

# SORAA

## Electrical compatibility – VIVID AR111 18.5W 12V lamps – International

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## Scope

This document provides the basic guidelines regards electrical compatibility of SORAA 12V AR111 & PAR36 18.5W lamps and compatibility tables for transformers and dimmers.

## Transformer Compatibility

SORAA 12V AR111 & PAR36 lamps are made to work with 12V AC magnetic (MLV) and electronic (ELV) transformers and 12V DC transformers. Transformer compatibility tables are on pages 3-5. 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](mailto:techsupport@soraa.com) for guidance.

## Dimmer Compatibility

SORAA 12V AR111 & PAR36 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 8-15.

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 1 lamp 18.5W.**
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 13 lamps 18.5W.**

**For example for a 400W trailing edge dimmer it would mean  $400/4=100W$  of LED, so an estimated maximum of 5 lamps 18.5W.**

## 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 VIVID AR111 & PAR36 12V 18.5W - TRANSFORMER COMPATIBILITY - International**

**PASS - The transformer supports one or more lamps up to the maximum wattage;**

**NC - SORAA does not recommend this transformer for use with its lamps;**

<b>Transf. manufacturer</b>	<b>Transformer Model</b>	<b>Wattage</b>	<b>Voltage</b>	<b>Country</b>	<b>Transformer Type</b>	<b>1 Lamp</b>
<b>ABB</b>	ETR-DALI 105 230-12KF	105	230	EU	Electronic	NC
<b>ABB</b>	Speedy 105	105W	230	EU	Electronic	Pass
<b>AcTec</b>	Mini60 SeriesIII	60	220-240	EU/Asia	Electronic	Pass
<b>AcTec</b>	Ultra 70	70	220-240	EU/Asia	Electronic	Pass
<b>AcTec</b>	DIM12-25	25W	220-240V	EU/Asia	Electronic/DC	NC
<b>AcTEC</b>	Micro60	20-60W	220-240V	EU/Asia	Electronic	NC
<b>Architectural Lighting</b>	AG0927		230	EU	Electronic	Pass
<b>ATCO</b>	Speedy TED 105	35-105	240	Australia	Electronic	Pass
<b>BERKER</b>	TRONIC TRAFO	20-105W	230/240	EU	Electronic	Pass
<b>BLV</b>	45600101	0-60	230V	EU	Electronic	Pass
<b>BLV</b>	45600201	0-105W	230	EU	Electronic	Pass
<b>Bright Star Lighting (MSD)</b>	MSD-DALI-DIM-CV-30W	30W	230	EU, CN	Electronic	NC
<b>Eaglerise</b>	EET105LT	35-105W	230	EU	Electronic	Pass
<b>ECOPAC</b>	ELED-25-12D	25	230	EU	Electronic/DC	NC
<b>ECOPAC</b>	ELED-100-12D	100	230	EU	Electronic/DC	Pass
<b>ECOPAC</b>	ELED-180-12D	180	230	EU	Electronic/DC	Pass
<b>EldoLED</b>	LINEARdrive 100	100	120-250	EU	Electronic/DC	Pass
<b>ELR</b>	DA12VPWM AR111	36	230	EU	Electronic	NC
<b>EUCHIPS</b>	EUP75T-1H12V-0	75	230	EU/Asia	Electronic/DC	Pass
<b>Eutrac</b>	99.778.1U	20-50W	220-240V	EU	Electronic	Pass
<b>EVN</b>	Pd.2150		230	EU	Electronic	Pass
<b>EZ Lighting</b>	SI-H2501SL	48	220	Korea	Electronic	Pass
<b>Fullham</b>	Pony PET		230	EU	Electronic	Pass
<b>Fullham</b>	T1M1UNV012V-60L	60	230	EU	DC	Pass
<b>GATA</b>	T50/209.23	50	220	Thailand	Magnetic	Pass
<b>GIRA</b>	TRONIC TRAFO	20-150W	230/240	EU	Electronic	Pass
<b>Gitronica</b>	GET 60 FI VOX	20-60W	230/240	EU	Electronic	Pass
<b>Gluhen (*)</b>	12V 30W	30W	240	APAC	DC	Pass
<b>Gluhen (*)</b>	12V 60W	60W	240	APAC	DC	Pass
<b>Gluhen (*)</b>	12V 100W	100W	240	APAC	DC	Pass
<b>Govena</b>	TE40W-DIMM-LED-IP64	40	230	EU	Electronic	Pass
<b>Govena</b>	YT50	0-50	230V	EU	Electronic	Pass
<b>Govena</b>	YT60	60	230V	EU	Electronic	Pass
<b>Govena</b>	YT105	105	230V	EU	Electronic	Pass
<b>Hytronik</b>	HE4030-A	30	230	EU/Asia	Electronic	Pass
<b>IBL</b>	4670	0-70	230	EU	Electronic	Pass
<b>iGuzzini</b>	1.193.908.00	100	230	EU	Electronic	Pass
<b>iGuzzini</b>	Le Perroquet 100W B0077.01 P16772/00	100	230	EU	Electronic	NC
<b>JCC</b>	JC4013	105W	230	EU	Electronic	Pass
<b>Kanlux</b>	Treto LED 30W	30	170~230	EU	Electronic	Pass
<b>(Korean)</b>	HJ2501	50	220	Korea	Electronic	Pass
<b>LCI</b>	ET 3-60C	10-60	230	EU	Electronic	NC
<b>LCI</b>	DC DIM 1-10V 35W Code 1750129	35W	230	EU	Electronic/DC	Pass

