

SORAA

Electrical compatibility – ARC Pendant, Adjustable Recessed and Semi-recessed 120V - North America

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General compatibility guidelines

Scope

This document provides the basic guidelines regards electrical compatibility of SORAA 120V ARC Pendant and Adjustable recessed and semi-recessed fixtures.

Dimmer Compatibility

SORAA 120V ARC Pendant and Adjustable recessed and semi-recessed fixtures are made to work with reverse phase and forward phase phase cut dimmers. However, the use of reverse phase dimmers is preferred and will show in general better behavior .

Dimmer compatibility tables are on pages **3-11**.

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 Pendants on a dimmer

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

1. SORAA tests have been carried out with 1 fixture 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 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 of 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 Pendant, Adjustable Recessed and Semi-recessed 120V - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Cooper		D106P	Forward	1, 2	10%	10%	10%	(*)
Cooper		SLC03P	Forward	1, 2	18%	NC	NC	(*)
Crestron		DIN-1DIMU4	Reverse	1, 2	12%	1%	1%	
Leviton		6613-P	Forward	1, 2	6%	6%	16%	(*)
Leviton		6615-P	Reverse	1, 2	4%	4%	3%	(*)
Leviton		6633-P	Forward	1, 2	7%	4%	4%	(*)
Leviton		6404	Forward	1, 2	11%	10%	13%	(*)
Leviton		IPL06	Forward	1	11%	3%	22%	(*)
				2			3%	
Leviton		A2000	Forward	3 (11W, 18W) 2 (20W)	0.2%	0.2%	0.5%	Min load 40W. Tested by dimmer manufacturer (*)
Leviton		D4206	Forward	2	0.1%	0.2%	0.5%	Min load 15W. Tested by dimmer manufacturer (*)
Leviton	Homekit Wall dimmer	DH6HD-1BZ	Forward	2	1.8%	1.4%	2.1%	Tested by dimmer manufacturer (*)
Leviton	Lumina Wall Dimmer	DL6HD-1BZ	Forward	2	0.0%	0.1%	0.5%	Tested by dimmer manufacturer (*)
Leviton	WiFi Wall Dimmer	DW6HD-1BZ	Forward	2	0.3%	0.2%	0.4%	Tested by dimmer manufacturer (*)
Leviton	Zwave Wall Dimmer	DZ6HD-1BZ	Forward	2	0.3%	0.2%	0.1%	Tested by dimmer manufacturer (*)
Leviton	iSERIES	i48E	Forward	3 (11W) 2 (18W, 20W)	1.4%	1.1%	1.7%	Min load 100W. 18W fixtures tested + 60W incandescent. Tested by dimmer manufacturer (*)
Leviton	OMNI	110A00-2	Forward	2	0.2%	0.2%	0.2%	Tested by dimmer manufacturer (*)

SORAA ARC Pendant, Adjustable Recessed and Semi-recessed 120V - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Leviton	OMNI	110A00-2	Reverse	2	10.0%	8.2%	9.8%	Tested by dimmer manufacturer (*)
Leviton	Power Extender	PE100-10W	Forward	2	0.2%	0.2%	0.6%	Min load 15W. Tested by dimmer manufacturer (*)
Leviton	Power Extender	PE400-10W	Reverse	2	1.0%	0.3%	1.0%	Min load 15W. Tested by dimmer manufacturer (*)
Leviton	RENOIR II	AWSMT-EBW	Reverse	2	0.3%	0.2%	0.3%	Min load 64W. Tested by dimmer manufacturer (*)
Leviton	RENOIR II	AWSMT-MBW	Forward	2	0.5%	0.4%	0.8%	Min load 64W. 11W and 18W fixtures tested +40W incandescent. Tested by dimmer manufacturer (*)
Lutron	Diva/Skylark/Skylark Contour/Ariadni/Toggler/Lumea	CL wall-mount dimmers (T8,T9)	Forward	max load: 11W: 13 18W: 8 20W: 7	9%	10%	10%	Tested by dimmer manufacturer (*)
Lutron	Caseta Wireless Phase Selectable	PD-5NE	Reverse	max load: 11W: 22 18W: 13 20W: 12	10%	9%	9%	Tested by dimmer manufacturer (*)
Lutron	Caseta Wireless	PD-6WCL (SD11)	Forward	max load: 11W: 13 20W: 7	10%	NC	10%	Tested by dimmer manufacturer (*)
Lutron	Caseta Wireless	PD-10NXD (SD11) without neutral	Forward		NC	NC	NC	Tested by dimmer manufacturer (*)
Lutron	Contour	CT-600P	Forward	1, 2	5%	6%	5%	
Lutron	Diva	DVELV-300P	Reverse	1, 2	1%	1%	1%	
Lutron	Diva	DV-600P	Forward	1, 2	5%	11%	4%	
Lutron	Diva	DVLV-600P	Forward	1, 2	9%	10%	9%	

