

# SORAA

## Electrical compatibility – ARC Track Fixtures 230V - International

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## **General compatibility guidelines**

### **Scope**

This document provides the basic guidelines regards electrical compatibility of SORAA 230V ARC track fixtures and the dimming compatibility tables.

### **Dimmer Compatibility**

SORAA 230V ARC track fixtures are made to work with trailing edge (reverse phase) and leading edge (forward phase) phase cut dimmers. However, the use of trailing edge dimmers is preferred and will show in general better behavior.

SORAA 230V ARC Track are also available in 0-10V and DALI options.

Dimmer compatibility tables are on pages **3-6**.

The percentages for each 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 dimmer. If this minimum load is not met, there might be compatibility issues.

### **Maximum number of fixtures on a dimmer**

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

1. SORAA tests have been carried out with 1 and 2 fixtures unless stated otherwise.
2. There is a repetitive, very brief current spike the LED will see twice per cycle. This current spike has to be provided by the dimmer, and will affect the recommended fixture load on each dimmer.
3. Ultimately the dimmer manufacturer is the only one with authority to rate their product, but SORAA can give an Engineering estimate.
4. We recommend to use a 5.0 de-rating factor for incandescent/halogen dimmers loaded with our 120V fixtures.

**For example for a 500W dimmer it would mean  $500/5 = 100W$  of LED, so an estimated maximum of 5 fixtures at 18.5W.**

### **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 dimmer manufacturers.

For more information on the dimmers please find specs on the manufacturer's website.

# SORAA ARC Track fixtures 230V - DIMMER COMPATIBILITY LIST - International

Dimmer Manufacturer	Dimmer Family	Dimmer part number	Dimming mode	Quantity of fixtures tested	11W (50mm)	18W (50mm)	20W (100mm)	Comments
Aurora		DSP400X	Leading edge	1	8%	NC	13%	
Berker		nr 286710	Trailing edge	1	12%	10%	15%	
Busch		6523 U-102	Trailing edge	1	NC	8%	22%	
Busch		6523 U-102	Leading edge	1	2%	21%	12%	
Clipsal		L5504D2U	Adaptive-Trailing	1	9%	8%	16%	
DeltaDore		Tyxia 4840	Trailing edge	1, 2	5%	7%	4%	(*)
DeltaDore		Tyxia 4940	Trailing edge	1, 2	3%	8%	0%	(*)
ELKO		315GLE	Trailing edge	1	7%	4%	4%	
Feller		40300.RC	Trailing edge	1	7%	4%	4%	
Govena		PRO-250-LT-LED	Trailing edge	1	8%	NC	9%	
Hager		EVN002	Trailing edge	1, 2	7%	15%	14%	(*)
Helvar	Digidim	452	Trailing edge	1	9%	6%	12%	
Helvar	Digidim	454	Trailing edge	1	6%	12%	7%	
Honeywell		Inncom H454.F.CE	Trailing edge	1, 2	9%	6%	11%	(*)
Jung		225NVDE	Leading edge	1	9%	NC	13%	
Jung		243 EX	Trailing edge	1	13%	17%	12%	
LCI		MVT400 1770104	Trailing edge	1, 2	5%	5%	9%	(*)
Lutron	Grafik Eye QS	QSGR-6PCE	Leading edge	1	8%	NC	10%	
Lutron	Grafik Integrale	GX1-3104	Trailing edge	max load: 11W: 72 18W: 42	14%	13%	NC	Tested by dimmer manufacturer
Lutron	Homeworks QS	HQRK-R25ND-240	Trailing edge	max load: 11W: 8 18W: 5 20W: 4	10%	10%	10%	Tested by dimmer manufacturer (*)
Lutron	Homeworks QS	HQRM-R25ND-240	Trailing edge	max load: 11W: 8 18W: 5 20W: 4	10%	10%	10%	Tested by dimmer manufacturer (*)

