

SORAA

Electrical compatibility – AR111 12.5W 12V lamps – International

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Scope

This document provides the basic guidelines regards electrical compatibility of SORAA 12V AR111 12.5W lamps and compatibility tables for transformers and dimmers.

Transformer Compatibility

SORAA 12V AR111 lamps are made to work with 12V AC magnetic (MLV) and electronic (ELV) transformers and 12V DC transformers. Transformer compatibility tables are on pages 3-6. If multiple lamps are installed on one transformer, they need to be connected in parallel. They cannot be installed in series.

- 12V AC Magnetic transformers and 12V DC transformers are in general compatible.
- 12V AC Electronic transformers generally have a minimum load, and SORAA recommends using only transformers that have been tested and found compatible. In general we recommend to use transformers with very little or no minimum load (0W). If your transformer is not in the compatibility tables below, it does not mean it is incompatible, but it means that we have not tested it to date, please contact techsupport@soraa.com for guidance.

Dimmer Compatibility

SORAA 12V AR111 lamps are made to work with trailing edge (reverse phase) and leading edge (forward phase) phase cut dimmers.

Electronic dimmable transformers need trailing edge dimmers, while Magnetic transformers need leading edge dimmers. Dimmer compatibility tables are on pages 7-16.

Along the top of the dimmer compatibility tables you will see the different dimmers that we have tested, and along the left side of the chart you will see the different transformers we tested. The percentages for each transformer/dimmer combination are the percentage of light output that we were able to dim down to without seeing any problems like flicker/shimmer. Anything 30% or above is considered not compatible and you will see a "NC" in a grey cell. There might be a minimum wattage load on the transformer/dimmer. If this minimum load is not met, there might be compatibility issues.

Maximum number of lamps on a dimmer/transformer

The following need to be considered when determining the amount of lamps on a dimmer/transformer.

1. SORAA tests have been carried out with 1 lamp unless stated otherwise.
2. There is a repetitive, very brief current spike the LED lamp will see twice per cycle. This current spike has to be provided by the transformer and/or dimmer, and will affect the recommended lamp load on each transformer or dimmer.
3. Ultimately the transformer/dimmer manufacturer is the only one with authority to rate their product, but SORAA can give an Engineering estimate.
4. For transformers, we recommend to use a 1.4 de-rating factor:
For example for a 50W transformer it would mean $50/1.4=35W$ of LED, so an estimated maximum of 2 lamps 12.5W.
5. For dimmers, we recommend to use a 2.0 de-rating factor for leading edge dimmers with magnetic transformers; and a 4.0 de-rating factor for trailing edge dimmers driving Low Voltage lamps on electronic transformers.
For example for a 500W leading edge dimmer it would mean $500/2=250W$ of LED, so an estimated maximum of 20 lamps 12.5W.
For example for a 400W trailing edge dimmer it would mean $400/4=100W$ of LED, so an estimated maximum of 8 lamps 12.5W.

Distance between transformer and lamp(s)

- 12V AC Magnetic transformers and 12V DC transformers do not have a limitation regards the maximum length of the wires between transformer and lamp. Only the voltage drop has to be taken into account (losses because of the inner resistance of the conductors).
- 12V AC Electronic transformers have a limitation in the length of the wires between transformer and lamp(s). This length is usually stated by the transformer manufacturer on its specs or on the transformer itself, and generally it is limited to 2 meters (6 feet).

Disclaimer

Compatibility tests are conducted by Soraa only as guidance for the user. All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site. Results may vary due to variability in component choices and manufacturing processes by the transformer and dimmer manufacturers. For more information on the dimmers/transformers, please find specs on the manufacturer's website.

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - International

PASS - The transformer supports at least one lamp

NC - SORAA does not recommend this transformer for use with this lamp;

| Transformer Manufacturer | Transformer Model | Wattage | Voltage | Class / Frequency | Country | Transformer Type | 1 Lamp |
|----------------------------|-----------------------|---------|----------|-------------------|---------|------------------|--------|
| International | | | | | | | |
| ABB | ETR-DALI 105 230-12KF | 105 | 230 | 50 | EU | Electronic | NC |
| ABB | Speedy 105 | 105W | 230 | 50 | EU | Electronic | Pass |
| AcTEC | Micro60 | 20-60W | 220-240V | 50/60 | EU | Electronic | NC |
| AcTEC | DIM12-25 | 25W | 220-240V | 50/60 | EU, CN | Electronic/DC | NC |
| Architectural Lighting | AG0927 | | 230 | 50 | EU | Electronic | Pass |
| BERKER | TRONIC TRAF0 | 20-105W | 230/240 | 50/60 | EU | Electronic | Pass |
| BLV | 45600101 | 0-60 | 230V | 50 | EU | Electronic | Pass |
| BLV | 45600201 | 0-105W | 230 | 50 | EU | Electronic | Pass |
| Bright Star Lighting (MSD) | MSD-DALI-DIM-CV-30W | 30W | 230 | 50/60 | EU, CN | Electronic | NC |
| Eaglerise | EET105LT | 35-105W | 230 | 50 | EU | Electronic | Pass |
| EldoLED | LINEARdrive 100 | 100 | 120-250 | 50/60 | EU | Electronic/DC | NC |
| ELR | DA12VPWM AR111 | 36 | 230 | 50 | EU | Electronic | NC |
| Eutrac | 99.778.1U | 20-50W | 220-240V | 50/60 | EU | Electronic | Pass |
| EVN | Pd.2150 | | 230 | 50 | EU | Electronic | Pass |
| Fullham | Pony PET | | 230 | 50 | EU | Electronic | Pass |
| GIRA | TRONIC TRAF0 | 20-150W | 230/240 | 50/60 | EU | Electronic | Pass |
| Gitronica | GET 60 FI VOX | 20-60W | 230/240 | 50/60 | EU | Electronic | NC |
| Govena | TE40W-DIMM-LED-IP64 | 40 | 230 | 50 | EU | Electronic | Pass |
| Govena | YT50 | 0-50 | 230V | 50 | EU | Electronic | Pass |
| Hytronik | HE4030-A | | 230 | 50 | EU | Electronic | Pass |
| IBL | 4670 | 0-70 | 230 | 50 | EU | Electronic | Pass |