**SORAA VIVID AR111 & PAR36 12V 18.5W - TRANSFORMER COMPATIBILITY - International**

**PASS - The transformer supports one or more lamps up to the maximum wattage;**

**NC - SORAA does not recommend this transformer for use with its lamps;**

<b>Transf. manufacturer</b>	<b>Transformer Model</b>	<b>Wattage</b>	<b>Voltage</b>	<b>Country</b>	<b>Transformer Type</b>	<b>1 Lamp</b>
<b>Lighting-Dept</b>	Ultra 70	70	220-240	Asia	Electronic	Pass
<b>Lighting-Dept</b>	DIM12-25	25W	220-240V	EU/Asia	Electronic/DC	NC
<b>Lighting-Dept</b>	Micro60	20-60W	220-240V	EU/Asia	Electronic	NC
<b>Lightech</b>	LET75/240	20-75	240	EU/Asia	Electronic	Pass
<b>Lightech</b>	LET105/240	35-105	240	EU/Asia	Electronic	Pass
<b>LTF</b>	TU75WA		230	EU	Electronic	Pass
<b>LTSYS</b>	DALI-36-12-F1P1	36	230	EU/Asia	Electronic/DC	NC
<b>LTSYS</b>	DALI-36-12-F1P1-SORAA	36	230	EU/Asia	Electronic/DC	Pass
<b>Lumitron (*)</b>	KVP-12075-TD	75W	240	50	APAC	Pass
<b>Meanwell</b>	LVP-35-12	DC 12V	100-240	Taiwan	Electronic	Pass
<b>Meanwell</b>	PWM-90-12 (300Hz version)	90	100-305	World	Electronic	Pass
<b>Meanwell</b>	PWM-120-12 (300Hz version)	120	100-305	World	Electronic	Pass
<b>Mode Lighting</b>	MOE-050-D-240	50	230	EU	Electronic	Pass
<b>Mode Lighting</b>	MOE-075-C-240	75	240	EU	Electronic	NC
<b>Mode Lighting</b>	MOE-105-D-240	105	230	EU	Electronic	Pass
<b>Mode Lighting</b>	ET-040-PL-230-RD (Puma LED)	40	240	EU	Electronic	Pass
<b>Nobile</b>	EN-60D		230	EU	Electronic	Pass
<b>NOBILE</b>	EN-150	150W	220/240	EU	Electronic	Pass
<b>OSRAM</b>	ET-LED 30	30	220/240	EU/Asia	Electronic	Pass
<b>OSRAM</b>	ET-Parrot 70	70	220-240	EU	Electronic	Pass
<b>OSRAM</b>	ET Parrot 105	35-70	220	Asia	Electronic	NC
<b>OSRAM</b>	ET-A 60	60	220-240	Singapore	Electronic	Pass
<b>OSRAM</b>	ET-P 60	20-60	220-240	Australia/ Thailand	Electronic	NC
<b>OSRAM</b>	ET-RedBack 60	60	230-240	Australia	Electronic	Pass
<b>OSRAM</b>	Halotronic HTB 105/230-240	35-105W	230-240	EU	Electronic	Pass
<b>OSRAM</b>	HTI DALI 105 DIM	35-105	230-240	EU	Electronic	1,4 lamps: NC 2,3 lamps: Pass
<b>OSRAM</b>	HTI DALIC 105/230...240DIM (Not a DALI dimmable transformer)	105	230	EU	Electronic	Pass
<b>OSRAM</b>	HTM 70	70	230/240	EU	Electronic	Pass
<b>OSRAM</b>	HTM 105	105W	230/240	EU,CN	Electronic	Pass
<b>OSRAM</b>	HTM 150	150W	230/240	EU	Electronic	Pass
<b>OSRAM</b>	HTN 75 230/240 I	20-75	230/240	EU Australia	Electronic	Pass
<b>PHILIPS</b>	CERTALINE 60W	60	230	EU	Electronic	Pass
<b>Philips</b>	EHC150F		110	Taiwan	Electronic	Pass
<b>Philips</b>	ET-E 60	20-60	220-240	Singapore	Electronic	NC
<b>Philips</b>	ET-S 60	20-60	220-240	Thailand	Electronic	Pass
<b>PHILIPS</b>	PRIMALINE 70	35-70W	220/240	EU,CN	Electronic	Pass
<b>PHILIPS</b>	PRIMALINE 105	35-105W	230	EU,CN	Electronic	Pass
<b>Quanzhou Smarts Electronic &amp; Technology Co</b>	SMT-012-030VM	30W	100-265V	EU,CN	Electronic	Pass

