

LYNX Compact Fluorescent Lamps



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SYLVANIA



LYNX Compact Fluorescent Lamps

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Introduction

Compact fluorescent lamps are economical and energy efficient alternatives to incandescent lamps. With 4 times the luminous efficacy (lumen/Watt) and 8 times the average life, there is a large potential for these new light sources to save on lighting cost and energy, considering the over 1 billion incandescent lighting points in service in Western Europe.

Modern fluorescent lamp know-how, new materials and manufacturing technology, as well as the use of advanced electronics for the operating control of these lamps have evolved with innovation, of which the MINILYNX super-compact retrofit lamp is the latest creation.

SYLVANIA offers a range of compact fluorescent lamps to economy minded end-users. There are Retrofit products with integrated control gear, or adaptor versions for the direct replacement of incandescent lamps in existing lighting points or CF lamps for the design of new luminaires complete with integrated control gear.

The decision to change to CF light sources or to choose luminaires designed for the use of these efficient lighting products is made easy when we look at the cost of consumed electrical energy over the average life of a lamp and not only at the purchase cost.


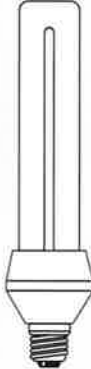
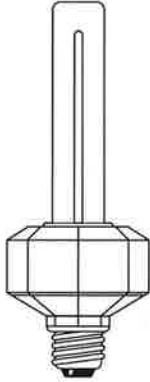

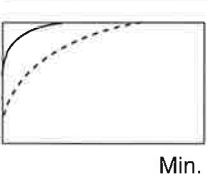
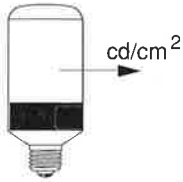
In commercial or public installations, CF lamps offer additional savings because of their long life and reduced maintenance cost.

Application choice

| Retrofit | | New Luminaire Design | |
|---|-----------------------|-----------------------------|---|
| | | MINILYNX | |
| LYNX-DIAMANT-D | | LYNX-S LYNX-D | LYNX-SE LYNX-DE LYNX-L |
| E27 or B22 Lampholder | Dedicated lamp holder | | |
| No control gear incorporated in luminaire | | Chocke incorporated | Choke and starter incorporated or electronic control gear or control gear for dimming |

Retrofit

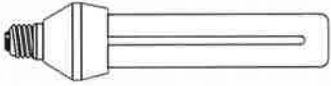
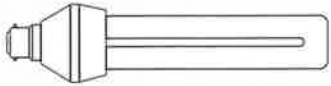
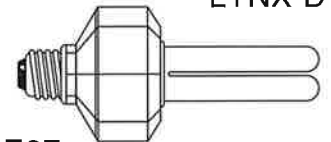
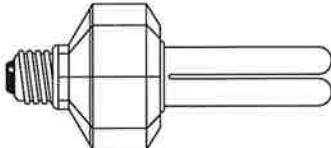
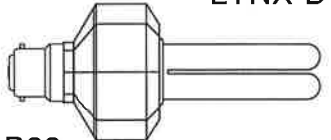
Types and advantages

| | | | |
|---|---|---|---|
| |  |  |  |
| ø, L | | + | |
|  | | + | |
| Cos φ | | + | |
|  | | + | + |
|  | + | (1) | (1) |
| Open outdoor luminaires Low temperatures | + | (2) | (2) |
| ECONOMY (DIAMANT Adaptor Life 50.000h) | | + | + |

- +** Best
- (1)** Use in luminaires with adequate enclosure for glare control
- (2)** Use in closed outdoor fixtures for optimum light output at low temperatures.

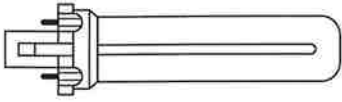
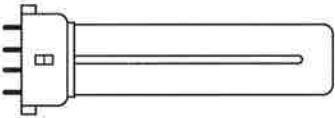
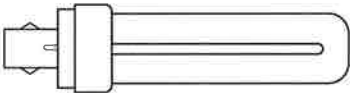
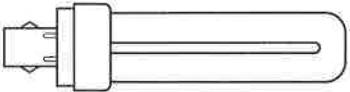
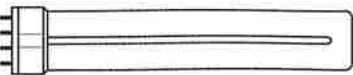
SYLVANIA Product Range

Compact Fluorescent Lamps

| Retrofit Products (Light colour SATIN 182) | | | | |
|---|---------------------|-----------------------------|-------------------------|----------------------------|
| Type | Wattage (W) | Voltage (V) | Code Nr | Equivalent GLS Wattage (W) |
| MINILYNX  E27 | 7 11 15 20 | 220 - 250 DC 160-250 | 25530 25532 25534 | 40 60 75 |
| MINILYNX  B22 | 7 11 15 20 | 220 - 240 DC 160-250 | 25531 25533 25535 | 40 60 75 |
| LYNX-DIAMANT LYNX-D  E27 | 10 13 18 | 220 | 25300 25301 25324 | 60 75 100 |
| LYNX-DIAMANT LYNX-D  E27 | 10 13 18 | 240 | 25312 25313 25325 | 60 75 100 |
| LYNX-DIAMANT LYNX-D  B22 | 10 13 18 | 240 | 25302 25303 25326 | 60 75 100 |

SYLVANIA Product Range

Compact Fluorescent Lamps

| Type | Watt. (W) | Equiv. GLS Watt. (W) | Light Colours/Product Codes | | | | | | | |
|---|-----------------------------|----------------------------|----------------------------------|-------------------------|----------------------------------|-------------------------|----------------------------------|----------------------------------|----------------------------------|----------------|
| | | | SATIN 182 | DECOR 183 | BURO 184 | STUDIO 186 | Blue | Green | Red | BL350 |
| LYNX-S G23  Integral Starter | 5 7 9 11 | 25 40 60 75 | 25206 25200 25201 25202 | | 25600 25601 25602 25603 | 25604 25605 25606 | 25590 25593 25598 25596 | 25589 25592 25597 25595 | 25588 25591 25599 25594 | 25276 25277 |
| LYNX-SE 2G7  | 5 7 9 11 | 25 40 60 75 | 25619 25620 25621 25622 | | 25615 25616 25617 25618 | | | | | |
| LYNX-D  * G24d-1 ** G24d-2 *** G24d-3 Integral Starter | 10* 13* 18** 26*** | 60 75 100 150 | 25210 25211 25260 25213 | | 25382 25383 25384 25385 | | | | | |
| LYNX-DE  * G24q-1 ** G24q-2 **** G24q-3 | 10* 13* 18** 26*** | 60 75 100 150 | 25336 25337 25389 25391 | + + + + | 25386 25387 25390 25392 | | | | | |
| LYNX-L 2G11  | 18 24 36 | 100 150 200 | 25226 25227 25228 | 25233 25235 25237 | 25234 25236 25238 | | | | | |

+ Special order types

Light Quality

Compact fluorescent lamps are made with high performance fluorescent powders which provide a high colour rendering index (class 1b) and allow for a range of different possible colour temperatures. See data on page 7

Light colour SATIN 182 with a colour temperature of 2700K is the closest to standard incandescent light and is available for all CF lamp types - it is used for home lighting and in all other applications where we want to create a warm and hospital atmosphere, as in restaurants, bars, hotel lobbies etc. - Light colour 182 is also the choice for maintaining a harmony of colour temperature when CF light sources are used in combination with decorative incandescent lamps.

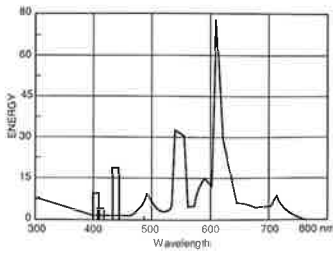
Other light colours such as DECOR 183 (3000K) and BURO 184 (4000K) provide a "cooler" or "fresher" light more suitable for the lighting of halls, corridors, stair cases etc. Light colour 184 should be used for complimentary lighting points within general 4000K (Cool white) lighting schemes, in offices, schools, public buildings etc.

In general, these light colours are equivalent to the 180 LUXLINE series Deluxe colours as used for standard tubular lamps of 26 mm diameter.

Ultraviolet radiation

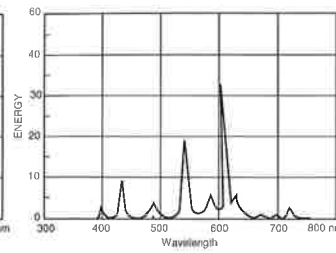
The radiation from CF lamps contains a very small amount of UVA very similar to the radiation as from standard tubular fluorescent lamps. There is no radiation hazard in normal exposure conditions (≤ 0.05 W/m²).

Lamp colours (Colorimetrics)



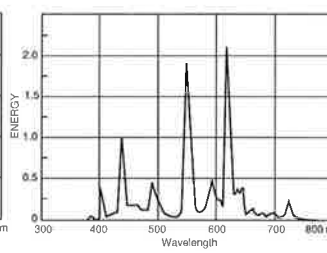
**182
SATIN**

2700K
85 Ra (Class 1b)
X = 0.464
y = 0.411



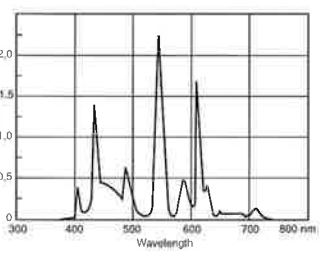
**183
DECOR**

3000K
85 RA (Class 1b)
x = 0.435
y = 0.405



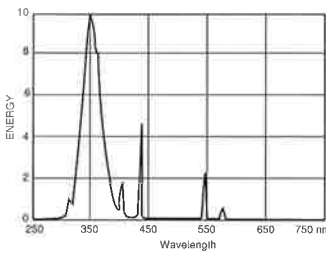
**184
BURO**

4000K
85 Ra (Class 1b)
x = 0.382
y = 0.382

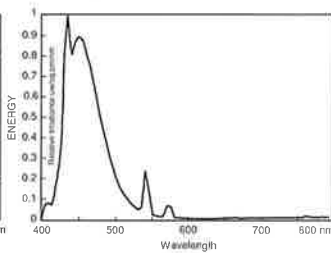


**186
STUDIO**

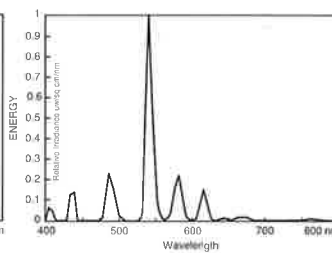
6000K
85 Ra (Class 1b)
x = 0.318
y = 0.334



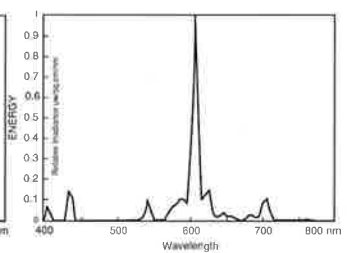
**BL 350
Blacklight-UVA**



Blue



Green



Red

Presently available lamp colours*

| Lamp Type | 182 | 183 | 184 | 186 | BL350 | Blue | Green | Red |
|-----------|-----|-----|-----|-----|-------|------|-------|-----|
| Lynx-S | X | | X | X | X | X | X | X |
| LYNX-SE | X | | X | | | | | |
| LYNX-D | X | | X | | | | | |
| LYNX-DE | X | | X** | | | | | |
| LYNX-L | X | X | X | | | | | |
| MINI-LYNX | X | | | | | | | |

*Check commercial catalogues and price list

** Special order type

Lamp run-up

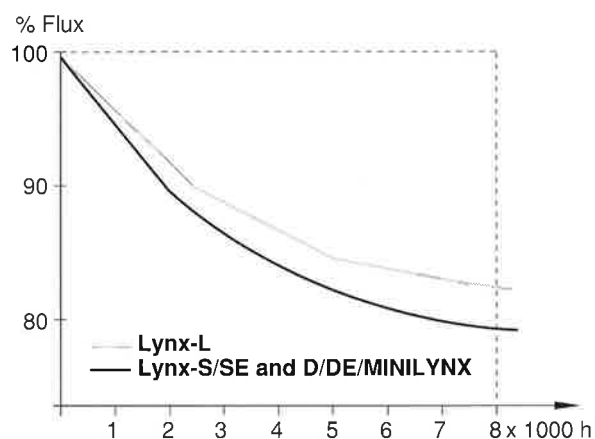
Similar to normal tubular fluorescent lamps, the CF types require a few minutes after starting until the full light output is reached. Depending on the ambient air temperature the initial light output at 20°C is about 70% of nominal.

During the warm-up time and particularly during the first 30 seconds there may be an observable flicker, which is due to the mercury vapour pressure stabilisation.

Photometric performance

| Lamp Type | Wattage (W) | Light output at 100 h * (lm) |
|-----------------------|-------------|------------------------------|
| MINI-LYNX | 7 | 400 |
| | 11 | 600 |
| | 15 | 900 |
| | 20 | |
| Diamant LYNX-D | 10 | 600 |
| | 13 | 900 |
| | 18 | 1200 |
| LYNX-S | 5 | 250 |
| | 7 | 400 |
| | 9 | 600 |
| | 11 | 900 |
| LYNX-SE | 5 | 250 |
| | 7 | 400 |
| | 9 | 600 |
| | 11 | 900 |
| LYNX-D | 10 | 600 |
| | 13 | 900 |
| | 18 | 1200 |
| | 26 | 1800 |
| LYNX-DE | 10 | 600 |
| | 13 | 900 |
| | 18 | 1200 |
| | 26 | 1800 |
| LYNX-L | 18 | 1200 |
| | 24 | 1800 |
| | 36 | 2900 |

Lumen maintenance of lamp colours 182, 183, 184, 186



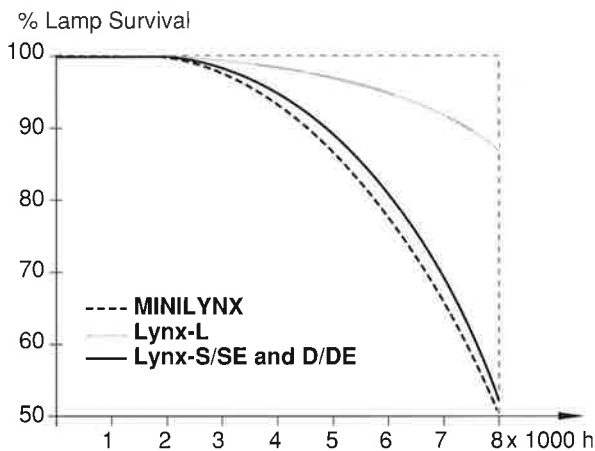
*For lamp colours 182, 183, 184, 186

Lamp life and switching cycles

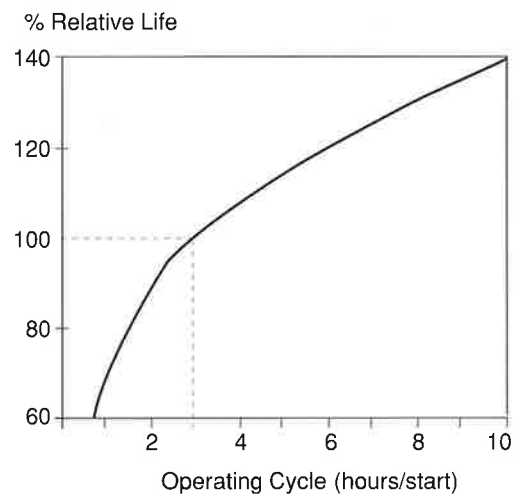
The life of CF lamps is reduced by frequent switching. Life testing is done with 8 switchings in 24 hours and results in an average, life of 8000 hours (50% failure rate).

