

# SORAA

## Electrical compatibility – BR30 120V - North America

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## **General compatibility guidelines**

### **Scope**

This document provides the basic guidelines regards electrical compatibility of SORAA 120V BR30 and dimming compatibility tables.

### **Dimmer Compatibility**

SORAA 120V BR30 lamps 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 .

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 lamps 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 lamp 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 lamps.

**For example for a 500W dimmer it would mean  $500/5 = 100W$  of LED, so an estimated maximum of 8 lamps at 11.5W.**

### **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 BR30 lamps 120V - DIMMER COMPATIBILITY LIST - North America**

Dimmer Manufacturer	Dimmer Series	Dimmer part number	Dimmer mode	Lamps tested	Dim (%)	Comments
Cooper		D106P	Forward Phase	1	20%	
				5	NC	
Crestron		DIN-1DIMU4	Reverse Phase	1-3	4%	
ETC	Sensor 3	D20	Forward Phase	6	7%	Tested by dimmer manufacturer
ETC	Sensor 3	ELV10-S	Reverse Phase	6	30%	Tested by dimmer manufacturer
ETC	DRd	D20	Forward Phase	6	10%	Tested by dimmer manufacturer
ETC	DRd	ELV10	Reverse Phase	6	5%	Tested by dimmer manufacturer
ETC	Legacy Unison	D20	Forward Phase	6	46%	Tested by dimmer manufacturer
ETC	Legacy Unison	ELV10	Forward Phase	6	46%	Tested by dimmer manufacturer
ETC	ERP	300W dimmer	Reverse Phase	6	0.10%	Tested by dimmer manufacturer
ETC	Echo	ELVD	Reverse Phase	6	26%	Tested by dimmer manufacturer
Leviton	SureSlide	6633		1-3	13%	
Leviton	Sureslide	R62-06674-P0W		1, 5	16%	
Leviton	Decora Sureslide	R12-06672-1LW		1, 5	25%	
Leviton	Illumatech 150	R50-IPL06-10M		1, 5	13%	
Leviton	Decora	DSL06-1LZ		1, 5	7%	
Leviton		6613-P	Forward Phase	1	9%	
				5	NC	
Leviton		IPL06	Forward Phase	1, 5	10%	
Leviton		A2000	Forward Phase	3	1.9% (min 3 lamps)	Min load 40W. Lamps might hum. Tested by dimmer manufacturer

**SORAA BR30 lamps 120V - DIMMER COMPATIBILITY LIST - North America**

Dimmer Manufacturer	Dimmer Series	Dimmer part number	Dimmer mode	Lamps tested	Dim (%)	Comments
Leviton		D4206	Forward Phase	2	1.7% (min 2 lamps)	Min load 15W. Tested by dimmer manufacturer
Leviton	Homekit Wall dimmer	DH6HD-1BZ	Forward Phase	1	5%	Tested by dimmer manufacturer
Leviton	Lumina Wall Dimmer	DL6HD-1BZ	Forward Phase	1	0.1%	Tested by dimmer manufacturer
Leviton	WiFi Wall Dimmer	DW6HD-1BZ	Forward Phase	1	0.2%	Tested by dimmer manufacturer
Leviton	Zwave Wall Dimmer	DZ6HD-1BZ	Forward Phase	1	0.2%	Tested by dimmer manufacturer
Leviton	iSERIES	i48E	Forward Phase	3 + 60W incandescent	8%	Min load 100W. Tested by dimmer manufacturer
Leviton	OMNI	110A00-2	Forward Phase	1	0.4%	Tested by dimmer manufacturer
Leviton	OMNI	110A00-2	Reverse Phase	1	20%	Tested by dimmer manufacturer
Leviton	Power Extender	PE100-10W	Forward Phase	2	1.9% (min 2 lamps)	Min load 15W. Barely audible hum. Tested by dimmer manufacturer
Leviton	Power Extender	PE400-10W	Reverse Phase	2	9.9% (min 2 lamps)	Min load 15W. Tested by dimmer manufacturer
Leviton	RENOIR II	AWSMT-EBW	Reverse Phase	2+60W incandescent	0%	Min load 64W. Tested by dimmer manufacturer
Leviton	RENOIR II	AWSMT-MBW	Forward Phase	2+60W incandescent	15%	Min load 64W. Barely audible hum. Tested by dimmer manufacturer
Lutron	Caseta Wireless	PD-5NE-XX	Reverse Phase	1-21	20%	(*) Tested by dimmer manufacturer
Lutron	Caseta Wireless	PD-6WCL-WH-R	Forward Phase	1, 5	NC	
Lutron	Diva	DVCL-153P	Forward Phase	1, 5	29%	
Lutron	Diva	DVELV-300P	Reverse Phase	1-3	7%	
Lutron	Diva	DVLV-600P	Forward Phase	1-3	19%	
Lutron	Diva	DVRP-253P	Reverse Phase	1-21	10%	(*) Tested by dimmer manufacturer
Lutron	Grafik Eye QS	QSGR	Forward Phase	1-3	27%	