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - International

PASS - The transformer supports at least one lamp
 NC - SORAA does not recommend this transformer for use with this lamp;

| Transformer Manufacturer | Transformer Model | Wattage | Voltage | Class / Frequency | Country | Transformer Type | 1 Lamp |
|--------------------------|--|---------|---------|-------------------|---------|------------------|----------------------------------|
| International | | | | | | | |
| iGuzzini | 1.193.908.00 | 100 | 230 | 50 | EU | Electronic | Pass |
| iGuzzini | Le Perroquet 100W B0077.01 P16772/00 | 100 | 230 | 50 | EU | Electronic | NC |
| JCC | JC4013 | 105W | 230 | 50 | EU | Electronic | Pass |
| Kanlux | Treto LED 30W | 30 | 170~230 | 50/60 | EU | Electronic/DC | Pass |
| LCI | ET 3-60C | 10-60 | 230 | 50 | EU | Electronic | NC |
| LCI | DC DIM 1-10V 35W Code 1750129 | 35W | 230 | 50/60 | EU | Electronic/DC | Pass |
| Lightech | LET75/240 | 20-75 | 240 | 50/60 | EU/Asia | Electronic | Pass |
| Lightech | LET105/240 | 35-105 | 240 | 50/60 | EU/Asia | Electronic | Pass |
| LTF | TU75WA | | 230 | 50 | EU | Electronic | Pass |
| Meanwell | PWM-90-12 (300Hz version) | 90 | 100-305 | 50/60 | World | Electronic/DC | Pass |
| Meanwell | PWM-120-12 (300Hz version) | 120 | 100-305 | 50/60 | World | Electronic/DC | Pass |
| Mode Lighting | ET-040-PL-230-RD (Puma LED) | 40 | 240 | 50/60 | EU | Electronic | Pass |
| Mode Lighting | MOE-050-D-240 | 50 | 230 | 50 | EU | Electronic | Pass |
| Mode Lighting | MOE-075-C-240 | 75 | 240 | 50/60 | EU | Electronic | NC |
| Mode Lighting | MOE-105-D-240 | 105 | 230 | 50 | EU | Electronic | Pass |
| Nobile | EN-60D | | 230 | 50 | EU | Electronic | Pass |
| NOBILE | EN-150 | 150W | 220/240 | 50/60 | EU | Electronic | Pass |
| OSRAM | ET-LED 30/220-240 | 2-30 | 220-240 | 50/60 | Asia | Electronic | Pass |
| OSRAM | ET-Parrot 70 | 70 | 220-240 | 50 | EU | Electronic | Pass |
| OSRAM | Halotronic HTB 105/230-240 | 35-105W | 230-240 | 105 | EU | Electronic | Pass |
| OSRAM | HTI DALI 105 DIM | 35-105 | 230-240 | 50 | EU | Electronic | 1,4 lamps: NC 2,3 lamps: Pass |
| OSRAM | HTI DALIC 105/230...240DIM (Not a DALI dimmable transformer) | 105 | 230 | 50/60 | EU | Electronic | Pass |

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - International

PASS - The transformer supports at least one lamp

NC - SORAA does not recommend this transformer for use with this lamp;