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**PASS - The transformer supports one or more lamps up to the maximum wattage;**

**NC - SORAA does not recommend this transformer for use with its lamps;**

Transf. manufacturer	Transformer Model	Wattage	Voltage	Country	Transformer Type	1 Lamp
Racer	RCT 50	60	220	Thailand	Magnetic	Pass
Servodan	74-212	10-105W	230	EU	Electronic	Pass
Soraa	Optima TCWV-P-12-600-70-01-S3	70	230	EU, Asia, Australia	Electronic	Pass
TCI	MW70LED	70	230	EU	Electronic	Pass
TCI	WU 105	105	230/240	EU	Electronic	Pass
Trafelstar	TISG 105.235-12	35-105	230	EU	Electronic	NC
Transtec	HP-300	300	230	EU	Magnetic	Pass
Tridonic	TE-0105 one4all sc	20-105W	230-240	EU, APAC	Electronic	NC
Tridonic	TE-0105 U 1-10V sc	20-105W	230-240	EU, APAC	Electronic	NC
Tridonic	TE-NE 1105	105	230-240	EU	Electronic	Pass
Truelux	AN12VPWM	0-20W	100-277V	EU	Electronic	Pass
Truelux	DA12VPWM	0-20W	100-277V	EU	Electronic	Pass
Truelux	PH12VLN	0-50	230V	EU	Electronic	Pass
Varilight	YT50	0-50	230V	EU	Electronic	Pass
Varilight	YT50LZ	0-50	230	EU	Electronic	Pass
Vossloh Schwabe	60.8159 (with built in potentiometer)		230	EU	Electronic	Pass
Vossloh Schwabe	EST105	20-105	230	EU & Australia	Electronic	Pass
Vossloh Schwabe	Liteline EST70/12.380	20-70W	230	EU	Electronic	Pass
Voltmaster	VMD30012EU	35~300	230	EU	Magnetic	NC
V-TAC	VT-22045 (SKU 3090)	45	90-264Vac	EU	Electronic	Pass

