ 2.40 m)	(m)	4.00 x 2.40
16.00 m. production batch		
(8 m. double span)	(m)	3.20 x 3.00
- Illuminance**	(lux)	95
- Energy saving compared to Superlux 150 W	(watt)	50 (30%)
- For application with:		
1. Mains voltage***	(volt)	220-230 or 230-240
2. Obstacles allowed	no	
3. Critical crops	yes	

* Distance between harvest-ready crop and lamp.
** With nominal mains voltage of 230 V or 240 V and perpendicular mounted lamp.
*** With a real voltage of the electrotechnical installation of 230 V and 220-230 V or 240 V and 230-240 V. For mains or installation voltages lower than 220 V and/or with large obstacles present it is recommended to use the Superlux 150 W.

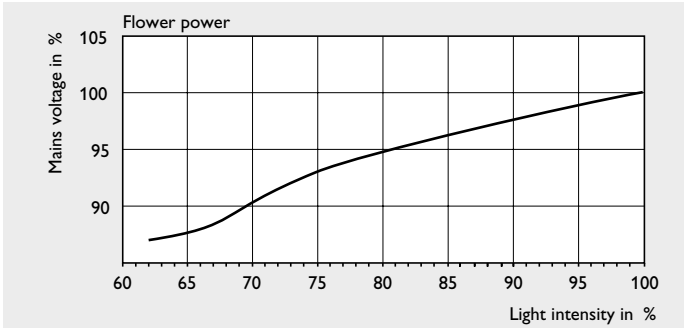
A few hints for optimal lighting
To obtain the design intensity of illumination, attention should be given to the following points:

Before installing a new lighting system or replacing the lamps in an existing installation:
- Check the mains supply voltage (transformer or main distribution board) to make sure there is sufficient power and that the installation voltage is nominal. Your energy supplier and installer can help you with this.
- Voltage loss is loss of light. So make sure there is as little voltage loss as possible (correct thickness and length of cabling).
- To obtain maximum light output and optimum uniformity, it is necessary for the lamps to be mounted perpendicular to the plants.
- Avoid obstacles which can cause shadow on the plants.
- To determine the real voltage and illuminance, measurements should be made during peak hours and the normal operating period of the installation.
- The measurements should also determine the voltage of the installation (at the lamps).
- An illuminance which is too low, caused by a lower than nominal mains voltage or much shadow, can lead to premature flowering. Adapting the lighting cycle, e.g. 7.5 or 10 minutes per half hour instead of 6 minutes, may overcome this effect.

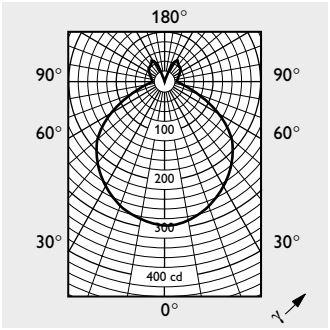
(For having a fast reaction time or critical cultivars, it is recommended to consult your seed/cutting supplier.)

Note:
The described applications and test results are based on current specific circumstances. Under different circumstances with other plant material, temperature, CO^2, relative humidity or EC, the results may differ.
Also climatological conditions outside the greenhouse, such as the global daily radiation, may have an influence on the crop result.
Lengthy low day-sum radiation levels can, e.g. in the case of chrysanthemums, cause splitting or premature flowering.
These effects are strongly dependent on the varieties.
For these reasons, Philips cannot be held responsible for unsatisfactory results with the crops grown.

Type	W	V	Cap/base	Finish	Lamp life 100% h	Max luminous intensity cd	Nett weight g	Ordering number	EOC
E80									
E80	100W	230V	E27	115DGR	1000	300	40	9233 431 44200	166586



Light intensity diagram



Polar light distribution

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