| Transformer Manufacturer | Transformer Model | Wattage | Voltage | Class / Frequency | Country | Transformer Type | 1 Lamp |
|----------------------------|---------------------------------------|---------|-----------|-------------------|---------------------|------------------|--------|
| International | | | | | | | |
| OSRAM | HTM 70 | 70 | 230/240 | 50 | EU | Electronic | Pass |
| OSRAM | HTM 105 | 105W | 230/240 | 50/60 | EU,CN | Electronic | Pass |
| OSRAM | HTM 150 | 150W | 230/240 | 50/60 | EU | Electronic | Pass |
| OSRAM | HTN 75 230/240 I | 20-75 | 230/240 | 50/60 | EU | Electronic | Pass |
| PHILIPS | CERTALINE 60W | 60 | 230 | 50 | EU | Electronic | Pass |
| PHILIPS | PRIMALINE 105 | 35-105W | 230 | 50/60 | EU,CN | Electronic | Pass |
| PHILIPS | PRIMALINE 70 | 35-70W | 220/240 | 50/60 | EU,CN | Electronic | Pass |
| Quanzhou Smarts Electronic | SMT-012-030VM | 30W | 100-265V | 50/60 | EU,CN | Electronic | Pass |
| Servodan | 74-212 | 10-105W | 230 | 50 | EU | Electronic | Pass |
| Soraa | Optima TCVW-P-12-600-70-01-S3 | 70 | 230 | 50/60 | EU, Asia, Australia | Electronic | Pass |
| TCI | MW70LED | 70 | 230 | 50 | EU | Electronic | Pass |
| TCI | WU 105 | 105 | 230/240 | 50 | EU | Electronic | Pass |
| Transtec | HP-300 | 300 | 230 | 50/60 | EU | Magetic | Pass |
| Tridonic | TE-NE 1105 | 105 | 230-240 | 50/60 | EU | Electronic | NC |
| Truelux | AN12VPWM | 0-20W | 100-277V | 50/60 | EU | Electronic/DC | Pass |
| Truelux | DA12VPWM | 0-20W | 100-277V | 50/60 | EU | Electronic/DC | Pass |
| Truelux | PH12VLN | 0-50 | 230V | 50 | EU | Electronic | Pass |
| Varilight | YT50 | 0-50 | 230V | 50 | EU | Electronic | Pass |
| Varilight | YT50LZ | 0-50 | 230 | 50 | EU | Electronic | Pass |
| Vossloh Schwabe | 60.8159 (with built in potentiometer) | | 230 | 50 | EU | Electronic | Pass |
| Vossloh Schwabe | EST105 | 105 | 230 | 50 | EU | Electronic | Pass |
| Vossloh Schwabe | Liteline EST70/12.380 | 20-70W | 230 | 50 | EU | Electronic | Pass |
| Voltmaster | VMD30012EU | 35~300 | 230 | 50 | EU | Magetic | NC |
| V-TAC | VT-22045 (SKU 3090) | 45 | 90-264Vac | 50/60 | EU | Electronic | Pass |

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - International

Transformer compatibility Notes:

- Compatibility tests are conducted by Soraa only as guidance for the user
- All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site
- Results may vary due to variability in component choices and manufacturing processes by the transformer manufacturer
- If the transformer's minimum wattage is not met, the lamp may only operate under nominal conditions (nominal line voltage and thermal conditions where the lamp is at full power).
- If the fixture/transformer is not listed as tested, please consult with Soraa first before making any recommendations to end customer.
- Above table is for applications where no dimmer is used. If a dimmer is used, the user should consult the Dimmer/Transformer table, or contact Soraa if their desired combination is not listed.
- Transformer maximum load should not be exceeded. Please follow transformer/dimmer manufacturer's guidelines regarding maximum load with LED lamps. To calculate the estimated maximum number of lamps, please download our calculator from the following link: <https://res.cloudinary.com/soraa/raw/upload/v1452276139/content/max-lamp-load-calculator.xlsx>
Or following the guidelines stated on page 2 of this document.
- (*) This transformer added to the compatibility list as of this Revision

SORAA Optima 230V Electronic 12V transformer with 12V Soraa AR111 12.5W lamps - DIMMER COMPATIBILITY LIST

| Dimmer Manufacturer | Dimmer family | Dimmer model number | Dimming mode | Number of transformers per dimmer | Number of lamps per transformer | Dim (%) | Comments |
|---------------------|--|--------------------------------|--------------|-----------------------------------|---------------------------------|---------|--------------------------------------|
| Aurora | | DSP400X | Leading | 2 | 1 | NC | |
| Clipsal | | 32ELEDM | Trailing | 2 | 1 | 12% | Limited by dimmer travel |
| Clipsal | | L5504D2U | Adaptive-TE | 5 | 1 | 9% | |
| DIGINET | | DGLCDM400 (MEDM) | Trailing | 2 | 1 | 2% | |
| ETC | DRd | EELV6 | Trailing | 6 | 1 | 19% | (*) Tested by dimmer manufacturer |
| Feller | | 3314.12 FMI.61 | Trailing | 2 | 1 | 14% | |
| Feller | | 40200.LED.FMI.61 | Trailing | 2 | 1 | 18% | Limited by dimmer travel |
| Gira | | 238500 / I01 | Adaptive-TE | 2 | 1 | 13% | Limited by dimmer travel |
| Helvar | Digidim | 452 | Trailing | 5 | 1 | 7% | |
| Helvar | Digidim | 454 | Trailing | 5 | 1 | 9% | |
| Honeywell | Inncom | H454 | Trailing | 5 | 1 | 8% | |
| Jung | | 1224 LED UDE | Trailing | 2 | 1 | 12% | Limited by dimmer travel |
| Lutron | Energy Savr Node QS (for Quantum and QS systems) | QSNE-4A-D | Trailing | 5 | 1 | 29% | |
| Lutron | Grafik Eye QS | Grafik Eye QS | Leading | 5 | 1 | NC | |
| Lutron | Grafik Eye QS + Interface | Grafik Eye QS + ELVI interface | Adaptive-TE | 5 | 1 | 9% | Limited by dimmer travel |
| Lutron | LCP Panel | RPM-4A-230 | Adaptive-TE | 5 | 1 | 8% | Limited by dimmer travel |
| Osram | | HTI DALI 315 DIM | Trailing | 2 | 1 | 18% | Limited by dimmer travel |
| Philips Dynalite | | DGLEDM401 | Trailing | 5 | 1 | 19% | Limited by dimmer travel |
| Philips Dynalite | | DGTM402 | Trailing | 5 | 1 | NC | Limited by dimmer travel |
| RVE | | RV-LED 250 | Trailing | 5 | 1 | 5% | Limited by dimmer travel |
| Varilight | V-PRO | JQP401W | Trailing | 2 | 1 | 9% | Limited by dimmer travel |
| Vossloh-Schwabe | | 554591 (5-250W) | Trailing | 2 | 1 | 6% | Limited by dimmer travel |
| Vossloh-Schwabe | | OneDim | Trailing | 2 | 1 | 3% | Limited by dimmer travel |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST - Rotary phase cut dimmers International (1/2)