**SORAA BR30 lamps 120V - DIMMER COMPATIBILITY LIST - North America**

Dimmer Manufacturer	Dimmer Series	Dimmer part number	Dimmer mode	Lamps tested	Dim (%)	Comments
Lutron	Grafik T	Phase Selectable GT-5NEM/ GTJ-5NEM	Reverse Phase	1-21	20%	(*) Tested by dimmer manufacturer
Lutron	HomeWorksQS	HQRD-6NA	Reverse Phase	1-13	19%	(*) Tested by dimmer manufacturer
Lutron	HomeWorksQS	LQSE-4A-120-D, RP	Reverse Phase	1-18	20%	(*) Tested by dimmer manufacturer
Lutron	HomeWorksQS/ myRoom	LQSE-4A1-D / MQSE-4A1-D/ MQSE-3A1 / MQSE-2A1-D 120V, RP	Reverse Phase	1-9/ output. Total per main unit is 36	19%	(*) Tested by dimmer manufacturer
Lutron	Interface	PHPM-PA with Grafik Eye QS Main Unit	Reverse Phase	1-63	20%	(*) Tested by dimmer manufacturer
Lutron	Interface	PHPM-WBX with 3- wire fluorescent control	Reverse Phase	1-63	20%	(*) Tested by dimmer manufacturer
Lutron	Maestro	MACL-153M	Forward Phase	1-3	21%	
Lutron	Maestro CL Pro	MA-PRO without neutral (default)	Reverse Phase	1-21	20%	(*) Tested by dimmer manufacturer
Lutron	Maestro CL Pro	MA-PRO with neutral	Reverse Phase	1-21	19%	(*) Tested by dimmer manufacturer
Lutron	Nova T	NTRP-250	Reverse Phase	1-21	15%	(*) Tested by dimmer manufacturer
Lutron	Panel Module	HW/LP-RPM-4A-120	Reverse Phase	1-63 per channel. Total per module is 100.	20%	(*) Tested by dimmer manufacturer
Lutron	Radio RA2	RRD-6NA	Reverse Phase	1-13	19%	(*) Tested by dimmer manufacturer
Lutron	Skylark	SLV-600P	Forward Phase	1-3	16%	
Lutron	Skylark	SELV-300P	Reverse Phase	1-3	8%	
Lutron	Skylark Contour	CTCL-153PDH-WH	Forward Phase	1, 5	18%	
Lutron	Skylark Contour	CTRP-253P	Reverse Phase	1-21	10%	(*) Tested by dimmer manufacturer

**SORAA BR30 lamps 120V - DIMMER COMPATIBILITY LIST - North America**

Dimmer Manufacturer	Dimmer Series	Dimmer part number	Dimmer mode	Lamps tested	Dim (%)	Comments
Lutron	Spacer	SPSELV-600	Reverse Phase	1	12%	
Lutron	Toggler	TGCL-153PH-WH	Forward Phase	1, 5	30%	
Lutron	Vive	MRF2S-6ELV	Reverse Phase	1-13	19%	(*) Tested by dimmer manufacturer
Marlin	Stellar	RMS 4	Reverse Phase	1	4%	

**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 manufacturer 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