The exception are LYNX-L lamps with an average rated life of 12.000 hours.

Average lamp life of types as listed

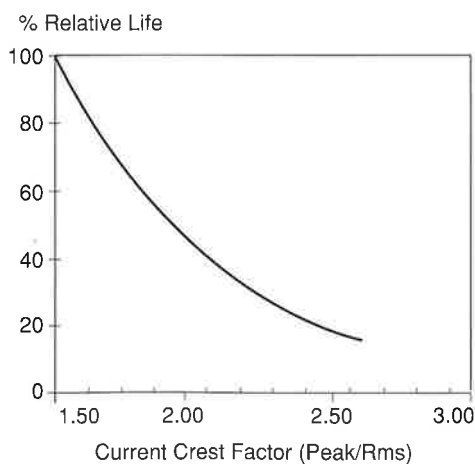


Operating cycle influence on lamp life (Exception: MINILYNX)



Switch cycle for life test is 2 h 45 min. on and 15 min. off

Current crest factor influence on lamp life



Lamp life is also affected by the current crest factor of the lamp discharge which is related to the quality of the ballast and its design. Exception: MINILYNX

Electrical reference data

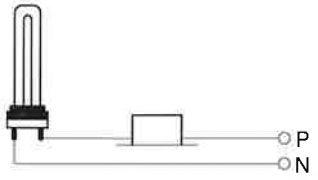
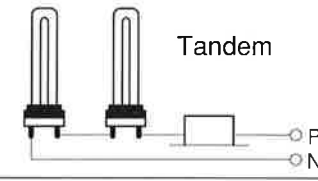

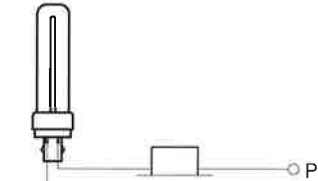
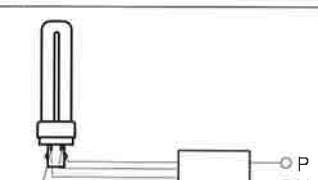
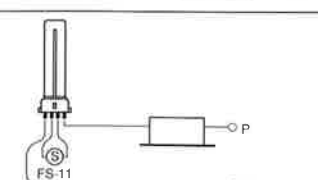
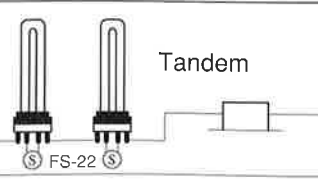
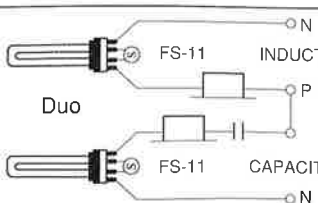
| Lamp type | Wattage (W) | Choke losses typical (W) | Lamp Voltage (V) | Lamp Current (A) (2) |
|---------------------------|-------------|--------------------------|------------------|----------------------|
| MINILYNX | 7 | inclusive | 220 - 250 V (1) | 0,075 |
| | 11 | | | N.A. |
| | 15 | | | |
| | 20 ** | | | |
| LYNX-D Diamant | 10 | 5.0 | 220 - 240 V | 0.190 |
| | 13 | 4.1 | | 0.175 |
| | 18 | 4.5 | | 0.220 |
| LYNX-S | 5 | 3 - 5 | 34 | 0.180 |
| | 7 | | 47 | 0.175 |
| | 9 | | 60 | 0.170 |
| | 11 | | 92 | 0.155 |
| LYNX-SE | 5 | * | 29 | 0.180 |
| | 7 | | 40 | 0.175 |
| | 9 | | 51 | 0.170 |
| | 11 | | 78 | 0.155 |
| LYNX-D | 10 | 4 - 8 | 60 | 0.190 |
| | 13 | | 90 | 0.175 |
| | 18 | | 103 | 0.220 |
| | 26 | | 110 | 0.310 |
| LYNX-DE | 10 | * | * | 0.190 |
| | 13 | | | 0.175 |
| | 18 | | | 0.220 |
| | 26 | | | 0.310 |
| LYNX-L | 18 | 4 - 5 | 60 | 0.370 |
| | 24 | 4 - 6 | 89 | 0.340 |
| | 36 | 6 - 11 | 109 | 0.430 |

* For magnetic chokes same as above

** In development

(1) 208 V minimum supply voltage for reliable starting and operation

(2) On magnetic chokes preheating current typically 50% higher than nominal lamp current

| Circuit | Starter S | Lamp | Choke | Cos ϕ | \dashv \dashv μ F Inductive | \dashv \dashv μ F Capacitive |
|---|-----------|---|-------------------------------------|------------------------------|--|---|
|  | | LYNX-S 5W 7W 9W 11W | 9W | 0.27 0.36 0.40 0.49 | 2.1 1.9 1.5 1.3 | |
|  | | LYNX-S (2x) 5W (2x) 7W (2x) 9W | 2/9W or 13W | 0.37 0.50 0.56 | 1.8 1.5 1.2 | |
|  | | LYNX-SE 5W 7W 9W 11W | Starter Ballast or Electronic | | | |
|  | | LYNX-D 10W 13W 18W 26W | 13W 13W 18W 20W | 0.46 0.49 0.33 0.40 | 2.0 2.0 4.5 2.8 | |
|  | | LYNX-DE 10W 13W 18W 26W | Starter Ballast or Electronic | | | |
|  | FS-11 | LYNX-L 18W 24W 36W | 20W 20W 40W | 0.31 0.43 0.46 | 4.5 4.0 4.5 | |
|  | FS-22 | LYNX-L (2x) 18W | 40W | 0.50 | 4.5 | |
|  | FS-11 | LYNX-L 18W 24W 36W | 20W 20W 40W | 0.96 - 0.98 | 2.9 μ F 3.6 μ F | |

LYNX-S Series Operation

It is of advantage to operate LYNX-S lamps 5/7/9W in series on one choke in multi-lamp luminaires. The reduced total circuit wattage will lead to a lower ambient air temperature for the lamps in the luminaire and will compensate the slight light output loss of series operation.

Depending on the ballast manufacturer's operating instructions either a 13W choke or a choke specifically designed to operate 2 lamps in series can be used for this purpose.

See page 11

Power Factor ($\cos\varphi$)

Compact fluorescent lamps operating on magnetic chokes are uncompensated lagging inductive circuits. The objective power factors and required power factor correction capacitors are indicated on page 11

Lamps operated on electronic control gear are usually circuits with a power factor close to $\cos\varphi \approx 1$.

Dimming

None of the retrofit products can be used on any incandescent lamp dimmers.

There are special dimmers for fluorescent lamps available, or electronic control gear for dimming purposes. The LYNX-SE, LYNX-DE and LYNX-L lamps are suitable for such circuits.

LYNX-SE Dimming Operation (H.F. Circuits)

1. Lamp voltages have been adjusted to obtain equal lamp power output for H.F. operation (30-40 kHz) as specified for 50 Hz systems to preserve lamp performance (lumen output over life).
2. Each lamp electrode should be maintained at 8 volts irrespective of lamp power during dimming to ensure adequate life and smooth pick-up from low power settings. The equivalent resistance of 2 cathodes in series is 160 ohm.
3. Preheating currents during starting should be a minimum of 153 mA at line voltage minus 10% and maximum 240 mA at line voltage plus 10%
4. To sustain the lamp adequately 198 Vrms minimum OCV is required.

LYNX-SE D.C. Operation

1. Considering the above points always, it is permissible to operate the Lynx-SE lamps on 12/24 D.C. powered transistor chokes.
2. Normally speaking these lamps will operate over a temperature range of - 5 Celsius to + 60 Celsius.
3. It is possible to aid lamp ignition by providing proximity earthing at maximum 10 mm from the lamp wall connected to an electrode and the battery negative pole.
4. Without pre-heating, lamp life will be reduced.

Economy

With about 4 times the luminous efficacy (lumen/Watt) of incandescent lamps, CF lamps provide the same light output (lumen) for about 1/4 of the electrical power (Watt).

A lighting cost comparison can then be made, considering lamp cost and the cost of electrical energy (kWh) consumption over an average life period of a CF lamp, which is 8.000 hours. (Average 1.000 h life for incandescent lamps).

| | Incandescent Lamp | | Compact Fluorescent Lamp | |
|--|---------------------------|-------|-----------------------------------|-------|
| A. Lamp Cost | Cost of 1 lamp: _____ | | Cost of lamp | _____ |
| | x 8 | _____ | | |
| B. Energy Consumption (kWh) See also page 15 | Lamp Wattage (W) _____ | | Lamp + Choke Wattage (W) _____ | |
| | x 8 | _____ | x 8 | _____ |
| C. Power Cost | kWh Cost Rate _____ | | kWh Cost Rate _____ | |
| | x kWh Consumption | _____ | x kWh Consumption | _____ |
| Total Cost for 8000 hours A. + C. | | _____ | | _____ |

In general a cost comparison will show that the additional value for the CF lamp is compensated by the lower energy cost after about 2000 hours.

Additional cost reductions are realised for maintenance because of the long life of CF lamps.

Energy Consumption

The following table is listing energy consumption data for an operating period of 8000 hours.

| | | | | | | | | | | | | | |
|----------------|-----|-------|-----|-----|-----|-------|-----|-----|-------|-----|-----|-----|-----|
| Lamp Power (W) | 5 | 7 | 7 | 9 | 10 | 11 | 11 | 13 | 15 | 18 | 24 | 26 | 36 |
| Choke Loss (W) | 4.5 | Incl. | 4.1 | 3.8 | 5 | Incl. | 3.4 | 4.1 | incl. | 5 | 6 | 6 | 10 |
| kWh | 76 | 56 | 88 | 103 | 120 | 88 | 115 | 137 | 120 | 184 | 240 | 256 | 368 |

| | | | | | | | | | | | | | |
|----------------|-----------|-----------|-----------|------------|------------|------------|--|--|--|--|--|--|--|
| Lamp Power (W) | GLS 40 | GLS 60 | GLS 75 | GLS 100 | GLS 150 | GLS 200 | | | | | | | |
| Choke Loss (W) | - | - | - | - | - | - | | | | | | | |
| kWh | 320 | 480 | 600 | 800 | 1200 | 1600 | | | | | | | |

Maintenance

To obtain the full light output from a fixture it is recommended to clean the reflector and cover of fixtures when changing the lamp after long operating periods.

For good safety practice the fixture should be switched off when maintenance is performed.

For lamp lumen maintenance data refer to page 8

Fixture Design

General recommendations apply as per IEC specification Nr. 598 and related/referred to documents, or European Norm EN 60-598.

Ballasts are specified in IEC specifications Nr. 82 and Nr. 921.

Lamp Temperature Limitations

Pages 18 and 19 provide data for the various lamp types, and measuring points.

Maximum temperatures as indicated for the cap area are to prevent thermal damage to build-in components (chokes, capacitors, starters or electronic parts), to prevent the acting of thermal fuses, and in general damage to lamp parts or lamp holders.

Various conditions and their unfavourable combination may lead to operation at higher than specified temperatures:

- lamps operating in cap-up/vertical position
- compact, closed fixtures with high internal temperatures
- end of life conditions with continuing preheat and starting attempts
- higher than nominal mains voltage

To assure proper lamp performance it is recommended to take temperature measurements in the most unfavourable mounting position of the fixture, and a supply voltage of 106 % of nominal.

Light Output, Ambient Temperature and Operating Position

Diagrams on pages 18 and 19 show the influence on light output by lamp operating position and lamp ambient air temperature.

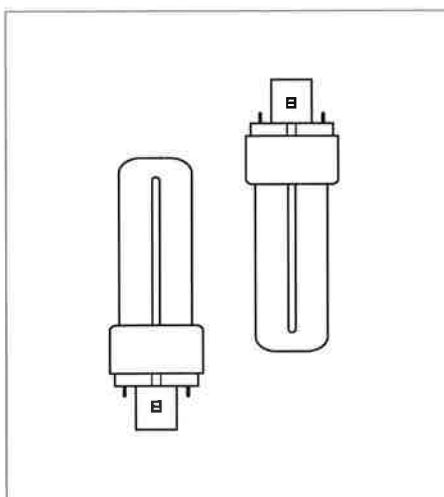
The first three conclusions from these diagrams are:

- for indoor fixtures the lamp operating position should be horizontal or, vertical base-up for optimum light output
- for outdoor fixtures, and where low ambient air temperatures are prevailing, the lamp operating position in the fixture should be vertical, base-down.

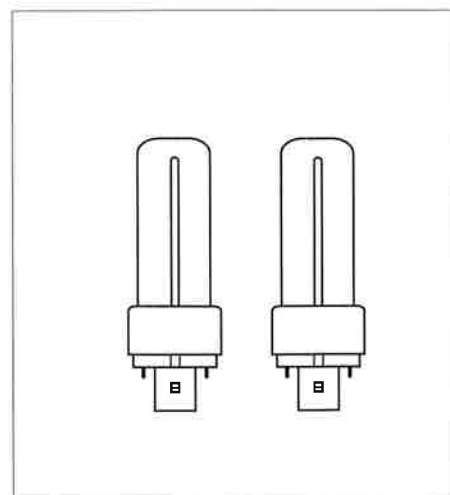
This applies particularly to LYNX-S/SE and LYNX-L lamps.