| Transformer | Dimmer --> | | Aurora AU-DSP400X | Berker 2830 | Berker 2867 10 | Busch 2247 | Busch 2250 | Busch 6513 U102 (TE) Feller 40300.RC Schneider SBD315RC Merten MEG5136-0000 ELKO 315GLE | Feller 40420.RLC | Gira 0307 00 | Hamilton 7WC1x100LEDWH | Jung 225NV | Jung 225 T DE | Marbo DV21912 | Merten MEG5131-0000 (SBD400R-1) (LE) | Merten MEG5133-0000 (SBD600RL) (LE) | |
|-------------------|---------------------------|-----|----------------------|----------------|-------------------|---------------|---------------|--|---------------------|-----------------|---------------------------|---------------|------------------|------------------|--|---|-----|
| Europe | | | | | | | | | | | | | | | | | |
| ABB | Speedy ETR 105 | ELV | NC | NC | | NC | NC | | | | | NC | | NC | | | |
| Aurora | AU-RD60E | ELV | NC | | | | | | NC | NC | | | | | | | |
| Berker | Tronic Trafo 150W 2976 | ELV | NC | NC | | NC | NC | | | | | NC | | NC | | | |
| BLV | 45600101 | ELV | 22% | 17% | 21% | 5% | 7% | | 22% | NC | 23% | 21% | 29% | 23% | NC | NC | 29% |
| GE | ET10 | ELV | | | | | | | NC | NC | NC | | | | | | |
| GIRA | Tronic Trafo | ELV | NC | 19% | | 28% | NC | | | | | | NC | | NC | | |
| Gitronica | GET 60 FI V1U | ELV | | | | | | | NC | NC | NC | | | | | | |
| IBL | 4670 | ELV | | | 22% | | | | | | | 30% | | 24% | | | |
| ItaLED | Avanti Uno | ELV | | | | | | | 29% | NC | 31% | | | | | | |
| Nobile | Konverter EN-150 | ELV | NC | NC | | 4% | NC | | | | | | 21% | | NC | | |
| Omnitronix | OMN60LT | ELV | | | | | | NC | NC | NC | | | | | | | |
| Osram | ET-P 60/220-240 | ELV | 2% | 23% | | 2% | 1% | | | | | | 6% | | 3% | | |
| Osram | HTM70 | ELV | NC | NC | | NC | NC | | | | | | NC | | NC | | |
| Osram | HTM105 | ELV | 15% | 7% | | 3% | 9% | | | | | | NC | | NC | | |
| Osram | HTM150 | ELV | NC | NC | | NC | NC | | | | | | NC | | NC | | |
| Philips | Certaline 60W | ELV | NC | NC | | 2% | 12% | | | | | | NC | | NC | | |
| Philips | Primaline 105 | ELV | NC | NC | | NC | NC | | | | | | NC | | NC | | |
| Philips | Primaline 70 | ELV | NC | NC | | NC | NC | | | | | | NC | | NC | | |
| TCI | MW 70 LED | ELV | | | 24% | | | | 12% | 14% | 24% | | | 25% | | NC | NC |
| Tridonic | TE Viper 22176072 | ELV | NC | | | | | | | | | | | | | | |
| Varilight | YT50 | ELV | 7% | 20% | | 2% | 10% | | | | | | 10% | | 5% | | |
| Varilight | YT50LZ | ELV | | | 24% | | | | 16% | 31% | 19% | 17% | | 23% | | NC | NC |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST - Rotary phase cut dimmers International (2/2)