# SORAA ARC Track fixtures 230V - DIMMER COMPATIBILITY LIST - International

Dimmer Manufacturer	Dimmer Family	Dimmer part number	Dimming mode	Quantity of fixtures tested	11W (50mm)	18W (50mm)	20W (100mm)	Comments
<b>Lutron</b>	Homeworks QS	HRK-R1AND-240-BL	Trailing edge	max load: 11W: 8 18W: 5 20W: 4	11%	11%	11%	Tested by dimmer manufacturer
<b>Lutron</b>	HomeWorks QS / myRoom	LQSE-4A1-D/MQSE-4A1-D/MQSE-3A1/MQSE-2A1-D, 240V, RP	Trailing edge	max load: 11W: 21 18W: 12 20W: 11	14%	15%	11%	Tested by dimmer manufacturer
<b>Lutron</b>	HomeWorks QS/ESN Phase Adaptive	LQSE-4A-D (Gen. 2) / QSNE - 4A-D (Gen. 2)	Trailing edge	max load: 11W: 48 18W: 30 20W: 27	17%	15%	14%	Tested by dimmer manufacturer
<b>Lutron</b>	LCP Panel	LP-RPM-4A-230	Adaptive-Trailing	1	7%	8%	12%	
<b>Lutron</b>	Load Interfaces	NGRX-ELVI-CE with Grafik Eye Qs Main Unit, 240V	Trailing edge	max load: 11W: 87 18W: 30	13%	15%	NC	Tested by dimmer manufacturer
<b>Lutron</b>	Load Interfaces	NGRX-PB-CE with Grafik Eye QS Main Unit, 240V	Leading edge	max load: 11W: 6 18W: 8 20W: 5	13%	15%	13%	11W: Start Up time 1.3s Tested by dimmer manufacturer
<b>Lutron</b>	Panel Module	GP (Harrier Card)	Leading edge	max load: 11W: 29 20W: 25	19%	NC	16%	Tested by dimmer manufacturer
<b>Lutron</b>	RA2 Select	RRK-R25NE-240	Trailing edge	max load: 11W: 8 18W: 5 20W: 4	10%	10%	10%	Tested by dimmer manufacturer (*)
<b>Lutron</b>	Radio RA Select	RRK-R1AND-240-BL	Trailing edge	max load: 11W: 8 18W: 5 20W: 4	11%	11%	11%	Tested by dimmer manufacturer
<b>Lutron</b>	Radio RA Select	RRM-R1AND-240-BL	Trailing edge	max load: 11W: 8 18W: 5 20W: 4	11%	11%	11%	Tested by dimmer manufacturer
<b>Lutron</b>	Rania	RNSU-452B-FAW-M	Trailing edge	1	20%	18%	19%	
<b>Merten</b>		SBD315RC	Trailing edge	1	7%	4%	4%	
<b>Mode Lighting</b>	Tiger	Trailing edge card	Trailing edge	1	1%	1%	3%	
<b>Mode Lighting</b>	Mirage	Leading edge card	Leading edge	1	1%	NC	1%	

## SORAA ARC Track fixtures 230V - DIMMER COMPATIBILITY LIST - International

Dimmer Manufacturer	Dimmer Family	Dimmer part number	Dimming mode	Quantity of fixtures tested	11W (50mm)	18W (50mm)	20W (100mm)	Comments
Osram		HTI DALI 315 DIM	Trailing edge	1	16%	10%	10%	
Philips Dynalite		DGLED401	Trailing edge	1	11%	7%	10%	
Philips Dynalite		DGTM402	Trailing edge	1	16%	15%	15%	
Rako		RMT500	Trailing edge	1, 2	3%	6%	5%	(*)
RVE		RV5	Leading edge	1, 3	NC	NC	NC	(*)
RVE		RV LED 250	Trailing edge	1, 3	12%	21%	12%	Limited by dimmer travel (*)
Schneider		SBD315RC	Trailing edge	1	7%	4%	4%	
Varilight	V-PRO	JQP401W	Trailing edge	1	8%	6%	9%	
Vossloh-Schwabe		554591 (5W to 250W)	Trailing edge	1	8%	7%	9%	
Vossloh-Schwabe		554592 (5W to 500W)	Trailing edge	1	6%	8%	10%	
Yokis		MTV500E	Trailing edge	1, 2	4%	7%	11%	(*)
DALI			DALI		6%	5%	3%	
0-10V			0-10V		3%	5%	13%	

## SORAA ARC Track fixtures 230V - DIMMER COMPATIBILITY LIST - International

### Notes:

Compatibility tests are conducted by Soraa (unless stated otherwise) 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 dimmer manufacturer

Regards compatibility tests conducted by dimmer manufacturer, please contact the dimmer manufacturer or Soraa for more details and/or reports.

(\*) Test results with this dimmer 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