- to avoid differences in lamp brightness, it is recommended for multilamp fixtures, that lamps are installed parallel, and with the same operating position.

NOT RECOMMENDED



RECOMMENDED



Light Output, Ambient Air and Cold Spot Temperature

The cold spot at the head of the glass part (the coldest point of the discharge tube) regulates the mercury vapour pressure in the discharge and therewith the light output of the lamp. - The cold spot temperature is highest when the lamp is working vertical, base-down.

The cold spot temperature is affected particularly for the LYNX-S, SE and LYNX-L lamps, less for the LYNX-D and DE types.

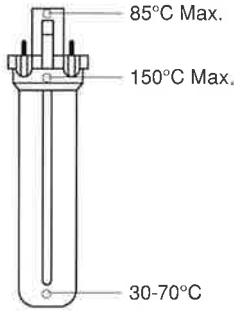
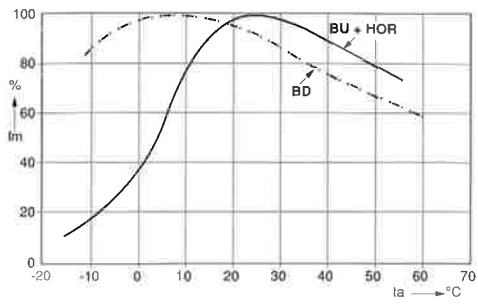
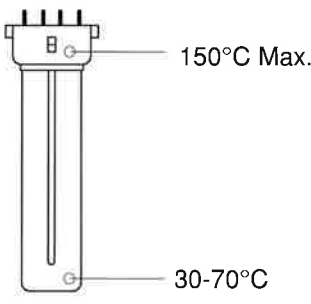
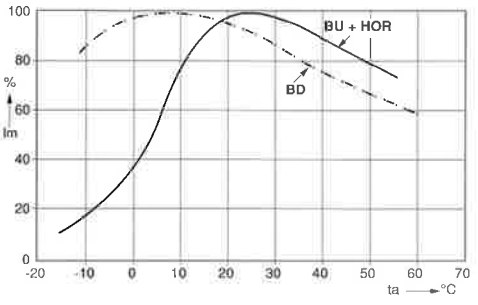
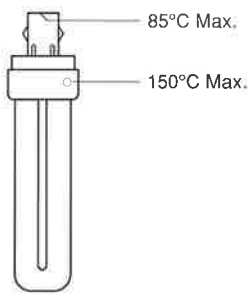
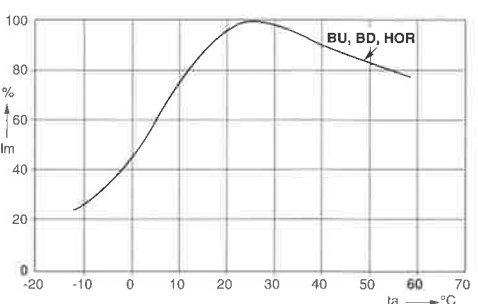
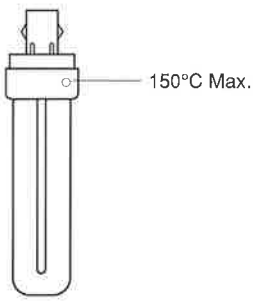
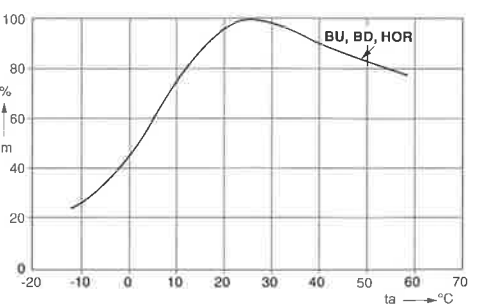
Cold spot temperature recommendations as indicated on pages 18 and 19 should be considered in fixture design, with respect to fixture internal air temperature and, lamp operating position/predominant mounting position of the fixture.

Glare Control

The luminance of open compact fluorescent lamps is about 2.5 cd/cm² which compares with a luminance of 1.2 - 1.5 cd/cm² of standard fluorescent lamps, or a value of approx. 2.5 cd/cm² for a 60 - 75W pearl finish GLS lamp.

To avoid disagreeable glare these lamps should be operated in luminaires with adequate light control, making use of reflectors and/or diffusing covers. For open ceiling luminaires it is recommended to create a cut-off of 30°C.

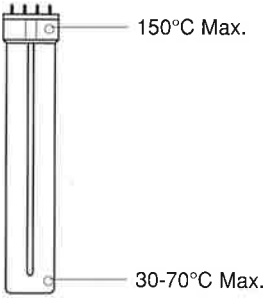
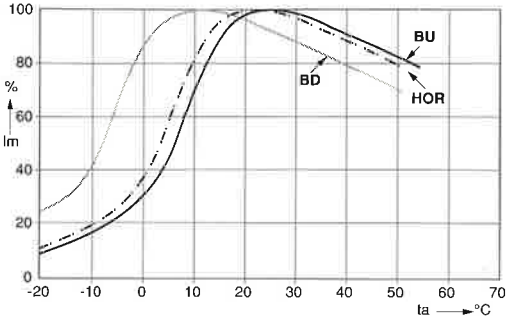
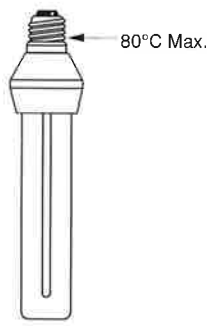
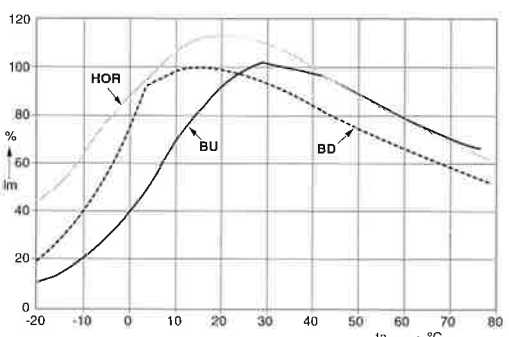
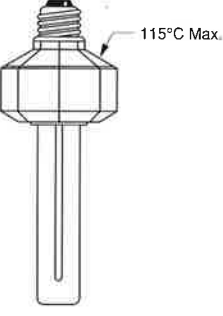
Temperatures

| Lamp Temperatures | Light Output vs. ambient temperature | Remarks |
|---|--|---|
|  <p>LYNX-S</p> |  | <p>For outdoor fixtures at low temperatures install lamps cap down for optimum light output</p> |
|  <p>LYNX-SE</p> |  | <p>For outdoor fixtures at low temperatures install lamps cap down for optimum light output</p> |
|  <p>LYNX-D</p> |  | <p>Recommended lamp ambient temperature for optimum light output 10-50 °C</p> |
|  <p>LYNX-DE</p> |  | <p>Recommended lamp ambient temperature for optimum light output 10-50 °C</p> |

BD: Base Down

BU :Base Up

HOR: Horizontal

| Lamp temperatures | Light Output vs. ambient temperature | Remarks |
|---|---|---|
|  <p>LYNX-L</p> |  | <p>For outdoor fixtures at low temperatures install lamps cap down for optimum light output</p> |
|  |  | <p>Max. cap rim temperature 80 °C Lamp ambient to temperature -10 to 50 °C</p> |
|  <p>DIAMANT D</p> | <p>See LYNX-S and LYNX-D diagrams</p> | <p>Thermal fuse acting at 128°C (3)</p> |

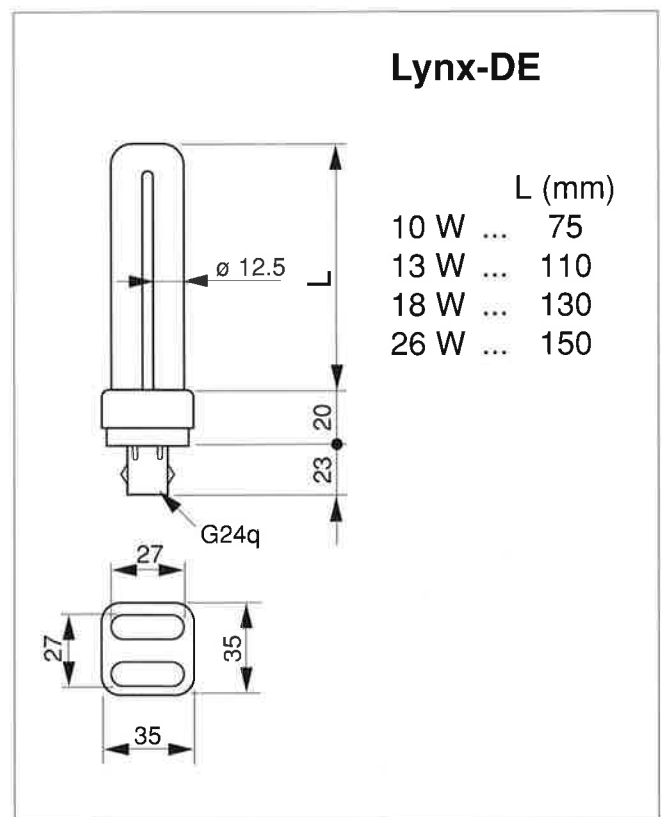
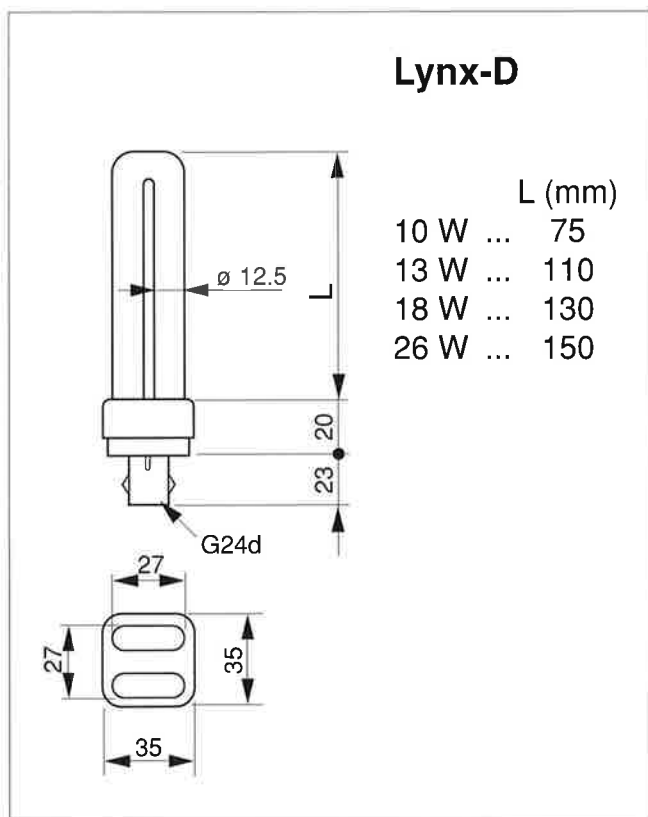
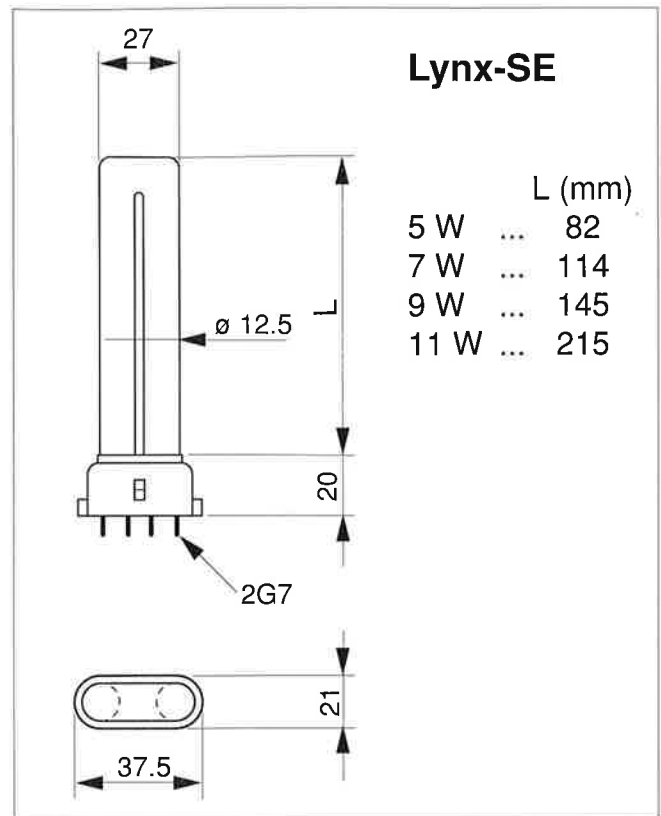
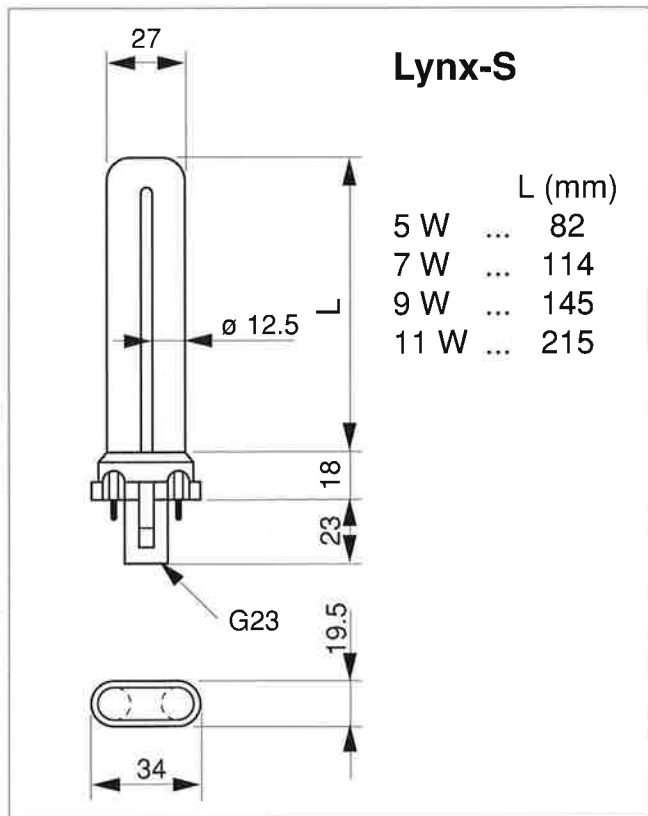
BD: Base Down