| Transformer | Dimmer --> | | Merten MEG5136 (SBD315RC) (TE) | MK K1501 | MK 1522 | Panasonic WEG 57813 | Rako RDT500 (TE) | Schneider GD1G2W4 | Varilight JQP401W | Zano ZGRID500 |
|----------------------|---------------------------|----------|---|-------------|------------|------------------------|---------------------|----------------------|----------------------|------------------|
| International | | | | | | | | | | |
| ABB | Speedy ETR 105 | ELV | | NC | NC | | | NC | | NC |
| Berker | Tronic Trafo 150W 2976 | ELV | | NC | NC | | | NC | | NC |
| BLV | 45600101 | ELV | 1 lamp: 23% 2 lamps and more: 20% | NC | 14% | | | NC | NC | NC |
| GE | ET10 | ELV | | | | | | | NC | |
| GIRA | Tronic Trafo | ELV | | NC | NC | | | NC | | 14% |
| ItaLED | Avanti Uno | ELV | | | | | | | NC | |
| Nobile | Konverter EN-150 | ELV | | NC | NC | | | NC | | NC |
| Omnitronix | OMN60LT | ELV | | | | | | | NC | |
| Osram | ET-P 60/220-240 | ELV | | NC | NC | | | 12% | | 7% |
| Osram | HTM70 | ELV | | 37% | NC | | | NC | | NC |
| Osram | HTM105 | ELV | | NC | NC | | | NC | | NC |
| Osram | HTM150 | ELV | | NC | NC | | | NC | | NC |
| Philips | Certaline 60W | ELV | | NC | NC | | | NC | | NC |
| Phlips | Primaline 105 | ELV | | NC | NC | | | NC | | NC |
| Philips | Primaline 70 | ELV | | NC | NC | | | NC | | NC |
| Racer | RCT 50 | Magnetic | | | | NC | | | | |
| Varilight | YT50 | ELV | | NC | 14% | | | 3% | | NC |
| Varilight | YT50LZ | ELV | 18% | | | | NC | | 12% | NC |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST - Large dimmers International

| Transformer | Dimmer → | | | | | | | | | | | | | | | | | | | | | |
|----------------------|----------------------|-----|---------------------------|-----|-----------------------------|--|----------------------------------|----------------|-------------------|--------------------------------|-------------------------|------------------|---|---|--|--------------------------------|--------------------------------------|----------------------------------|---|--|---|--------------------------|
| | | | DeltaDore Tyxia 4840 (TE) | | DeltaDore Tyxia 4940 (TE) | Dynalite DDMC802GL+ DGLEDM401 (TE-LED) | Dynalite DDMC802GL+ DGTM402 (TE) | EVO-DDM-305-TE | Hager EVN002 (TE) | Helvar Digidim 452 (DALI) (TE) | Helvar Digidim 454 (TE) | iLight SCT 0405S | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (TE) | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (LE) | Lutron Grafik Eye QS OSGRX-6PCE + NGRX-ELV+CE (TE) | Lutron LP-RPM-4A-2.30 (TE) | Lutron Grafik Eye QS OSGRK-3PCE (LE) | Lutron Lyneo L5H-50IB-FAW-M (LE) | Maintronic DAD1200 DALI (adaptive - LE) with DALI | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH LEADING EDGE CARD | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH TRAILING EDGE CARD | PANASONIC WEG 57813 (LE) |
| International | | | | | | | | | | | | | | | | | | | | | | |
| ABB | Speedy 105ETR | ELV | | | NC | NC | NC | | | NC | NC | NC | NC | | NC | NC | | | | | | |
| Actec | Ultra 70 | ELV | | | 24% | NC | | | 17% | 25% | NC | NC | NC | | 14% | 14% | | | | | | |
| Atco | SPEEDY TED105 | ELV | | | NC | NC | NC | | | 24% | | NC | NC | | NC | NC | | | | | | |
| Aurora | AU-RD60E | ELV | | | 1 lamp: N C 2 lamps: 16% | NC | | | | | | | 1 lamp: N C 2 lamps: 18% | 1 lamp: N C 2 lamps: 23% | | | NC | | | | | |
| Berker | Tronic Trafo 150W | ELV | | | NC | NC | NC | | | NC | NC | NC | NC | | NC | NC | | | | | | |
| BLV | 45600101. Luxia 60W | ELV | 7% | 12% | 19% | 22% | 14% | 21% | 16% | 15% | 24% | NC | NC | | 12% | 12% | NC | | | | | |
| BLV | 45600201. Luxia 105W | ELV | | | 11% | 23% | | | 16% | 17% | 31% | NC | NC | | 14% | 1 lamp: N C 2 and more: 11% | | | | | | |
| Eaglerise | EET105LT | ELV | | | 1 lamp 20% 2 lamps NC | | | | | | | | NC | | | | | | | | | |
| GE | ET10 | ELV | | | 22% | NC | | | | | | | NC | NC | | | NC | | | | | |
| Gira | Tronic Trafo | ELV | | | 13% | NC | 10% | | 4% | 2% | 8% | 2% | | | 5% | 7% | | | | | | |
| Gitronica | GET 60 FI V1U | ELV | | | 30% | | | | | | | | 25% | NC | | | NC | | | | | |
| Govena | YT50 | ELV | 17% | 11% | 22% | NC | 17% | 28% | 18% | 15% | 24% | NC | NC | NC | 10% | | | | | NC | | |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST - Large dimmers International