**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 Vivid AR111 18.5W lamps - DIMMER COMPATIBILITY LIST**

Dimmer Manufacturer	Dimmer family	Dimmer model number	Dimming mode	Number of transformers tested per dimmer	Number of lamps per transformer	Dim (%)	Comments
Aurora		DSP400X	Leading	2	1	NC	
Clipsal		32ELEDM	Trailing	2	1	9%	Limited by dimmer travel
Clipsal		L5504D2U	Adaptive-TE	5	1	9%	
DIGINET		DGLCDM400 (MEDM)	Trailing	2	1	2%	Limited by dimmer travel
ETC	DRd	EELV6	Trailing	6	1	34%	Tested by dimmer manufacturer
Feller		3314.12 FMI.61	Trailing	2	1	11%	
Feller		40200.LED.FMI.61	Trailing	2	1	24%	Limited by dimmer travel
Gira		238500 / I01	Adaptive-TE	2	1	9%	Limited by dimmer travel
Helvar	Digidim	452	Trailing	5	1	7%	
Helvar	Digidim	454	Trailing	3	1	0%	(*)
Honeywell	Inncom	H454	Trailing	5	1	8%	
Jung		1224 LED UDE	Trailing	2, 3	1	9%	(*) Limited by dimmer travel
LCI	MTV 400	#1770104	Trailing	1, 10	1	1%	Limited by dimmer travel
Lutron	Grafik Eye QS	Grafik Eye QS	Leading			NC	
Lutron	Grafik Eye QS + Interface	NGRX-ELVI-CE with Grafik Eye QS main unit	Adaptive-TE	Min 1-Max 11	1	8%	Tested by dimmer manufacturer
Lutron	Grafik Integrale	GXI-3104	Trailing	Min 1-Max 7 (per channel). Total per module is 40	1	9%	Tested by dimmer manufacturer
Lutron	Homeworks QS Energy Savr Node QS (for Quantum and QS systems)	QSNE-4A-D (Gen2) / LQSE-4A-D (Gen2)	Trailing	Min 1-Max 7 (per zone)	1	10%	Tested by dimmer manufacturer
Lutron	Homeworks QS / My Room	LQSE-4A1-D / MQSE-4A1-D / MQSE-3A1 / MQSE-2A1-D	Trailing	Min 1-Max 2	1	9%	Tested by dimmer manufacturer
Lutron	Homeworks QS	HQRK-R25NE-240	Trailing	Min 1-Max 3	1	9%	Tested by dimmer manufacturer
Lutron	Homeworks QS	HQRM-R25NE-240	Trailing	Min 1-Max 3	1	9%	Tested by dimmer manufacturer
Lutron	LCP Panel	RPM-4A-230	Adaptive-TE	5	1	9%	
Lutron	RA2 Select	RRK-R25NE-240	Trailing	Min 1-Max 3	1	9%	Tested by dimmer manufacturer
Mode Lighting	Tiger / Mirage / Evo	Trailing edge card	Trailing	1	1	6%	
Osram		HTI DALI 315 DIM	Trailing	2	1	17%	
Philips Dynalite		DGLEDM401	Trailing	1 and 5	1	16%	Limited by dimmer travel
Philips Dynalite		DGTM402	Trailing	5	1	28%	Limited by dimmer travel
RVE		RV-LED 250	Trailing	5	1	5%	Limited by dimmer travel
Varilight	V-PRO	JQP401W	Trailing	1, 2, 3	1	8%	(*) Limited by dimmer travel
Vossloh-Schwabe		554591 (5-250W)	Trailing	1 and 2	1	10%	
Vossloh-Schwabe		554592 (5-500W)	Trailing	1	1	10%	
Vossloh-Schwabe		OneDim	Trailing	1 and 2	1	10%	
Yokis		MTV500E / M	Trailing	3	1	7%	(*) Limited by dimmer travel