BU :Base Up

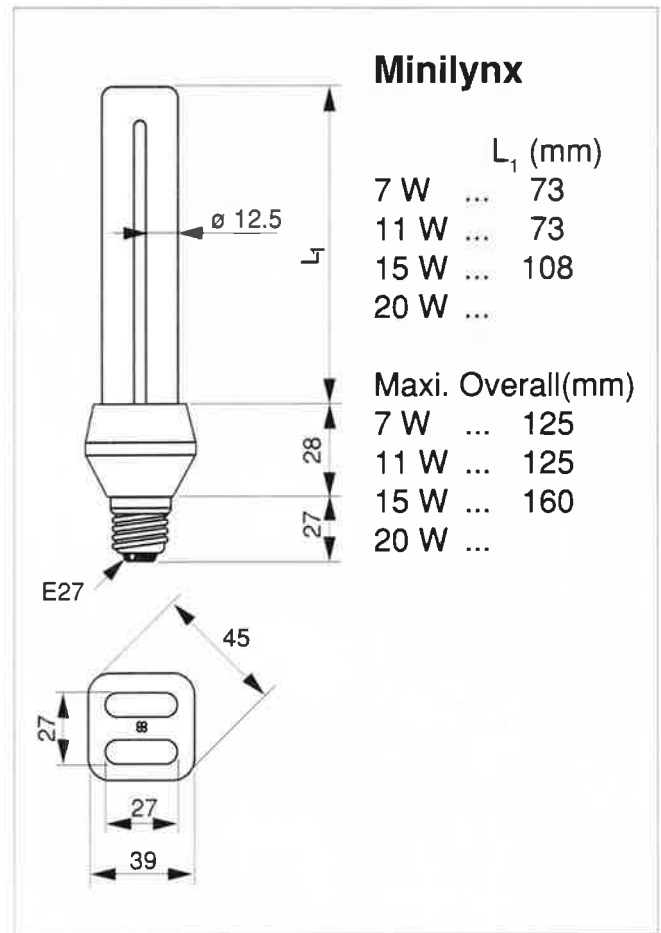
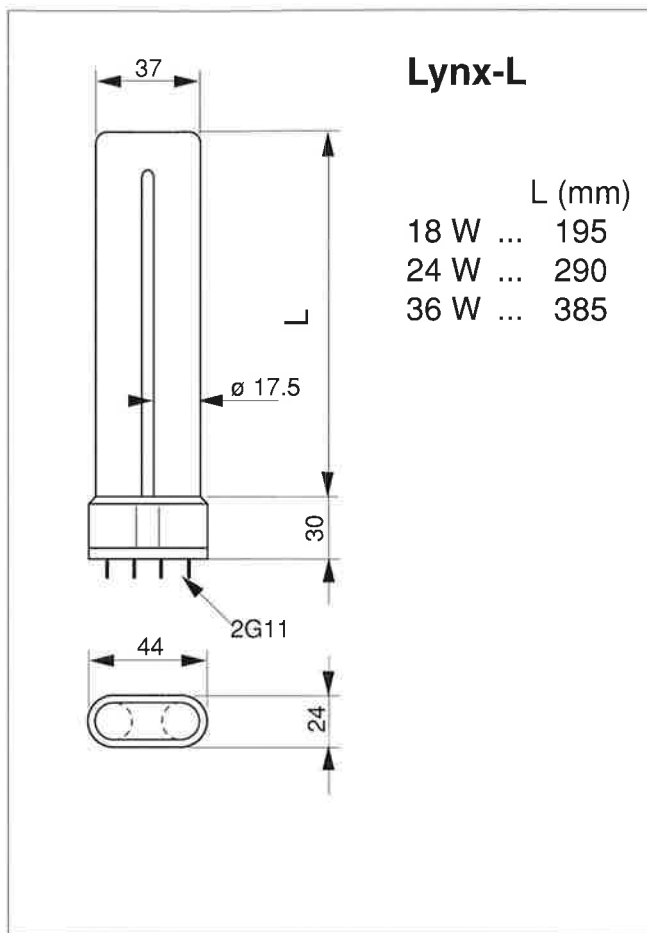
HOR: Horizontal

- 1) Lamp temperatures to be measured at 106% of mains voltage in the most unfavourable lamp position (cap up)
- 2) Ambient air temperature for fixture measurements 25°C
- 3) Thermal fuse acting is irreversible.
- 4) Hot spot temperatures as indicated consider light output reduction of 20% from nominal.

Dimensions

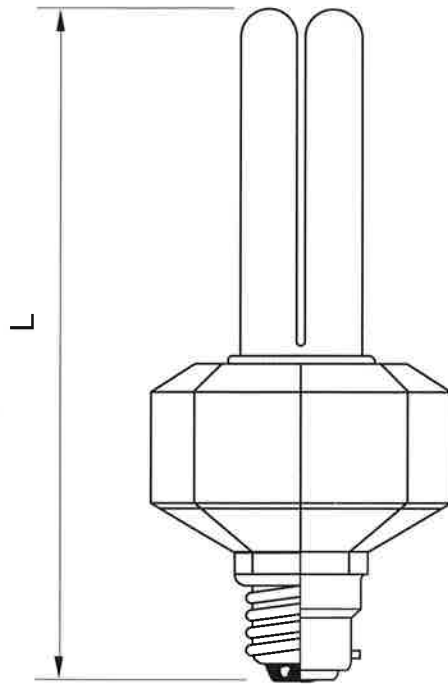


Dimensions



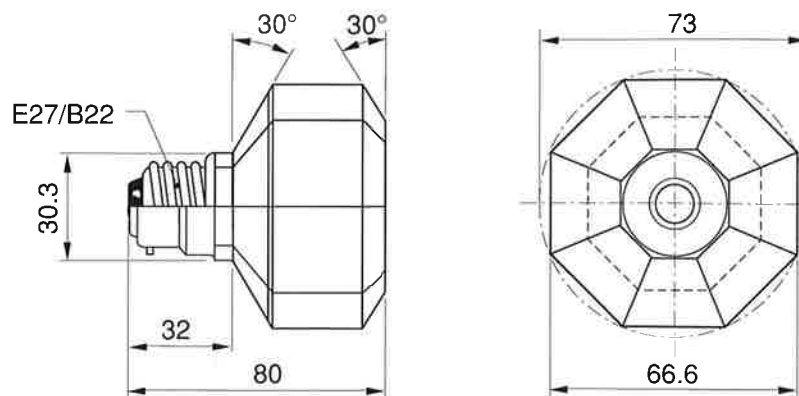
Dimensions

Lynx-DIAMANT "D"


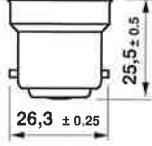
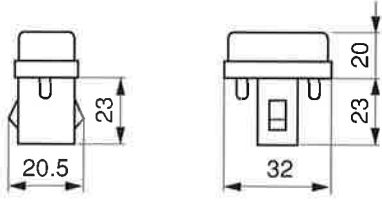
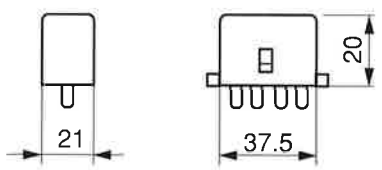
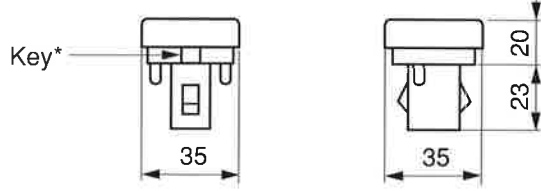
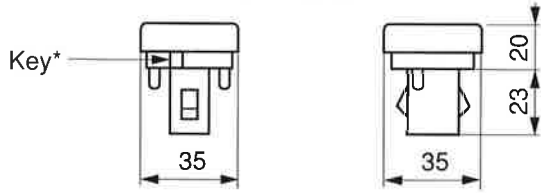
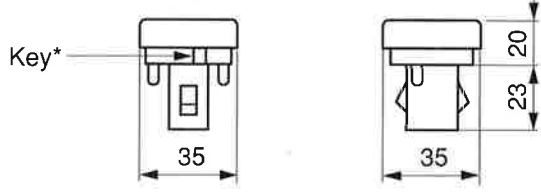


| Lynx-D | L (mm) |
|--------|--------|
| 10 W | 153 |
| 13 W | 187 |
| 18 W | 205 |

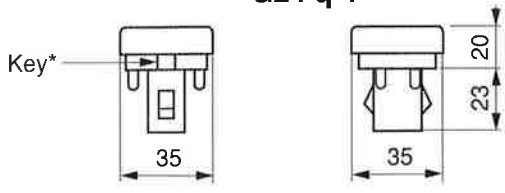
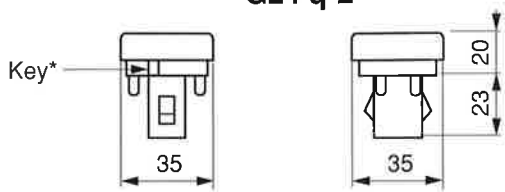
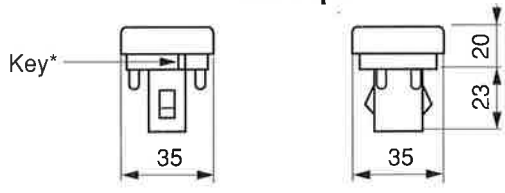
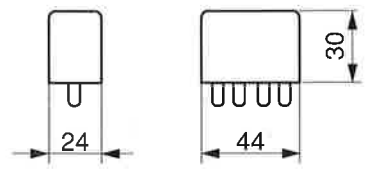
Lynx-DIAMANT ADAPTOR



Lamp Caps

| Lamp type | Cap designation | Dimensions | |
|----------------------|-------------------|--|---|
| Mini-Lynx Diamant | E27/27 or B22d | <p>E27</p>  | <p>B22</p>  |
| Lynx-S | G23 | <p>G23</p>  | |
| Lynx-SE | 2G7 | <p>2G7</p>  | |
| Lynx-D 10, 13W | G24d-1 | <p>G24 d-1</p>  | |
| 18 W | G24d-2 | <p>G24 d-2</p>  | |
| 26 W | G24d-3 | <p>G24 d-3</p>  | |

Lamp Caps

| Lamp type | Cap designation | Dimensions |
|--|---|---|
| <p>Lynx-DE 10 W, 13 W</p> <p>18 W</p> <p>26 W</p> | <p>G 24 q-1</p> <p>G 24 q-2</p> <p>G 24 q-3</p> | <p>G24 q-1</p>  <p>G24 q-2</p>  <p>G24 q-3</p>  |
| <p>Lynx-L 18, 24, 36 W</p> | <p>2 G11</p> | <p>2G11</p>  |

* G 24d and G 24q lamp caps are equipped with a key which avoids the insertion of a wrong lamp wattage into a lamp holder.

Weights (g)

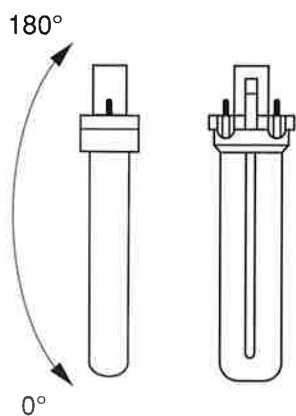
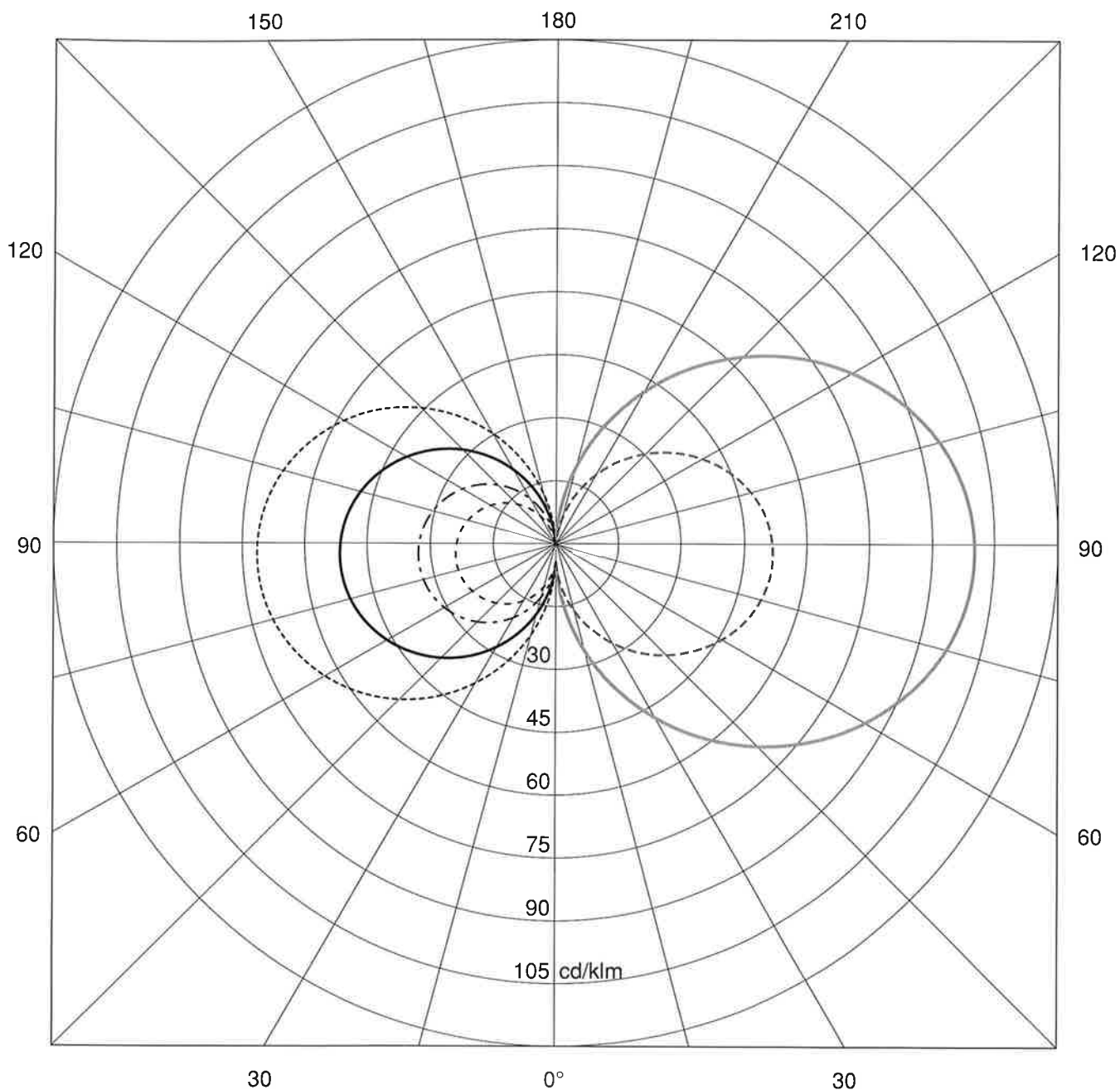
| | | |
|---------|-----|----|
| LYNX-S | 5W | 41 |
| | 7W | 43 |
| | 9W | 45 |
| | 11W | 47 |
| LYNX-SE | 5W | 22 |
| | 7W | 30 |
| | 9W | 37 |
| | 11W | 52 |
| LYNX-D | 10W | 48 |
| | 13W | 59 |
| | 18W | 66 |
| | 26W | 76 |

| | | |
|--------------|-----|-----|
| LYNX-DE | 10W | 43 |
| | 13W | 57 |
| | 18W | 63 |
| | 26W | 73 |
| LYNX-L | 18W | 65 |
| | 24W | 90 |
| | 36W | 160 |
| MINI-LYNX | 7W | 79 |
| | 11W | 79 |
| | 15W | 92 |
| LYNX-DIAMANT | | 390 |