| Transformer | Dimmer --> | | DeltaDore Tyxia 4840 (TE) | DeltaDore Tyxia 4940 (TE) | DynaLite DDMC802GL+ DGLEDM401 (TE+LED) | DynaLite DDMC802GL+ DGTM402 (TE) | EVO-DDM-305-TE | Hager EVN002 (TE) | Helvar Digidim 452 (DALI) (TE) | Helvar Digidim 454 (TE) | iLight SCT 04055 | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (TE) | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (LE) | Lutron Grafik Eye QS QSGR-6PCE + NGRX-ELVI-CE (TE) | Lutron LP-RPM-4A-230 (TE) | Lutron Grafik Eye QS QSGRK-3PCE (LE) | Lynéo LSSI-501B-FAW-Magic (TE) | DAD1200 DALI (adaptive - LE) with Mode Lighting | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH LEADING EDGE CARD Mode Lighting | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH TRAILING EDGE CARD | PANASONIC WEG 57813 (LE) | |
|----------------------|-----------------------------|-----|---------------------------|---------------------------|---|--------------------------------------|----------------|-------------------|----------------------------------|----------------------------------|----------------------------------|---|---|--|--|--------------------------------------|--------------------------------|---|--|---|--------------------------|--|
| International | | | | | | | | | | | | | | | | | | | | | | |
| Hatch | RS12-60M-LED-230V | ELV | | | | | | | | | | NC | NC | | | | | | | | | |
| IBL | 4670.00 | ELV | | | 15% | | | | | | | | | | | | | | | | | |
| ItaLED | Avanti Uno | ELV | | | 9% | NC | | | | | | NC | | | | | | | | | | |
| (Korean) | HIJ2501 | ELV | | | 1 lamp: 29% 2,3 lamps: 20% 4 lamps: 69% | NC | | | NC | NC | | NC | NC | | | NC | | | | | | |
| Lightech | LET 75 | ELV | | | 1 lamp: NC 2 and more: 11% | 25% | | | 1 lamp: NC 2 and more: 16% | 1 lamp: NC 2 and more: 18% | 23% | NC | NC | 13% | 12% | | | | | | | |
| Mode Lighting | ET-040-PL-230-RD (Puma LED) | ELV | | | | | | | | | | NC | NC | | | | | | | NC | 7% | |
| Mode Lighting | MOE-050-D-240 | ELV | | | 1,2 lamps: 14% 3 lamps and up: NC | 1,2 lamps: 25% 3 lamps and up: NC | | | 1,2 lamps: 17% 3 and more: NC | 1,2 lamps: 21% 3 and more: NC | 1,2 lamps: 26% 3 and more: NC | 1,2 lamps: 28% 3 lamps and up: NC | | 1,2 lamps: 13% 3 and more: NC | 1,2 lamps: 13% 3 lamps and more: NC | | | | | | | |
| Niko | 320-00101 70W | ELV | 11% | 16% | | | | 22% | | | | | | | | | | | | | | |
| Nobile | Konverter EN-150 | ELV | | | 26% | 54% | 22% | | 5% | 4% | 5% | 8% | | 5% | 14% | | | | | | | |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST - Large dimmers International

| Transformer | Dimmer → | | DeltaDore Tyxia 4840 (TE) | DeltaDore Tyxia 4940 (TE) | Dynalite DDMC802GL+ DGLEDM401 (TE-LED) | Dynalite DDMC802GL+ DGTM402 (TE) | EVO-DDM-305-TE | Hager EVN002 (TE) | Helvar Digidim 452 (DALI) (TE) | Helvar Digidim 454 (TE) | ilight SCT 0405S | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (TE) | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (LE) | Lutron Grafik Eye QS QSGR-6PCE + NGRX-ELV+CE (TE) | Lutron LP-RPM-4A-230 (TE) | Lutron Grafik Eye QS QSGRK-3PCE (LE) | Lutron Lyneo LSSI-501B-FAW-M (LE) | Maintronic DAD1200 DALI (adaptive - LE) with DALI | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH LEADING EDGE CARD | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH TRAILING EDGE CARD | PANASONIC WEG 57813 (LE) |
|----------------------|----------------|-----|---------------------------|---------------------------|--|----------------------------------|----------------|-------------------|-------------------------------------|-------------------------|------------------|---|---|---|---------------------------|--------------------------------------|-----------------------------------|---|--|---|--------------------------|
| International | | | | | | | | | | | | | | | | | | | | | |
| Noratel | LF84A-22012-GS | ELV | | | NC | NC | | | 1,2 lamp: NC 3 lamps and up: 18% | NC | NC | NC | | 15% | NC | | | | | | |
| Omnitronix | OMN60LT | ELV | | | 16% | NC | | | | | | 13% | | | | | | | | | |
| Osram | ET-LED-30 | ELV | | | 15% | NC | | | 16% | 17% | NC | NC | NC | 9% | 13% | | | | | | |
| Osram | ET-A 60 | ELV | | | 12% | 21% | | | NC | NC | NC | 27% | | NC | NC | | | | | | |
| Osram | ET-P 60 | ELV | | | NC | 28% | | | NC | NC | NC | NC | | NC | NC | | | | | | |
| Osram | ET-PARROT 70 | ELV | | | NC | NC | NC | | NC | NC | NC | NC | NC | NC | NC | | | | | | |
| Osram | ET-RedBack 60 | ELV | | | 15% | NC | | | 24% | 30% | | NC | NC | | | NC | | | | | |
| Osram | HTM 70 | ELV | 8% | 13% | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | NC | | | | | | |
| Osram | HTM 105 | ELV | 10% | 16% | NC | NC | | 22% | 20% | NC | NC | NC | NC | NC | 23% | | | | | | |
| Osram | HTM 150 | ELV | | | NC | NC | NC | | NC | NC | NC | NC | | NC | NC | | | | | | |
| Philips | Certaline 60W | ELV | | | 20% | NC | 17% | / Inter | 2% | 4% | 3% | NC | NC | 14% | 10% | | | | | | 12 |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST - Large dimmers International