**SORAA Vivid AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International**

Phase dimmable transformers ↓	Phase Dimmers →		CLIPSAL L5504D2U	DeltaDore Tyxia 4840 (TE)	DeltaDore Tyxia 4940 (TE)	Philips Dynalite DDMC802GL+DGLLED401	Philips Dynalite DDMC802GI+DGTM402	iLight SCT/SCI 0405S	Hager EVN002 (TE)	Hager EV102/EV100 (adaptive - TE)	Helvar Digidim 452 (TE)	Helvar Digidim 454 (TE)	Lutron Energi Savr Node QS QSNE-4A-D (TE mode)	Lutron Grafik Eye QS QSGR-6PCE + NGRX-ELVI-CE	Lurton LP-RPM-4A (TE)	Lutron Grafik Eye QS QSGRK-3PCE
ABB	Speedy 105	ELV				NC	NC	NC			NC	NC	NC	6%	NC	
ACTEC	Ultra 70	ELV				13%					7%	16%	NC	17%	19%	NC
AcTEC	Mini60 Series III	ELV	NC			15%						13%	NC			
ATCO	SPEEDY TED105	ELV				28%	NC	NC			NC		7%	3%	4%	
Berker	Tronic Trafo	ELV				14%	29%	12%			13%	2%	NC	4%	8%	
BLV	45600101. Luxia 60W	ELV		28%	26%	16%	26%	12%	15%		5%	13%	NC	20%	7%	NC
BLV	45600201 Luxia 105W	ELV				13%	NC			NC	6%	13%	NC	NC		NC
Eaglerise	EET105LT	ELV				NC							NC			
EUCHIPS	EUP75T-1H12V-0	ELV				7%					0%	1%	2%	1%		2%
EZ Lighting	SI-2501SL	ELV				17%	NC						NC			NC
GATA	T50/209.23	MLV														
Gira	Tronic Trafo	ELV				11%	25%	22%			NC	8%	NC	6%	8%	
Govena	TE40W-DIMM-LED-IP64	ELV				17%	46%				8%	12%	NC			
Govena	YT50	ELV		22%	29%	NC			26%		5%	10%	NC	20%		NC
Govena	YT60	ELV		28%	26%	16%	26%	12%	15%		NC	6%	NC	6%	7%	NC
Hatch	RS12-60-230M-LED	ELV				13%					7%	19%	NC	8%		NC
iGuzzini	1.193.908.00	ELV				0%					18%	20%	NC			NC
(Korean)	HIJ2051	ELV				10%	NC				19%	20%	NC			NC
Lightech	LET75	ELV				NC					NC	NC	NC	20%		NC
Mode Lighting	ET-040-PL-230-RD (Puma LED)	ELV				11%					6%	19%	NC	19%		28%
Mode Lighting	MOE-050-D-240	ELV				NC					7%	12%	NC	19%		NC
Niko	320-00101 70W	ELV		NC	24%				22%							

**SORAA Vivid AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International**

Phase dimmable transformers ↓	Phase Dimmers →			DeltaDore Tyxia 4840 (TE)	DeltaDore Tyxia 4940 (TE)	Philips Dynalite DDMC802GL+DGLD401	Philips Dynalite DDMC802GL+DGTM402	iLight SCT/SCI 0405S	Hager EVN002 (TE)	Helvar Digidim 452 (TE)	Helvar Digidim 452 (LE)	Helvar Digidim 454 (TE)	Helvar 458/DIM8 Triac mode Dim table 5 (SSL)	Lutron Energi Savr Node QS QSNE-4A-D (TE mode)	Lutron GrafikEye QS QSGR-6PCE + NGRX-ELV1-CE	Lutron LP-RPM-4A (TE)	Lutron GrafikEye QS QSGRK-3PCE	
<b>Nobile</b>	EN-150	ELV				19%	NC	12%		NC		9%		NC	10%	10%		
<b>OSRAM</b>	ET-A 60	ELV				18%	23%	7%		17%				7%	5%	20%		
<b>OSRAM</b>	ET-LED 30	ELV				NC	NC			NC		NC		NC	NC			NC
<b>OSRAM</b>	ET-P 60	ELV				14%	28%	NC		NC				17%	11%	NC		
<b>OSRAM</b>	ET-PARROT 70	ELV				NC	NC	22%		NC		5%		NC	20%	10%		NC
<b>OSRAM</b>	ET Parrot 105	ELV				NC	NC			NC				NC	NC	NC		
<b>OSRAM</b>	ET-RedBack 60	ELV				15%	NC			16%		19%		NC				NC
<b>OSRAM</b>	HTM 70	ELV	25%	23%	NC	27%	NC	29%	NC	NC		NC		NC	NC	NC	NC	29%
<b>OSRAM</b>	HTM 105	ELV	NC	28%	NC	24%	NC	29%	NC	NC		NC		NC	NC	NC	NC	28%
<b>OSRAM</b>	HTM 150	ELV				NC	NC	NC		NC		NC		NC	3%	NC		
<b>OSRAM</b>	HTN 75 230/240 I	ELV				12%				9%		16%		NC				
<b>Philips</b>	Certaline 60	ELV				16%	30%	15%	26%	6%		13%		NC	20%	11%		NC
<b>Philips</b>	Primaline 105	ELV	25%	26%	16%	NC	12%	19%	9%	9%		NC		NC	6%	7%		
<b>Philips</b>	Primaline 70	ELV				19%	NC	NC		8%		4%		NC	NC	NC		
<b>Philips</b>	ET-S 60	ELV				13%	NC			18%				NC				NC
<b>Racer</b>	RCT 50	MLV									22%							NC
<b>TCI</b>	MW 70 LED	ELV								11%		2Lamps (2transf): 23%		NC				
<b>VARILIGHT</b>	YT50LZ	ELV				NC				5%		20%	9%	NC	18%			NC
<b>Verbatim</b>	V70 (#52900)	ELV				13%				6%		11%		NC	11%			NC
<b>Verbatim</b>	52901	ELV																
<b>Vossloh Schwabe</b>	EST105	ELV				NC	29%	NC		7%				21%	8%	6%		