LYNX-S

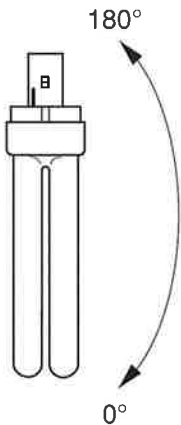
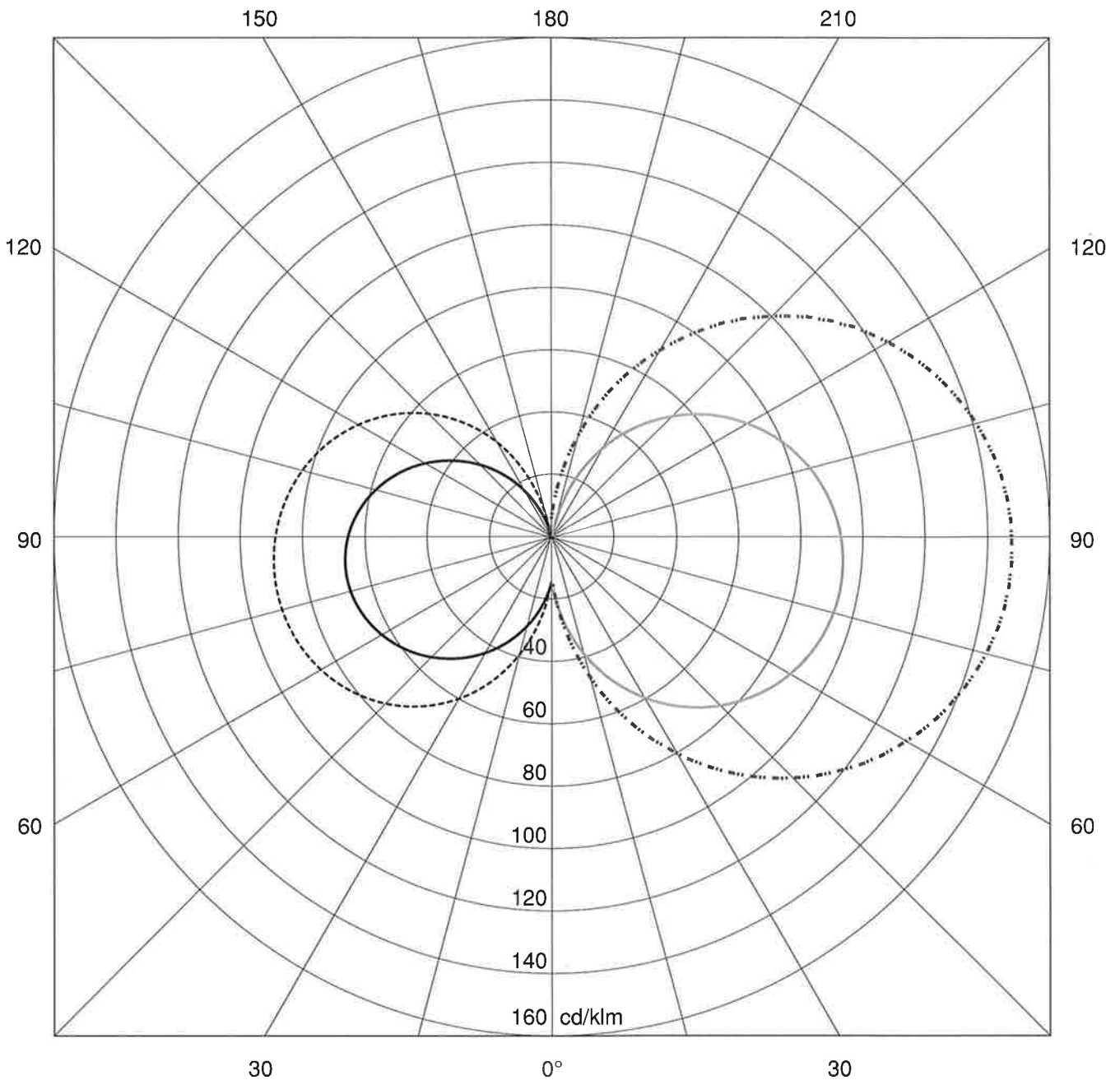
LUMINOUS INTENSITY DISTRIBUTION



- | | | |
|-------|-------|------------|
| — | - - - | LYNX-S 7W |
| - - - | - - - | LYNX-S 9W |
| - · - | - - - | LYNX-S 11W |

**MINILYNX and
LYNX-D LAMPS**

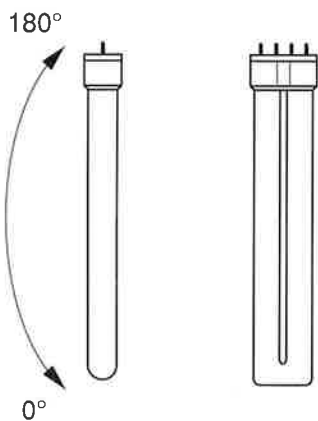
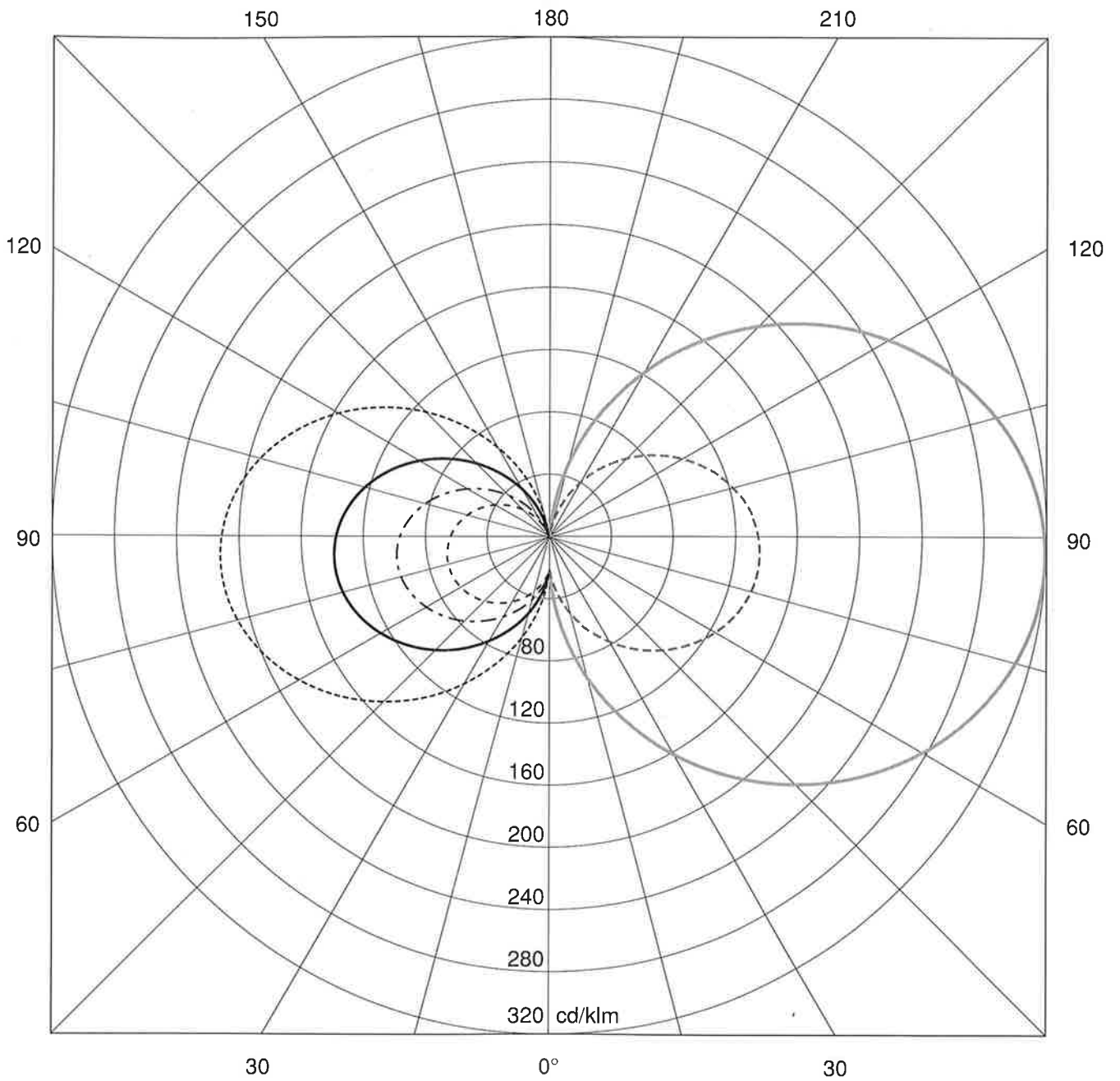
LUMINOUS INTENSITY DISTRIBUTION



- LYNX-D 10W, MINILYNX 11W
- - - LYNX-D 13W, MINILYNX 15W
- LYNX-D 18W
- - - LYNX-D 26W

LYNX-L

LUMINOUS INTENSITY DISTRIBUTION



- | | | |
|-----------|-----------|------------|
| — | - - - | LYNX-L 18W |
| - · - · - | - · - · - | LYNX-L 24W |
| — · — · — | - · - · - | LYNX-L 36W |

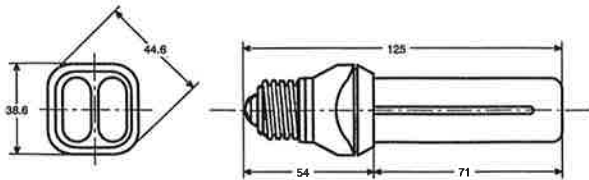
COMPACT FLUORESCENT LAMP

MINILYNX 7W



OUTLINE:

Dimensions in mm



Cap: E27/27
Weight: 80g

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|-------------------|---|---------------|------|------|
| Wattage (W) | : | 7 | | 8 |
| Current (mA) | : | 68 | | |
| Input Voltage (V) | : | 220...240 | 208 | |

| OPERATING CONDITIONS | | | | |
|--------------------------------|---|-------------------|--|--|
| Average Life (h) | : | 8000 | | |
| Individual Life min. (h) | : | 4000 (n=10, c=3) | | |
| Base Rim Temperature max. (°C) | : | 80 | | |
| Lamp Ambient Temperature (°C) | : | +5...50 | | |
| Burning Position | : | any | | |
| Starting Time (s) | : | < 1 at room temp. | | |

| PHOTOMETRIC DATA | | Nominal Value | min. | max. |
|--------------------------|---|---------------|------|------|
| Colour Temperature (K) | : | 2700 | | |
| Colour Rendering Class | : | 1B | | |
| Luminous Flux* (lm) | : | 400 | 360 | |
| Luminous Efficacy (lm/W) | : | 57 | 51 | |

ATTENTION: Not suitable for use with dimmers. Product may be operated with DC (160V-250V) *measured at 230V, burning position base up, after 100h aging

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5119 |
| Date : 26.09.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

SYLVANIA reserves the right to change data and specifications without notice. Data for guidance only.