| Transformer | Dimmer --> | | | | DeltaDore Tyxia 4840 (TE) | DeltaDore Tyxia 4940 (TE) | DYNALITE DDMC802GL+ DGLEDM401 (TE-LED) | DYNALITE DDMC802GL+ DGTM402 (TE) | EVO-DDIM-305-TE | Hager EVN002 (TE) | HELVAR Helvar Digidim 452 (DALI) (TE) | HELVAR Helvar Digidim 454 (TE) | iLight SCT 04055 | LUTRON Energi Savr Node QS (Homeworks) QSNE-4A-D (TE) | LUTRON Energi Savr Node QS (Homeworks) QSNE-4A-D (LE) | LUTRON Grafik Eye QS QSGR-6PCE + NGRX-ELV-CE (TE) | LUTRON LP-RPM-4A-230 (TE) | LUTRON Grafik Eye QS QSGRK-3PCE (LE) | LUTRON Lyneo LSSI-501B-FAW-AM (LE) | Maintronic DAD1200 DALI (adaptive - LE) with DALI | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH LEADING EDGE CARD | Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH TRAILING EDGE CARD | PANASONIC WEG 57813 (LE) | | |
|----------------------|---------------|-----|--|----|--------------------------------|---------------------------|--|----------------------------------|-----------------|-------------------|---------------------------------------|--------------------------------|------------------|---|---|---|---------------------------|--------------------------------------|------------------------------------|---|--|---|--------------------------|--|----|
| International | | | | | | | | | | | | | | | | | | | | | | | | | |
| Philips | ET-E 10 LED | ELV | | | NC | NC | | | | | 17% | NC | NC | NC | | | 5% | NC | | | | | | | |
| Philips | ET-S 15 LED | ELV | | | NC | | | | | | 11% | | | | | | 7% | | | | | | | | |
| Philips | ET-S 60 | ELV | | | 16% | NC | | | | | NC | 25% | | NC | NC | | 7% | | NC | NC | | | NC | | |
| Philips | Primaline 105 | ELV | NC | NC | NC | NC | NC | NC | | | NC | NC | NC | NC | | | NC | NC | | | | | | | |
| Philips | Primaline 70 | ELV | | | NC | NC | NC | | | | NC | NC | NC | NC | | | NC | NC | | | | | | | |
| Racer | RCT 50 | MLV | | | | | | | | | NC | NC | | | NC | | | | NC | | | | | | |
| SELF | SLT60-12VL-1 | ELV | | | NC | NC | | | | | NC | NC | NC | NC | | | NC | NC | | | | | | | |
| TCI | MW70 LED | ELV | | | 1 lamp: 23% 2 and more: 11% | | 27% | | | | 19% | 17% | NC | 27% | | | 17% | | | | | | | | |
| TCI | Round 50 | ELV | | | 14% | | 20% | | | | 1 lamp: NC 2 lamps and up: 15% | | 18% | NC | | | 28% | | | | | | | | |
| Transtec | HP-300 | MLV | 12V AR111 12.5W International Compatibility, Rev 19Q1, 2/22/2019 | | | | | | | | | | | | | | | | | | | | 20% | | 13 |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST - Large dimmers International