**SORAA Vivid AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International**

Phase dimmable transformers ↓	Phase Dimmers →		Lutron Rania	Rako RDT500	RVE RV5 (LE)	RVE RVLED250 (TE)	Yokis MTV500E (adaptive TE)	Lunatone DALI PD Art Nr 86458619 25W	Lunatone DALI PD Art Nr 86458619-300 300W	Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH LEADING EDGE CARD	Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH TRAILING EDGE CARD	DIGINET DGLCDM400 (adaptive - TE)	Feller 40300.RC Schneider SBD315RC Merten MEG5136-0000 ELKO 315GLE	Feller 40420.RC	Varilight JQP401W	Hamilton 7WC1x100LEDWH
<b>ACTEC</b>	Ultra 70	ELV									6%				6%	
<b>BLV</b>	45600101. Luxia 60W	ELV		NC				15%	15%	18%	5%		8%	13%	7%	7%
<b>BLV</b>	45600201 Luxia 105W	ELV									5%		7%		5%	
<b>EUCHIPS</b>	EUP75T-1H12V-0	ELV									4%				NC	
<b>Gira</b>	Tronic Trafo	ELV											6%			
<b>Govena</b>	YT50	ELV									4%				7%	
<b>Govena</b>	YT60	ELV		NC				15%	15%	18%			8%	13%	7%	7%
<b>Hatch</b>	RS12-60-230M-LED	ELV									8%				9%	
<b>Lightech</b>	LET75	ELV									3%				NC	
<b>Mode Lighting</b>	ET-040-PL-230-RD (Puma LED)	ELV								NC	2%				4%	
<b>Mode Lighting</b>	MOE-050-D-240	ELV									2%				NC	
<b>OSRAM</b>	ET-LED 30	ELV									NC				28%	
<b>OSRAM</b>	ET-PARROT 70	ELV									2%				NC	
<b>OSRAM</b>	ET-RedBack 60	ELV										NC				
<b>OSRAM</b>	HTM 70	ELV									3%				NC	
<b>OSRAM</b>	HTM 105	ELV									26%				NC	
<b>Philips</b>	Certaline 60	ELV			NC	8%	NC				2%				13%	
<b>TCI</b>	MW 70 LED	ELV	NC	NC												
<b>Transtec</b>	HP-300	MLV								16%						
<b>VARILIGHT</b>	YT50LZ	ELV		14%						8%	2%		6%	7%	8%	6%
<b>Verbatim</b>	V70 (#52900)	ELV									3%				8%	