SYLVANIA **GTE**

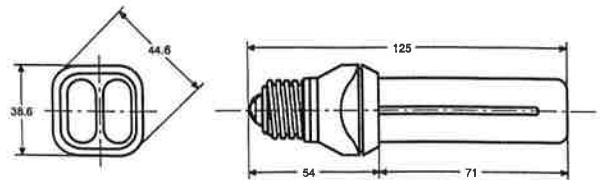
COMPACT FLUORESCENT LAMP

MINILYNX 11W



OUTLINE:

Dimensions in mm



Cap: E27/27
Weight: 80g

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|-------------------|---|---------------|------|------|
| Wattage (W) | : | 11 | | 12.2 |
| Current (mA) | : | 105 | | |
| Input Voltage (V) | : | 230...250 | 208 | |

| OPERATING CONDITIONS | | | | |
|--------------------------------|---|-------------------|--|--|
| Average Life (h) | : | 8000 | | |
| Individual Life min. (h) | : | 4000 (n=10, c=3) | | |
| Base Rim Temperature max. (°C) | : | 80 | | |
| Lamp Ambient Temperature (°C) | : | -15...50 | | |
| Burning Position | : | any | | |
| Starting Time (s) | : | < 1 at room temp. | | |

| PHOTOMETRIC DATA | | Nominal Value | min. | max. |
|--------------------------------|---|---------------|------|------|
| Colour Temperature (K) | : | 2700 | | |
| Colour Rendering Index (class) | : | 1b | | |
| Luminous Flux* (lm) | : | 600 | 540 | |
| Luminous Efficacy (lm/W) | : | 55 | 49 | |

ATTENTION: Not suitable for use with dimmers. Product may be operated with DC (160V-250V) *measured at 230V, burning position base up, after 100h aging

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5087 |
| Date : 08.06.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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SYLVANIA **GTE**

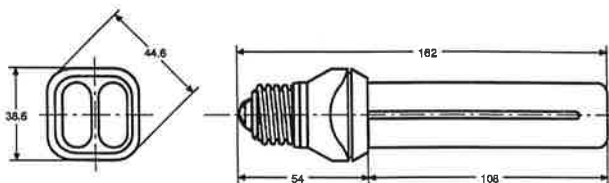
COMPACT FLUORESCENT LAMP

MINILYNX 15W



OUTLINE:

Dimensions in mm



Cap: E27/27
Weight: 90g

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|-------------------|---|---------------|------|------|
| Wattage (W) | : | 15 | | 16.5 |
| Current (mA) | : | 125 | | |
| Input Voltage (V) | : | 230...250 | 208 | |

| OPERATING CONDITIONS | | | | |
|--------------------------------|---|-------------------|--|--|
| Average Life (h) | : | 8000 | | |
| Individual Life min. (h) | : | 4000 (n=10, c=3) | | |
| Base Rim Temperature max. (°C) | : | 80 | | |
| Lamp Ambient Temperature (°C) | : | -15...50 | | |
| Burning Position | : | any | | |
| Starting Time (s) | : | < 1 at room temp. | | |

| PHOTOMETRIC DATA | | Nominal Value | min. | max. |
|--------------------------------|---|---------------|------|------|
| Colour Temperature (K) | : | 2700 | | |
| Colour Rendering Index (class) | : | 1b | | |
| Luminous Flux* (lm) | : | 900 | 810 | |
| Luminous Efficacy (lm/W) | : | 60 | 54 | |

ATTENTION: Not suitable for use with dimmers. Product may be operated with DC (160V-250V) *measured at 230V, burning position base up, after 100h aging

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5089 |
| Date : 08.06.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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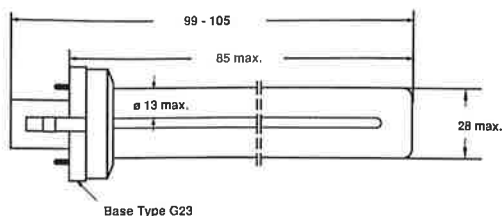
SYLVANIA **GTE**

FLUORESCENT LAMP

CF-S 5 W

OUTLINE

Dimensions In mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|-----|
| Lamp Wattage | (W) | 5,5 | 4,8 | 6,2 |
| Lamp Voltage | (V) | 35 | 30 | 40 |
| Lamp Current | (A) | 0,180 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|--|-------------------|----------|
| Single Lamp Circuit | | 11 W(1180.Ω 220V) | Integral |
| Tandem Circuit | | 13 W(1070.Ω 220V) | Integral |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. ('K) |
|-------------------|------|---------------|-----------|-------------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 250 | 1b | 2700 |
| Buro 184 | 184 | 250 | 1b | 4000 |
| Studio 186 | 186 | 250 | 1b | 6200 |
| RED | | 180 | | |
| GREEN | | 330 | | |
| BLUE | | 85 | | |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|----------------------------|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 1 |
| Date: 22.03.89 | | Supersedes: |
| Revision date: 21.09.90 | | Page 1 of 1 |

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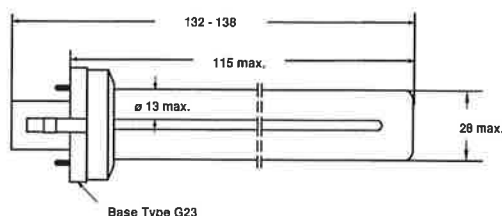
SYLVANIA GTE

FLUORESCENT LAMP

CF-S 7 W

OUTLINE

Dimensions In mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|-----|
| Lamp Wattage | (W) | 6,9 | 6,1 | 7,7 |
| Lamp Voltage | (V) | 45 | 40 | 50 |
| Lamp Current | (A) | 0,175 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|--|-------------------|----------|
| Single Lamp Circuit | | 11 W(1180.Ω 220V) | Integral |
| Tandem Circuit | | 13 W(1070.Ω 220V) | Integral |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. ('K) |
|-------------------|------|---------------|-----------|-------------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 400 | 1b | 2700 |
| Buro 184 | 184 | 400 | 1b | 4000 |
| Studio 186 | 186 | 400 | 1b | 6200 |
| RED | | 290 | | |
| GREEN | | 530 | | |
| BLUE | | 135 | | |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|----------------------------|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 2 |
| Date: 22.03.89 | | Supersedes: |
| Revision date: 21.09.90 | | Page 1 of 1 |

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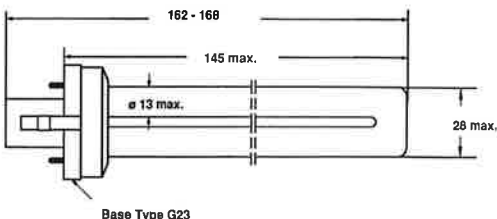
SYLVANIA GTE

FLUORESCENT LAMP

CF-S 9 W

OUTLINE

Dimensions In mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|-----|
| Lamp Wattage | (W) | 8,7 | 7,8 | 9,6 |
| Lamp Voltage | (V) | 60 | 54 | 66 |
| Lamp Current | (A) | 0,170 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|--|-------------------|----------|
| Single Lamp Circuit | | 11 W(1180.Ω 220V) | Integral |
| Tandem Circuit | | 13 W(1070.Ω 220V) | Integral |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. ('K) |
|-------------------|------|---------------|-----------|-------------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 600 | 1b | 2700 |
| Buro 184 | 184 | 600 | 1b | 4000 |
| Studio 186 | 186 | 600 | 1b | 6200 |
| RED | | 430 | | |
| GREEN | | 800 | | |
| BLUE | | 200 | | |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|----------------------------|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 3 |
| Date: 22.03.89 | | Supersedes: |
| Revision date: 21.09.90 | | Page 1 of 1 |

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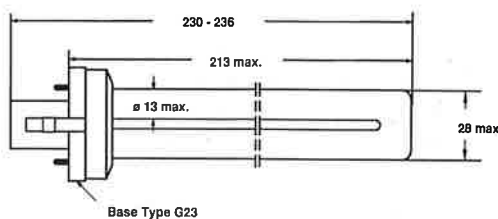
SYLVANIA GTE

FLUORESCENT LAMP

CF-S 11 W

OUTLINE

Dimensions In mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|------|
| Lamp Wattage | (W) | 11,4 | 10,4 | 12,4 |
| Lamp Voltage | (V) | 90 | 81 | 99 |
| Lamp Current | (A) | 0,155 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|--|-------------------|----------|
| Single Lamp Circuit | | 11 W(1180.Ω 220V) | Integral |
| Tandem Circuit | | — | — |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. ('K) |
|-------------------|------|---------------|-----------|-------------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 900 | 1b | 2700 |
| Buro 184 | 184 | 900 | 1b | 4000 |
| Studio 186 | 186 | 900 | 1b | 6200 |
| RED | | 650 | | |
| GREEN | | 1200 | | |
| BLUE | | 300 | | |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|----------------------------|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 4 |
| Date: 22.03.89 | | Supersedes: |
| Revision date: 21.09.90 | | Page 1 of 1 |

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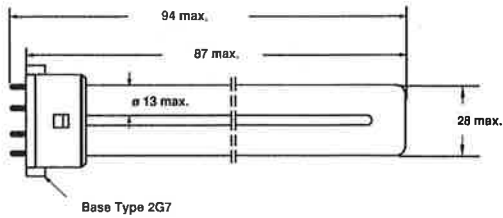
SYLVANIA GTE

FLUORESCENT LAMP

CF-SE 5 W

OUTLINE

Dimensions In mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|-----|
| Lamp Wattage | (W) | 5,5 | 4,8 | 6,2 |
| Lamp Voltage | (V) | 35 | 30 | 40 |
| Lamp Current | (A) | 0,180 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|---|-------------------|------------|
| Single Lamp Circuit | : | 11 W(1180.Ω 220V) | FS11, FS22 |
| Tandem Circuit | : | 13 W(1070.Ω 220V) | FS22 |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. |
|-------------------|------|---------------|-----------|--------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 250 | 1b | 2700 |
| Buro 184 | 184 | 250 | 1b | 4000 |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|--|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 5 Supersedes: Page 1 of 1 |
| Date: 17.10.88 | | |
| Revision date: 21.09.90 | | |

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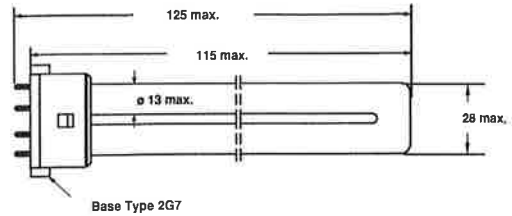


FLUORESCENT LAMP

CF-SE 7W

OUTLINE

Dimensions In mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|-----|
| Lamp Wattage | (W) | 6,9 | 6,1 | 7,7 |
| Lamp Voltage | (V) | 45 | 40 | 50 |
| Lamp Current | (A) | 0,175 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|---|-------------------|------------|
| Single Lamp Circuit | : | 11 W(1180.Ω 220V) | FS11, FS22 |
| Tandem Circuit | : | 13 W(1070.Ω 220V) | FS22 |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. |
|-------------------|------|---------------|-----------|--------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 400 | 1b | 2700 |
| Buro 184 | 184 | 400 | 1b | 4000 |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|--|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 6 Supersedes: Page 1 of 1 |
| Date: 17.10.88 | | |
| Revision date: 21.09.90 | | |

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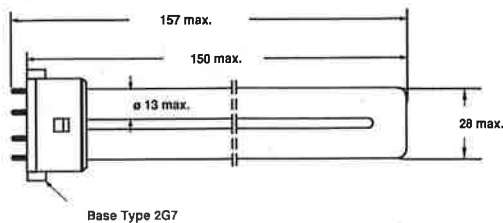


FLUORESCENT LAMP

CF-SE 9W

OUTLINE

Dimensions in mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|-----|
| Lamp Wattage | (W) | 8,7 | 7,8 | 9,6 |
| Lamp Voltage | (V) | 60 | 54 | 66 |
| Lamp Current | (A) | 0,170 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|---|-------------------|------------|
| Single Lamp Circuit | : | 11 W(1180.Ω 220V) | FS11, FS22 |
| Tandem Circuit | : | 13 W(1070.Ω 220V) | FS22 |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. |
|-------------------|------|---------------|-----------|--------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 600 | 1b | 2700 |
| Buro 184 | 184 | 600 | 1b | 4000 |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|--|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 7 Supersedes: Page 1 of 1 |
| Date: 17.10.88 | | |
| Revision date: 21.09.90 | | |

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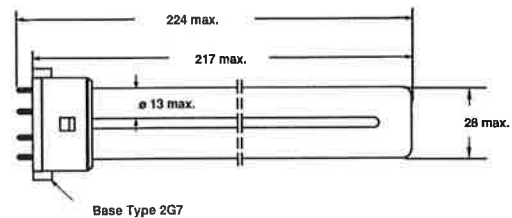


FLUORESCENT LAMP

CF-SE 11W

OUTLINE

Dimensions in mm



| ELECTRICAL DATA: | | Nominal Value | Min. | Max |
|------------------|-----|---------------|------|------|
| Lamp Wattage | (W) | 11,4 | 10,4 | 12,4 |
| Lamp Voltage | (V) | 90 | 81 | 99 |
| Lamp Current | (A) | 0,155 | | |

| OPERATING CONDITIONS: | | Ballast Type | Starter |
|-----------------------|---|-------------------|---------|
| Single Lamp Circuit | : | 11 W(1180.Ω 220V) | FS11 |
| Tandem Circuit | : | — | — |

| PHOTOMETRIC DATA: | | Luminous flux | CRI Group | Colour Temp. |
|-------------------|------|---------------|-----------|--------------|
| COLOUR | CODE | | | |
| Satin 182 | 182 | 900 | 1b | 2700 |
| Buro 184 | 184 | 900 | 1b | 4000 |

APPLICATION: For further lampdata refer to IEC 901.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|-------------------------|-------------------|--|
| Issued by: Charlestown | DATA SHEET | Specification Nbr: 6 3 0 8 Supersedes: Page 1 of 1 |
| Date: 17.10.88 | | |
| Revision date: 21.09.90 | | |

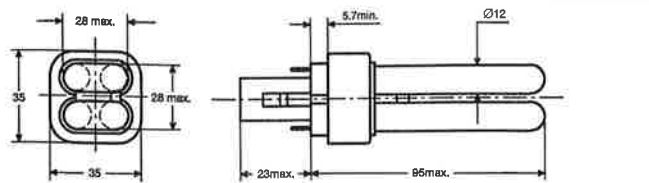
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COMPACT FLUORESCENT LAMP

LYNX CF-D 10W

OUTLINE:



Cap Type: G 24 d-1

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|----------------------------|---|---------------|------|------|
| Lamp Wattage (W) | : | 10 | | |
| Lamp Operating Voltage (V) | : | 67 | | |
| Lamp Current (mA) | : | 190 | | |
| Preheat Current (mA) | : | 210 | 153 | 275 |

| OPERATING CONDITIONS | | | | |
|-------------------------------|---|---------------------------------------|-----|----|
| Average Life (h) | : | 8000 | | |
| GB-Housing Temperature (°C) | : | | | 85 |
| Lamp Ambient Temperature (°C) | : | | -15 | |
| Burning Position | : | any | | |
| Ballast Type | : | 1070 Ω / 220 V, 1170 Ω / 240 V (50Hz) | | |
| Starter | : | integrated | | |
| Compensation Capacitor (μF) | : | 2 | | |
| Tandem operation | : | not possible | | |
| HF-operation | : | not recommended | | |

| PHOTOMETRIC DATA | | | | |
|--------------------------|---|-----------|----------|--|
| Colour Type Designation | : | SATIN 182 | BURO 184 | |
| Colour Temperature (K) | : | 2700 | 4000 | |
| Colour Rendering Class | : | 1b | 1b | |
| Luminous Flux (lm) | : | 600 | 600 | |
| Luminous Efficacy (lm/W) | : | 60 | 60 | |

APPLICATION: For further lamp data refer to IEC-Publication 901, most recent edition.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5099 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

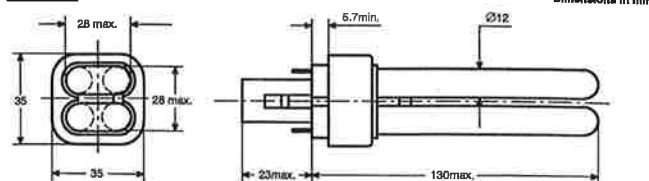
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COMPACT FLUORESCENT LAMP

LYNX CF-D 13W

OUTLINE:



