



# MASTER SON-T PIA Plus

## MASTER SON-T PIA Plus 400W E40 1SL/12

High Pressure Sodium lamp with clear tubular outer bulb, high output and long reliable lifetime

### Warnings and Safety

- Control gear must include end-of-life protection (IEC60662, IEC 62035)
- A lamp breaking is extremely unlikely to have any impact on your health. If a lamp breaks, ventilate the room for 30 minutes and remove the parts, preferably with gloves. Put them in a sealed plastic bag and take it to your local waste facilities for recycling. Do not use a vacuum cleaner.

### Product data

| General Information         |                                   |
|-----------------------------|-----------------------------------|
| Cap base                    | E40 [ E40]                        |
| Operating position          | UNIVERSAL [ Any or Universal (U)] |
| Life to 5% failures (nom.)  | 20500 h                           |
| Life to 10% failures (nom.) | 24000 h                           |
| Life to 20% failures (nom.) | 28000 h                           |
| Life to 50% failures (nom.) | 36000 h                           |
| ANSI code HID               | -                                 |
| System description          | External Ignitor (E)              |
| LSF 2000 h Rated            | 100 %                             |
| LSF 4000 h Rated            | 99 %                              |
| LSF 6000 h Rated            | 99 %                              |
| LSF 8000 h Rated            | 99 %                              |
| LSF 12000 h Rated           | 99 %                              |
| LSF 16000 h Rated           | 98 %                              |
| LSF 20000 h Rated           | 95 %                              |

| Light Technical                      |                       |
|--------------------------------------|-----------------------|
| Colour Code                          | 220 [ CCT of 2,000 K] |
| Luminous flux (rated) (nom.)         | 56700 lm              |
| Lumen maintenance 2,000 hours (min.) | 95 %                  |
| Lumen maintenance 2,000 hours (nom.) | 99 %                  |
| Lumen maintenance 20,000 hours       | 88 %                  |
| Lumen maintenance 5,000 hours (min.) | 90.5 %                |
| Lumen maintenance 5,000 hours (nom.) | 96.5 %                |
| Chromaticity coordinate X (nom.)     | 525                   |
| Chromaticity coordinate Y (nom.)     | 425                   |
| Correlated Colour Temperature (Nom)  | 2000 K                |
| Luminous efficacy (rated) (nom.)     | 138.97 lm/W           |
| Color rendering index (max.)         | 25                    |
| LLMF 2000 h Rated                    | 99 %                  |
| LLMF 4000 h Rated                    | 97 %                  |
| LLMF 6000 h Rated                    | 96 %                  |
| LLMF 8000 h Rated                    | 94 %                  |

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|                                |      |
|--------------------------------|------|
| LLMF 12000 h Rated             | 92 % |
| LLMF 16000 h Rated             | 90 % |
| LLMF 20000 h Rated             | 88 % |
| Ratio scotopic/photopic lumens | 0.60 |

### Operating and Electrical

|                                |         |
|--------------------------------|---------|
| Power (Rated) (Nom)            | 408.0 W |
| Lamp current (EM) (nom.)       | 0.441 A |
| Ignition supply voltage (max.) | 198 V   |
| Ignition peak voltage (max.)   | 2800 V  |
| Re-ignition time (min.) (max.) | 120 s   |
| Ignition time (max.)           | 10 s    |
| Voltage (Max)                  | 115 V   |
| Voltage (Min)                  | 85 V    |
| Voltage (Nom)                  | 105 V   |

### Controls and Dimming

|                        |       |
|------------------------|-------|
| Dimmable               | Yes   |
| Run-up time 90% (max.) | 5 min |

### Mechanical and Housing

|                      |        |
|----------------------|--------|
| Lamp Finish          | Clear  |
| Cap-base information | na [-] |

### Approval and Application

|                                    |         |
|------------------------------------|---------|
| Energy efficiency label (EEL)      | A++     |
| Mercury (Hg) content (nom.)        | 20 mg   |
| Energy consumption kWh/1,000 hours | 449 kWh |