| | | | | | | | | | | | | | | | | | | | | | |
|--------------------|----------------------|--|---------------------------|---------------------------|---|----------------------------------|----------------|-------------------|--------------------------------|-------------------------|------------------|---|---|--|---------------------------|--------------------------------------|-----------------------------------|---|--|---|--------------------------|
| Transformer | Dimmer --> | | DeltaDore Tyxia 4840 (TE) | DeltaDore Tyxia 4940 (TE) | Dynalite DDMC802GL+ DGLLEDM401 (TE-LED) | Dynalite DDMC802GL+ DGTM402 (TE) | EVO-DDM-305-TE | Hager EVN002 (TE) | Helvar Digidim 452 (DALI) (TE) | Helvar Digidim 454 (TE) | iLight SCT 0405S | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (TE) | Lutron Energi Savr Node QS (Homeworks) QSNE-4A-D (LE) | Lutron Grafik Eye QS QSGR-6PCE + NGRX-ELVI-CE (TE) | Lutron LP-RPM-4A-230 (TE) | Lutron Grafik Eye QS QSGRK-3PCE (LE) | Lutron Lyneo LSSI-501B-FAW-M (LE) | Maintronic DAD1200 DALI (adaptive - LE) with DALI Mode Lighting | Mirage MP-10-01 / Tiger / Evolution WITH LEADING EDGE CARD | Mirage MP-10-01 / Tiger / Evolution WITH TRAILING EDGE CARD | PANASONIC WEG 57813 (LE) |
|--------------------|----------------------|--|---------------------------|---------------------------|---|----------------------------------|----------------|-------------------|--------------------------------|-------------------------|------------------|---|---|--|---------------------------|--------------------------------------|-----------------------------------|---|--|---|--------------------------|

International

| | | | | | | | | | | | | | | | | | | | | | |
|------------------|-------------------|-----|-----|-----|-----|-----|-----|-----|------------------------------------|-----|------------------------------------|-----|----|-----|------------------------------------|--|--|--|--|----|--|
| Tridonic | TE-0070 C101 | ELV | | | 10% | 22% | | | 1 lamp: N C 2 lamps and up: 13% | 17% | 1 lamp: N C 2 lamps and up: 29% | 26% | | 10% | 1 lamp: N C 2 lamps and up: 21% | | | | | | |
| Tridonic | TE Viper 22176072 | ELV | | | NC | 50% | | | | | | NC | | | | | | | | | |
| Tridonic | TE-0050 C101 | ELV | | | 7% | 18% | | | 1 lamp: N C 2 lamps and up: 10% | 17% | NC | NC | | 10% | NC | | | | | | |
| Truelux | PH12VLN | ELV | 17% | 11% | 22% | NC | 17% | 28% | 18% | 15% | 24% | NC | NC | NC | 10% | | | | | NC | |
| Varilight | YT50 | ELV | 17% | 11% | 22% | NC | 17% | 28% | 18% | 15% | 24% | NC | NC | NC | 10% | | | | | NC | |
| Varilight | YT50LZ | ELV | | | 19% | 22% | | | 16% | 17% | 24% | NC | NC | 13% | 11% | | | | | | |
| Verbatim | V70 (#52900) | ELV | | | | | | | | | | NC | NC | | | | | | | | |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY LIST – Special dimmers

| Transformer | Dimmer --> | | Dimming Loop Potentiometer | DALI Controller | 0-10V | Casambi CBU PWM4 | DALCNET DLC1248-1CV/DALI | FIBARO RGBW | HELVAR LL1-CV-DA (DALI) | Lunatone DALI PWM 16W 89453829 | Multiloop LEDixia |
|--|---------------------------|---------------|----------------------------|-----------------|-------|------------------|--------------------------|-------------|-------------------------|--------------------------------|-------------------|
| Europe | | | | | | | | | | | |
| DC | 12V | Electronic/DC | | | | 28% | 2% | 1% | NC | 1% | 0% |
| Hytronix | HE403-A | Electronic/DC | | 2% | | | | | | | |
| Lightech | LET 75W 12V Dimming Loop | ELV | NC | | | | | | | | |
| Meanwell | PWM-90-12 (300Hz version) | Electronic/DC | | | 16% | | | | | | |
| Quanzhou Smarts Electronics and Technology | DALI SMT-012-030VM | Electronic/DC | | 2% | | | | | | | |
| Truelux | DA12VPWM | Electronic/DC | | 7% | | | | | | | |

SORAA AR111 12V 12.5W - DIMMER/TRANSFORMER COMPATIBILITY - International

Dimming compatibility Notes:

- Compatibility tests are conducted by Soraa (unless stated otherwise) under bench conditions as guidance for the user; results at the application site may differ due to variability in usage conditions or in dimmer or transformer components/manufacturing.
- Regards compatibility tests conducted by dimmer manufacturer, please contact the manufacturer for more details and/or reports.
- If the transformer's minimum wattage is not met, the lamp may only operate under nominal conditions (nominal line voltage and thermal conditions where the lamp is at full power).
- The lamp load (or number of lamps) should meet minimum load requirement of respective dimmer.
- If the dimmer and transformer is not listed, please consult with Soraa before making recommendations to the end customer.
- Transformer/dimmer maximum load should not be exceeded. Please follow transformer/dimmer manufacturer's guidelines regarding maximum load with LED lamps. To calculate the estimated maximum number of lamps, please download our calculator from the following link: <https://res.cloudinary.com/soraa/raw/upload/v1452276139/content/max-lamp-load-calculator.xlsx>
Or following the guidelines stated on page 2 of this document.

| | |
|------------|---|
| --% | Dims to < 20% (of the measured light output) |
| --% | Dims to 20-30% (of the measured light output) |
| NC | Not compatible (or dims to >30%) |
| Blank cell | Not tested |
| | Not valid combination |

- (*) One or more test results with this transformer added to the compatibility list as of this Revision