Cap Type: G 24 d-1

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|----------------------------|---|---------------|------|------|
| Lamp Wattage (W) | : | 13 | | |
| Lamp Operating Voltage (V) | : | 100 | | |
| Lamp Current (mA) | : | 165 | | |
| Preheat Current (mA) | : | 210 | 163 | 275 |

| OPERATING CONDITIONS | | | | |
|-------------------------------|---|---------------------------------------|-----|----|
| Average Life (h) | : | 8000 | | |
| GB-Housing Temperature (°C) | : | | | 85 |
| Lamp Ambient Temperature (°C) | : | | -15 | |
| Burning Position | : | any | | |
| Ballast Type | : | 1070 Ω / 220 V, 1170 Ω / 240 V (50Hz) | | |
| Starter | : | integrated | | |
| Compensation Capacitor (μF) | : | 2 | | |
| Tandem operation | : | not possible | | |
| HF-operation | : | not recommended | | |

| PHOTOMETRIC DATA | | | | |
|--------------------------|---|-----------|----------|--|
| Colour Type Designation | : | SATIN 182 | BURO 184 | |
| Colour Temperature (K) | : | 2700 | 4000 | |
| Colour Rendering Class | : | 1b | 1b | |
| Luminous Flux (lm) | : | 900 | 900 | |
| Luminous Efficacy (lm/W) | : | 69 | 69 | |

APPLICATION: For further lamp data refer to IEC-Publication 901, most recent edition.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5101 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

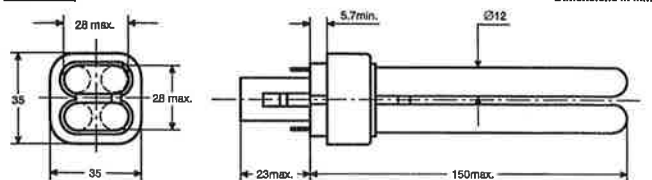
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COMPACT FLUORESCENT LAMP

LYNX CF-D 18W

OUTLINE:



Cap Type: G 24 d-2

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|----------------------------|---|---------------|------|------|
| Lamp Wattage (W) | : | 18 | | |
| Lamp Operating Voltage (V) | : | 105 | | |
| Lamp Current (mA) | : | 220 | | |
| Preheat Current (mA) | : | 280 | 172 | 375 |

| OPERATING CONDITIONS | | | | |
|-------------------------------|---|-------------------------------------|-----|----|
| Average Life (h) | : | 8000 | | |
| GB-Housing Temperature (°C) | : | | | 85 |
| Lamp Ambient Temperature (°C) | : | | -15 | |
| Burning Position | : | any | | |
| Ballast Type | : | 800 Ω / 220 V, 900 Ω / 240 V (50Hz) | | |
| Starter | : | integrated | | |
| Compensation Capacitor (μF) | : | 2 | | |
| Tandem operation | : | not possible | | |
| HF-operation | : | not recommended | | |

| PHOTOMETRIC DATA | | | | |
|--------------------------|---|-----------|----------|--|
| Colour Type Designation | : | SATIN 182 | BURO 184 | |
| Colour Temperature (K) | : | 2700 | 4000 | |
| Colour Rendering Class | : | 1b | 1b | |
| Luminous Flux (lm) | : | 1200 | 1200 | |
| Luminous Efficacy (lm/W) | : | 67 | 67 | |

APPLICATION: For further lamp data refer to IEC-Publication 901, most recent edition.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5103 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

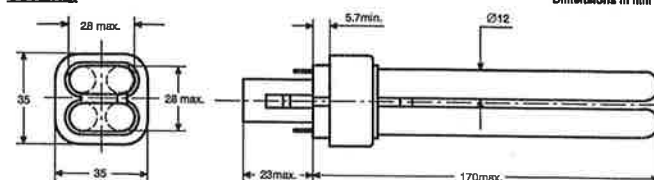
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COMPACT FLUORESCENT LAMP

LYNX CF-D 26W

OUTLINE:



Cap Type: G 24 d-3

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|----------------------------|---|---------------|------|------|
| Lamp Wattage (W) | : | 26 | | |
| Lamp Operating Voltage (V) | : | 110 | | |
| Lamp Current (mA) | : | 315 | | |
| Preheat Current (mA) | : | 420 | 270 | 550 |

| OPERATING CONDITIONS | | | | |
|-------------------------------|---|-------------------------------------|-----|----|
| Average Life (h) | : | 8000 | | |
| GB-Housing Temperature (°C) | : | | | 85 |
| Lamp Ambient Temperature (°C) | : | | -15 | |
| Burning Position | : | any | | |
| Ballast Type | : | 540 Ω / 220 V, 610 Ω / 240 V (50Hz) | | |
| Starter | : | integrated | | |
| Compensation Capacitor (μF) | : | 3.2 | | |
| Tandem operation | : | not possible | | |
| HF-operation | : | not recommended | | |

| PHOTOMETRIC DATA | | | | |
|--------------------------|---|-----------|----------|--|
| Colour Type Designation | : | SATIN 182 | BURO 184 | |
| Colour Temperature (K) | : | 2700 | 4000 | |
| Colour Rendering Class | : | 1b | 1b | |
| Luminous Flux (lm) | : | 1800 | 1800 | |
| Luminous Efficacy (lm/W) | : | 69 | 69 | |

APPLICATION: For further lamp data refer to IEC-Publication 901, most recent edition.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5105 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

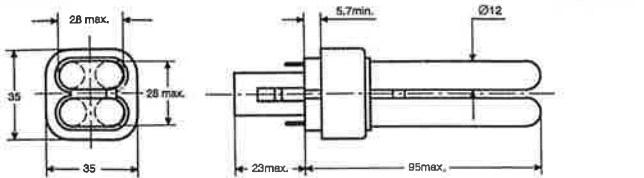
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SYLVANIA

COMPACT FLUORESCENT LAMP

LYNX CF-DE 10W

OUTLINE:



Base Type: G 24 q-1

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|---------------------------|------|---------------|------|------|
| Lamp Wattage * | (W) | 10 | | |
| Lamp Wattage ** | (W) | 9.5 | | |
| Lamp Operating Voltage * | (V) | 67 | | |
| Lamp Operating Voltage ** | (V) | 51 | | |
| Lamp Current * | (mA) | 190 | | |
| Lamp Current ** | (mA) | 180 | | |

| OPERATING CONDITIONS | | | | |
|---------------------------------------|-------|--------------------------------|---------|--|
| Average Life | (h) | 8000 | | |
| Lamp Ambient Temperature * | (°C) | | -15 | |
| Burning Position | | any | | |
| Ballast Type * | | 1070 Ω / 220 V, 1170 Ω / 240 V | | |
| Starter * | | FS 11 | | |
| Open Circuit Voltage * | (Vpp) | 500 | 350 *** | |
| Cathode Voltage for Dimming Operation | (V) | | 8 | |

| PHOTOMETRIC DATA | | | | |
|-------------------------|--------|-----------|--|--|
| Colour Type Designation | | SATIN 182 | | |
| Colour Temperature | (K) | 2700 | | |
| Colour Rendering Class | | 1b | | |
| Luminous Flux | (lm) | 600 | | |
| Luminous Efficacy * | (lm/W) | 60 | | |
| Luminous Efficacy ** | (lm/W) | 63.2 | | |

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.
 * 50Hz operation ** High frequency operation
 *** RMS Voltage across Lamp

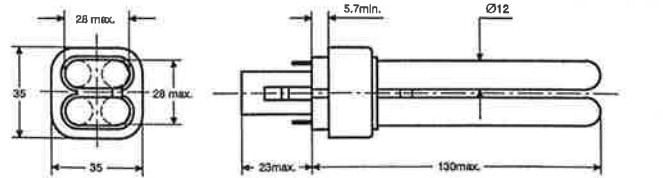
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| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5107 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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COMPACT FLUORESCENT LAMP

LYNX CF-DE 13W

OUTLINE:



Base Type: G 24 q-1

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|---------------------------|------|---------------|------|------|
| Lamp Wattage * | (W) | 13 | | |
| Lamp Wattage ** | (W) | 12.5 | | |
| Lamp Operating Voltage * | (V) | 100 | | |
| Lamp Operating Voltage ** | (V) | 76 | | |
| Lamp Current * | (mA) | 165 | | |
| Lamp Current ** | (mA) | 160 | | |

| OPERATING CONDITIONS | | | | |
|---------------------------------------|-------|--------------------------------|---------|--|
| Average Life | (h) | 6000 | | |
| Lamp Ambient Temperature * | (°C) | | -15 | |
| Burning Position | | any | | |
| Ballast Type * | | 1070 Ω / 220 V, 1170 Ω / 240 V | | |
| Starter * | | FS 11 | | |
| Open Circuit Voltage * | (Vpp) | 550 | 350 *** | |
| Cathode Voltage for Dimming Operation | (V) | | 8 | |

| PHOTOMETRIC DATA | | | | |
|-------------------------|--------|-----------|--|--|
| Colour Type Designation | | SATIN 182 | | |
| Colour Temperature | (K) | 2700 | | |
| Colour Rendering Group | | 1b | | |
| Luminous Flux | (lm) | 900 | | |
| Luminous Efficacy * | (lm/W) | 69 | | |
| Luminous Efficacy ** | (lm/W) | 72 | | |

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.
 * 50Hz operation ** High frequency operation
 *** RMS Voltage across Lamp

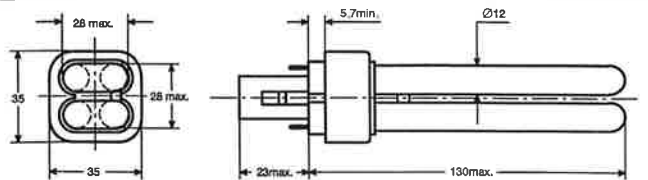
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|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5109 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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COMPACT FLUORESCENT LAMP

LYNX CF-DE 18W

OUTLINE:



Base Type: G 24 q-2

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|---------------------------|------|---------------|------|------|
| Lamp Wattage * | (W) | 18 | | |
| Lamp Wattage ** | (W) | 18 | | |
| Lamp Operating Voltage * | (V) | 105 | | |
| Lamp Operating Voltage ** | (V) | 92 | | |
| Lamp Current * | (mA) | 220 | | |
| Lamp Current ** | (mA) | 190 | | |

| OPERATING CONDITIONS | | | | |
|---------------------------------------|-------|------------------------------|---------|--|
| Average Life | (h) | 8000 | | |
| Lamp Ambient Temperature * | (°C) | | -15 | |
| Burning Position | | any | | |
| Ballast Type * | | 800 Ω / 220 V, 900 Ω / 240 V | | |
| Starter * | | FS 11 | | |
| Open Circuit Voltage * | (Vpp) | 570 | 400 *** | |
| Cathode Voltage for Dimming Operation | (V) | | 8 | |

| PHOTOMETRIC DATA | | | | |
|-------------------------|--------|-----------|--|--|
| Colour Type Designation | | SATIN 182 | | |
| Colour Temperature | (K) | 2700 | | |
| Colour Rendering Class | | 1b | | |
| Luminous Flux | (lm) | 1200 | | |
| Luminous Efficacy * | (lm/W) | 67 | | |

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.
 * 50Hz operation ** High frequency operation
 *** RMS Voltage across Lamp

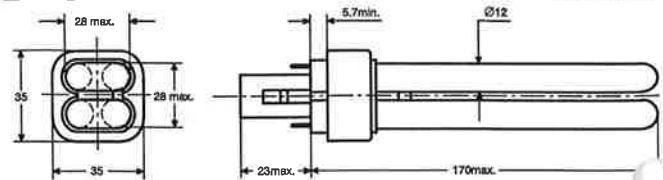
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| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5111 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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COMPACT FLUORESCENT LAMP

LYNX CF-DE 26W

OUTLINE:



Base Type: G 24 q-3

| ELECTRICAL DATA | | Nominal Value | min. | max. |
|---------------------------|------|---------------|------|------|
| Lamp Wattage * | (W) | 26 | | |
| Lamp Wattage ** | (W) | 25.5 | | |
| Lamp Operating Voltage * | (V) | 110 | | |
| Lamp Operating Voltage ** | (V) | 91 | | |
| Lamp Current * | (mA) | 315 | | |
| Lamp Current ** | (mA) | 290 | | |

| OPERATING CONDITIONS | | | | |
|---------------------------------------|-------|------------------------------|---------|--|
| Average Life | (h) | 8000 | | |
| Lamp Ambient Temperature * | (°C) | | -15 | |
| Burning Position | | any | | |
| Ballast Type * | | 540 Ω / 220 V, 610 Ω / 240 V | | |
| Starter * | | FS 11 | | |
| Open Circuit Voltage * | (Vpp) | 590 | 420 *** | |
| Cathode Voltage for Dimming Operation | (V) | | 8 | |

| PHOTOMETRIC DATA | | | | |
|-------------------------|--------|-----------|--|--|
| Colour Type Designation | | SATIN 182 | | |
| Colour Temperature | (K) | 2700 | | |
| Colour Rendering Class | | 1b | | |
| Luminous Flux | (lm) | 1800 | | |
| Luminous Efficacy * | (lm/W) | 69 | | |
| Luminous Efficacy ** | (lm/W) | 71 | | |

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.
 * 50Hz operation ** High frequency operation
 *** RMS Voltage across Lamp

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5113 |
| Date : 28.08.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

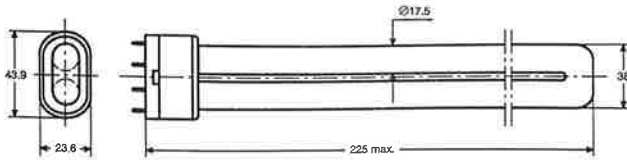
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COMPACT FLUORESCENT LAMP

LYNX CF-L 18W

OUTLINE:

Dimensions in mm



Cap Type: 2 G 11

| ELECTRICAL DATA 50Hz-Operation : | | Nominal Value | min. | max. |
|----------------------------------|------|---------------|------|------|
| Lamp Wattage | (W) | 18 | | |
| Lamp Operating Voltage | (V) | 61 | 55 | 67 |
| Lamp Current | (mA) | 370 | | |
| Preheat Current | (mA) | 540 | 315 | 670 |

| OPERATING CONDITIONS : | | | |
|--|------|-----------------------------------|-----|
| Average Life | (h) | 10000 | |
| Lamp Ambient Temperature | (°C) | | -30 |
| Burning Position | | any | |
| Ballast Type for Single Lamp Operation | | 580 Ω / 230 V, 610 Ω / 240 V | |
| Ballast Type for Tandem Operation | | 420 Ω / 230 V, 452 Ω / 240 V | |
| Starter for Single Lamp Operation | | FS-11, FS-22, COP/H-20 | |
| Starter for Tandem Operation | | FS-22 | |
| Compensation Capacitor | (μF) | 3,9 (Single and Tandem Operation) | |
| System Wattage | (W) | approx. 30 | |