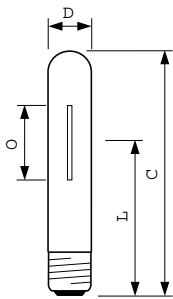
### Luminaire Design Requirements

|                             |        |
|-----------------------------|--------|
| Bulb temperature (max.)     | 450 °C |
| Cap-base temperature (max.) | 250 °C |

### Product Data

|                                   |                                       |
|-----------------------------------|---------------------------------------|
| Full product code                 | 871829118077700                       |
| Order product name                | MASTER SON-T PIA Plus 400W E40 1SL/12 |
| EAN/UPC – product                 | 8718291180777                         |
| Order code                        | 18077700                              |
| SAP numerator – quantity per pack | 1                                     |
| Numerator – packs per outer box   | 12                                    |
| SAP material                      | 928144809293                          |
| SAP net weight (piece)            | 0.148 kg                              |
| ILCOS code                        | ST-400-H/E-E40                        |

## Dimensional drawing

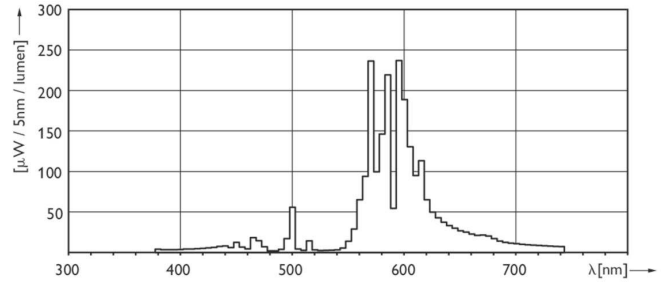


SON-T Plus 400W/220 E40

| Product                               | D (max) | O     | L      | C (max) |
|---------------------------------------|---------|-------|--------|---------|
| MASTER SON-T PIA Plus 400W E40 1SL/12 | 48 mm   | 83 mm | 175 mm | 279 mm  |

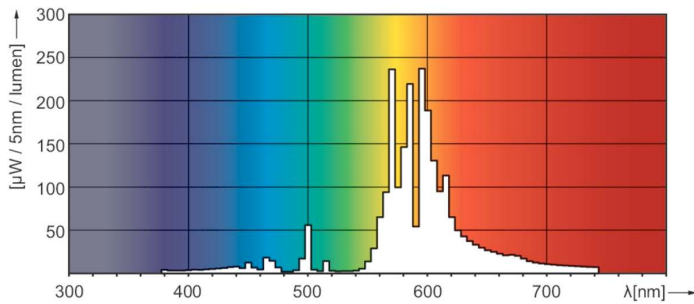
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## Photometric data



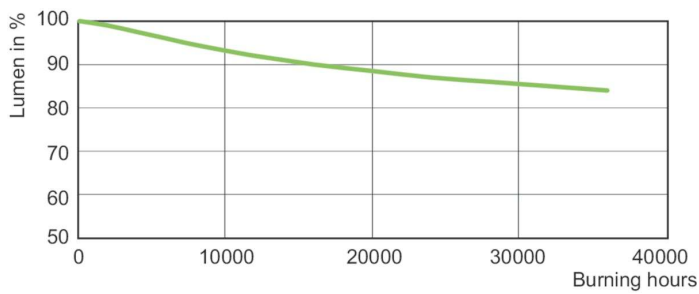
LDLD\_SON-TPIA-Light distribution diagram

LDPB\_SON-TPIA\_0013-Spectral power distribution B/W

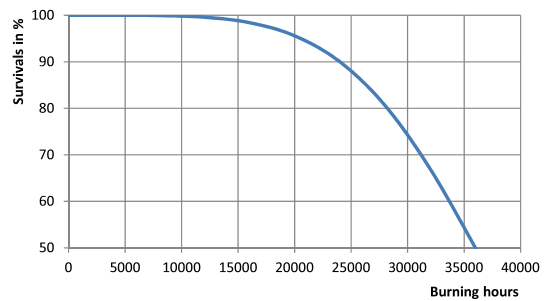


LDPO\_SON-TPIA\_0013-Spectral power distribution Colour

## Lifetime



LDLM\_SON-TPIA\_0009-Lumen maintenance diagram



SON(-T) PIA Plus 150W 250W 400W Life Expectancy Diagram

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