**SORAA VIVID AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International**

Phase dimmable transformers ↓	Phase Dimmers →		GIRA 0307 00 / I02	Gira 2385 00 / I01	Eltako EUD61NPN-230V	Merten (MEG5133-0000) SBD600RL	Berker 2867 10	Jung 1254 UDE	JUNG 243EX (TE)	Jung 225 T DE	Eiko 400GLE/I	Panasonic WEG 57813 (LE)	Tridonic DALI PDC 1-300 one4all Art nr 28000441	Vossloh Schwabe #554591 (5W to 250W)	Vossloh Schwabe #554592 (5W to 500W)	Vossloh Schwabe DimOne	Zano ZGRID:LED	Maintronic DAD1200 DALI (adaptive - LE) with DALI
<b>ACTEC</b>	Ultra 70	ELV												12%	10%	11%		
<b>BLV</b>	45600101. Luxia 60W	ELV	16%		6%	7%	15%			17%	12%		NC			7%	14%	
<b>BLV</b>	45600201 Luxia 105W	ELV	18%	7%				22%	18%	16%				11%	11%			
<b>EUCHIPS</b>	EUP75T-1H12V-0	ELV												NC	NC	8%		
<b>Gira</b>	Tronic Trafo	ELV	17%	7%				23%	18%	13%				11%	11%			
<b>Govena</b>	YT50	ELV														9%		
<b>Govena</b>	YT60	ELV	16%		6%	7%	15%			17%	12%		NC			7%	14%	
<b>Hatch</b>	RS12-60-230M-LED	ELV														10%		
<b>Lightech</b>	LET75	ELV														8%		
<b>Mode Lighting</b>	ET-040-PL-230-RD (Puma LED)	ELV														8%		
<b>OSRAM</b>	ET-LED 30	ELV							NC					NC	NC	NC		
<b>Philips</b>	ET-S 60	ELV										NC						
<b>Racer</b>	RCT 50	MLV										NC						
<b>TCI</b>	MW 70 LED	ELV	NC							NC								
<b>Transtec</b>	HP-300	MLV																24%
<b>VARILIGHT</b>	YT50LZ	ELV	16%		9%	30%	15%			17%	10%					9%		

**SORAA VIVID AR111 & PAR36 12V 18.5W – NON PHASE-CUT DIMMER/TRANSFORMER COMPATIBILITY - International**

Transformer	Controller, potentiometer, PWM Dimmer -->		DALI controller	0-10V	Potentiometer	Casambi	DMX
<b>Europe</b>							
<b>12V DC Power Supply</b>	12V DC						4%
<b>ABB</b>	ETR-DALI 105 230-12KF	Electronic	NC				
<b>Alvit</b>	AL2512D/P (*) Tested by Alvit	Electronic/DC	PASS	PASS	PASS		
<b>Casambi</b>	CBU PWM4	Electronic/DC				8%	
<b>DALCNET</b>	DLB1248-1CV-DALI	Electronic/DC	0%				
<b>DALCNET</b>	DLC1248-1CV-110	Electronic/DC		4%			
<b>DALCNET</b>	DLB1248-1CV-DMX	Electronic/DC			1%		
<b>ECOPAC</b>	ELED-100-12D	Electronic/DC	0%				
<b>ECOPAC</b>	ELED-180-12D	Electronic/DC	0%				
<b>eldoLED</b>	LINEARdrive 100	Electronic/DC	NC	NC	NC		
<b>Fulham</b>	T1M1UNV012V-60L	Electronic/DC		18%			
<b>Hytronik</b>	HE4030-A	Electronic/DC		2%			
<b>LCI</b>	DC DIM 1-10V 35W Code 1750129	Electronic/DC		4%			
<b>LTSYS</b>	DALI-36-12-F1P1-SORAA	Electronic/DC	4%				
<b>Meanwell</b>	PWM-90-12 (300Hz version)	Electronic/DC		14%			
<b>Mode</b>	MOE-105-D-240	Electronic			NC		
<b>Multiload</b>				0%			
<b>OSRAM</b>	Halotronic HTI DALI 105 230-240	Electronic	1,4 lamps: NC 2,3 lamps: 18%				
<b>Quanzhou Smarts Electronic &amp; Technology</b>	SMT-012-030VM	Electronic/DC	0%				
<b>Truelux</b>	AN12VPWM	Electronic/DC		4%			
<b>Vossloh Schwabe</b>	60.8159 (with potentiometer)	Electronic			27%		

## SORAA VIVID AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - North America

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

--%	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