PHOTOMETRIC DATA:

| COLOUR | CODE | Luminous Flux | CRI Class | Colour Temp. |
|-----------|------|---------------|-----------|--------------|
| | | lm | | (K) |
| SATIN 182 | 182 | 1200 | 1B | 2700 |
| DECOR 183 | 183 | 1200 | 1B | 3000 |
| BURO 184 | 184 | 1200 | 1B | 4000 |

APPLICATION: For further lamp data refer to IEC Publication 901 and D.I.S. 34A (Central Office) 558.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

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| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5125 |
| Date : 05.11.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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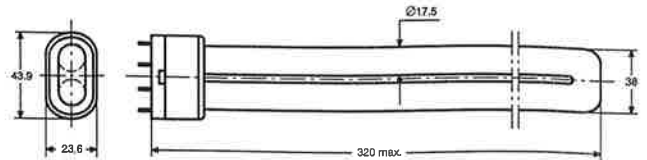
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COMPACT FLUORESCENT LAMP

LYNX CF-L 24W

OUTLINE:

Dimensions in mm



Cap Type: 2 G 11

| ELECTRICAL DATA 50Hz-Operation : | | Nominal Value | min. | max. |
|----------------------------------|------|---------------|------|------|
| Lamp Wattage | (W) | 24,7 | | |
| Lamp Operating Voltage | (V) | 91 | 81 | 101 |
| Lamp Current | (mA) | 345 | | |
| Preheat Current | (mA) | 510 | 305 | 670 |

| OPERATING CONDITIONS : | | | |
|--------------------------|------|------------------------------|-----|
| Average Life | (h) | 10000 | |
| Lamp Ambient Temperature | (°C) | | -30 |
| Burning Position | | any | |
| Ballast Type | | 580 Ω / 230 V, 610 Ω / 240 V | |
| Starter | | FS-11, COP/H-46 | |
| Compensation Capacitor | (μF) | 3,3 | |
| System Wattage | (W) | approx. 35 | |

PHOTOMETRIC DATA:

| COLOUR | CODE | Luminous Flux | CRI Class | Colour Temp. |
|-----------|------|---------------|-----------|--------------|
| | | lm | | (K) |
| SATIN 182 | 182 | 1800 | 1B | 2700 |
| DECOR 183 | 183 | 1800 | 1B | 3000 |
| BURO 184 | 184 | 1800 | 1B | 4000 |

APPLICATION: For further lamp data refer to IEC Publication 901 and D.I.S. 34A (Central Office) 558.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

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|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5129 |
| Date : 05.11.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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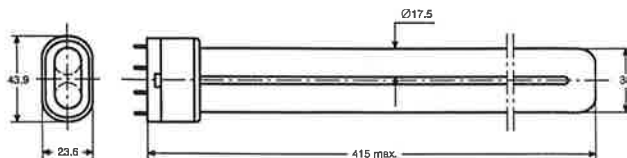
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COMPACT FLUORESCENT LAMP

LYNX CF-L 36W

OUTLINE:

Dimensions in mm



Cap Type: 2 G 11

| ELECTRICAL DATA 50Hz-Operation : | | Nominal Value | min. | max. |
|----------------------------------|------|---------------|------|------|
| Lamp Wattage | (W) | 36,7 | | |
| Lamp Operating Voltage | (V) | 112 | 102 | 122 |
| Lamp Current | (mA) | 430 | | |
| Preheat Current | (mA) | 650 | 365 | 775 |

| OPERATING CONDITIONS : | | | |
|--------------------------|------|------------------------------|-----|
| Average Life | (h) | 10000 | |
| Lamp Ambient Temperature | (°C) | | -15 |
| Burning Position | | any | |
| Ballast Type | | 420 Ω / 230 V, 452 Ω / 240 V | |
| Starter | | FS-11, COP/H-46 | |
| Compensation Capacitor | (μF) | 4 | |
| System Wattage | (W) | approx. 46 | |

PHOTOMETRIC DATA:

| COLOUR | CODE | Luminous Flux | CRI Class | Colour Temp. |
|-----------|------|---------------|-----------|--------------|
| | | lm | | (K) |
| SATIN 182 | 182 | 2900 | 1B | 2700 |
| DECOR 183 | 183 | 2900 | 1B | 3000 |
| BURO 184 | 184 | 2900 | 1B | 4000 |

APPLICATION: For further lamp data refer to IEC Publication 901 and D.I.S. 34A (Central Office) 558.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5121 |
| Date : 05.11.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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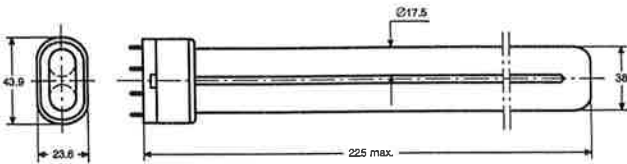
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COMPACT FLUORESCENT LAMP

LYNX CF-L 18W
HF-Operation

OUTLINE:

Dimensions in mm



Cap Type: 2 G 11

| ELECTRICAL DATA | | HF-Operation : Single Lamp Operation | | Tandem Operation | |
|---|---|--------------------------------------|--|------------------|--|
| Lamp Wattage (W) | : | 16 | | 32 | |
| Lamp Operating Voltage (V) | : | 52 | | 52 | |
| Lamp Current (mA) | : | 310 | | 310 | |
| Cathode Voltage for HF Operation (V) | : | 3.6 | | 3.6 | |
| Cathode Voltage for Dimming Operation (V) | : | 4 | | 4 | |

OPERATING CONDITIONS

| | | |
|-------------------------------|---|---|
| Average Life (h) | : | (Depending on ballast type and switching frequency) |
| Lamp Ambient Temperature (°C) | : | -30 (min.) |
| Burning Position | : | any |
| System Wattage (W) | : | approx. 19 |

PHOTOMETRIC DATA:

| COLOUR | CODE | Luminous Flux | | CRI Class | Colour Temp. (K) |
|-----------|------|---------------|--|-----------|------------------|
| | | lm | | | |
| SATIN 182 | 182 | 1200 | | 1B | 2700 |
| DECOR 183 | 183 | 1200 | | 1B | 3000 |
| BURO 184 | 184 | 1200 | | 1B | 4000 |

APPLICATION: For further lamp data refer to IEC Publication 901 and D.I.S. 34A (Central Office) 558.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5131 |
| Date : 06.11.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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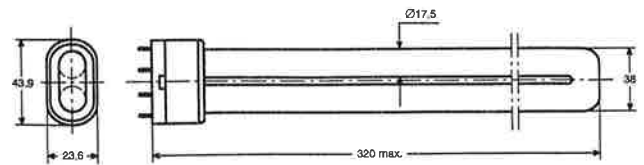
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COMPACT FLUORESCENT LAMP

LYNX CF-L 24W
HF-Operation

OUTLINE:

Dimensions in mm



Cap Type: 2 G 11

| ELECTRICAL DATA | | HF-Operation : Single Lamp Operation | | Tandem Operation | |
|---|---|--------------------------------------|--|------------------|--|
| Lamp Wattage (W) | : | 22 | | 44 | |
| Lamp Operating Voltage (V) | : | 79 | | 79 | |
| Lamp Current (mA) | : | 280 | | 280 | |
| Cathode Voltage for HF-Operation (V) | : | 3.6 | | 3.6 | |
| Cathode Voltage for Dimming Operation (V) | : | 4 | | 4 | |

OPERATING CONDITIONS

| | | |
|-------------------------------|---|---|
| Average Life (h) | : | (Depending on ballast type and switching frequency) |
| Lamp Ambient Temperature (°C) | : | -30 (min.) |
| Burning Position | : | any |
| System Wattage (W) | : | approx. 27 |

PHOTOMETRIC DATA:

| COLOUR | CODE | Luminous Flux | | CRI Class | Colour Temp. (K) |
|-----------|------|---------------|--|-----------|------------------|
| | | lm | | | |
| SATIN 182 | 182 | 1800 | | 1B | 2700 |
| DECOR 183 | 183 | 1800 | | 1B | 3000 |
| BURO 184 | 184 | 1800 | | 1B | 4000 |

APPLICATION: For further lamp data refer to IEC Publication 901 and D.I.S. 34A (Central Office) 558.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

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|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5123 |
| Date : 06.11.1990 | | Supersedes : |
| Revision data : | | Page 1 of 1 |

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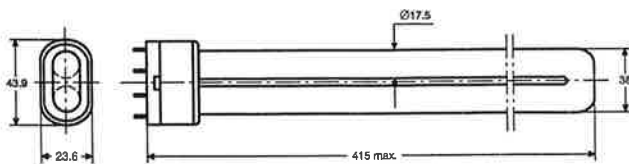
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COMPACT FLUORESCENT LAMP

LYNX CF-L 36W
HF-Operation

OUTLINE:

Dimensions in mm



Cap Type: 2 G 11

| ELECTRICAL DATA | | HF-Operation : Single Lamp Operation | | Tandem Operation | |
|---|---|--------------------------------------|--|------------------|--|
| Lamp Wattage (W) | : | 32 | | 64 | |
| Lamp Operating Voltage (V) | : | 102 | | 102 | |
| Lamp Current (mA) | : | 320 | | 320 | |
| Cathode Voltage for HF Operation (V) | : | 3.6 | | 3.6 | |
| Cathode Voltage for Dimming Operation (V) | : | 4 | | 4 | |

OPERATING CONDITIONS

| | | |
|-------------------------------|---|---|
| Average Life (h) | : | (Depending on ballast type and switching frequency) |
| Lamp Ambient Temperature (°C) | : | -15 (min.) |
| Burning Position | : | any |
| System Wattage (W) | : | approx. 39 |

PHOTOMETRIC DATA:

| COLOUR | CODE | Luminous Flux | | CRI Class | Colour Temp. (K) |
|-----------|------|---------------|--|-----------|------------------|
| | | lm | | | |
| SATIN 182 | 182 | 2900 | | 1B | 2700 |
| DECOR 183 | 183 | 2900 | | 1B | 3000 |
| BURO 184 | 184 | 2900 | | 1B | 4000 |

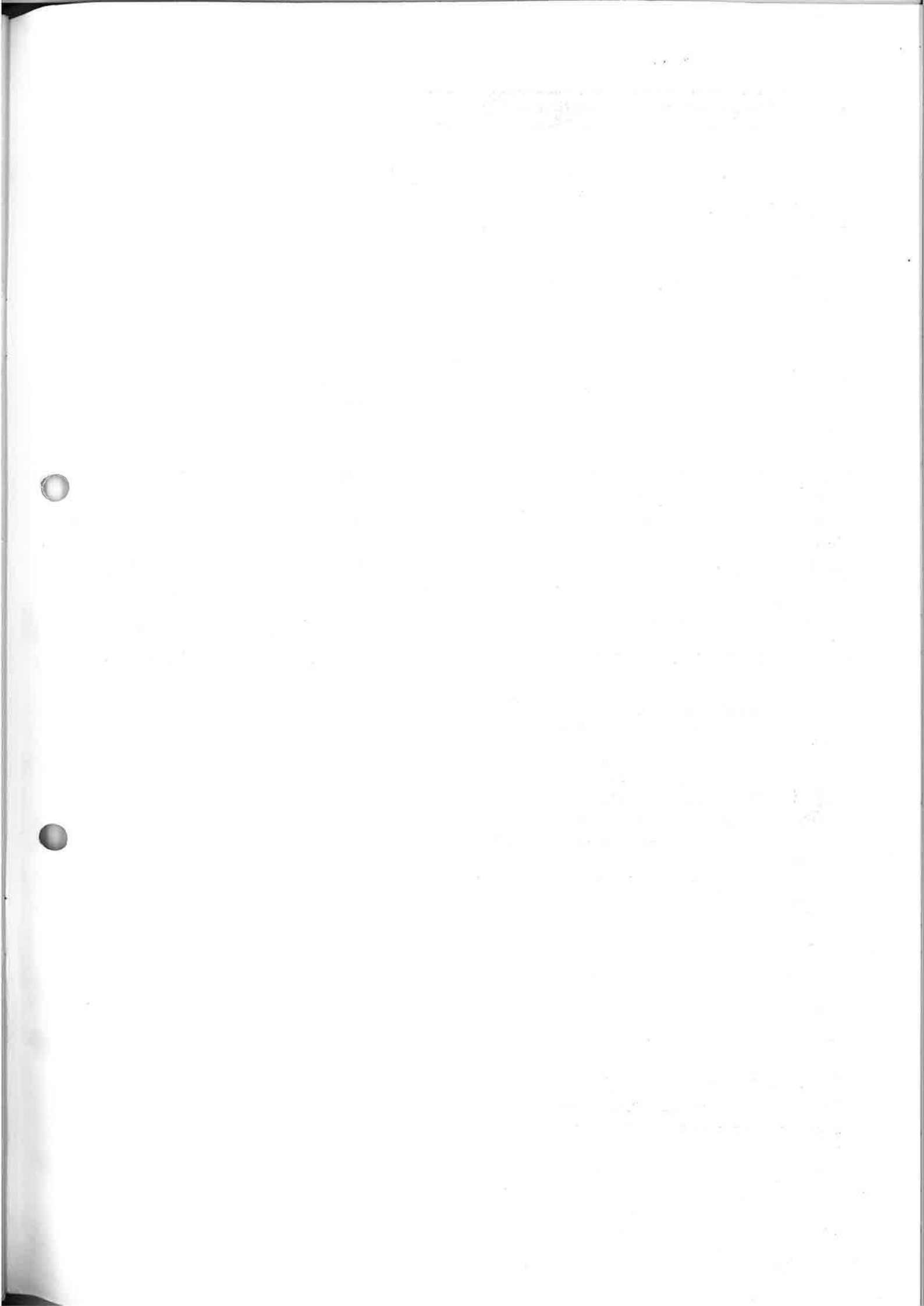
APPLICATION: For further lamp data refer to IEC Publication 901 and D.I.S. 34A (Central Office) 558.

ATTENTION: The product must be used with suitable operating equipment and in accordance with the specified data.

| | | |
|----------------------|-------------------|--------------------------|
| Issued by : ERLANGEN | DATA SHEET | Specification Nbr : 5127 |
| Date : 06.11.1990 | | Supersedes : |
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