SORAA ARC Pendant, Adjustable Recessed and Semi-recessed 120V - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Lutron	Diva/Ariadni C250W	250W CL Dimmers (T5, T8)	Forward	max load: 11W: 22 18W: 12 20W: 12	9%	10%	10%	Tested by dimmer manufacturer (*)
Lutron	Diva/Skylark Contour Reverse Phase LED Preset Dimmers	DVRP-253PCTRP- 253P	Reverse		NC	NC	NC	Tested by dimmer manufacturer (*)
Lutron	Grafik Eye 3000 / HomeWorks	Grafik Eye 3000 Family/HWI-WPM-6D-120	Forward	max load: 11W: 39 18W: 20 20W: 21	10%	9%	10%	Tested by dimmer manufacturer (*)
Lutron	Grafik T	GT-150 (T6) without Neutral	Forward	max load: 11W: 2-13 18W: 2-7 20W: 2-7	10%	9%	7%	2 lamp minimum required without neutral Tested by dimmer manufacturer (*)
Lutron	Grafik T	GTJ-150 (M6) without Neutral	Forward	max load: 11W: 2-13 18W: 2-7 20W: 2-7	10%	9%	7%	2 lamp minimum required without neutral Tested by dimmer manufacturer (*)
Lutron	Grafik T	GTJ-250M (M6)/GT-250M (T7) without neutral	Forward			NC	NC	Tested by dimmer manufacturer (*)
Lutron	Grafik T	Phase Selectable GT-5NEM/ GTJ-5NEM	Reverse	max load: 11W: 22 18W: 13 20W: 12	10%	10%	10%	Tested by dimmer manufacturer (*)
Lutron	Grafix QS/Wallbox Power Module	Grafik Eye QS Main Unit Family / LQRJ-WPM-6P	Forward	max load: 11W: 39 18W: 20 20W: 21	10%	9%	10%	Tested by dimmer manufacturer (*)

SORAA ARC Pendant, Adjustable Recessed and Semi-recessed 120V - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Lutron	HomeWorks	HxD-6ND	Forward	max load: 11W: 8 18W: 4 20W: 4	10%	9%	10%	Tested by dimmer manufacturer (*)
Lutron	HomeWorks QS	HQRD-6CL (H2)/HQRA-6CL (H2)	Forward	max load: 11W: 13 18W: 8 20W: 7	20%	16%	20%	20W: Startup time at 1.2s Tested by dimmer manufacturer (*)
Lutron	HomeWorks QS	HQRD-6NA	Reverse	max load: 11W: 13 18W: 8 20W: 7	7%	10%	6%	11W: Startup time at 1.4s 20W: Startup time at 1.5s Tested by dimmer manufacturer (*)
Lutron	HomeWorks QS	HQRD-6ND	Forward	max load: 11W: 13 18W: 7 20W: 7	16%	17%	19%	11W: Startup time at 1.5s 20W: Startup time at 1.4s Tested by dimmer manufacturer (*)
Lutron	HomeWorks QS	HQRD-10ND	Forward	max load: 11W: 13 18W: 8 20W: 7	16%	17%	19%	11W: Startup time at 1.5s 20W: Startup time at 1.4s Tested by dimmer manufacturer (*)
Lutron	HomeWorks QS	HQRT-G25LW (H2) without neutral	Forward		NC	NC	NC	Tested by dimmer manufacturer (*)
Lutron	HomeWorks QS	Hybrid Keypad C.L Hqrd-HN6BRL	Forward	max load: 11W: 9 18W: 5 20W: 5	15%	9%	15%	Tested by dimmer manufacturer (*)
Lutron	Homeworks QS	LQSE-4A-120-D, RP	Reverse	max load: 11W: 15 18W: 7 20W: 12	9%	8%	9%	Tested by dimmer manufacturer (*)

SORAA ARC Pendant, Adjustable Recessed and Semi-recessed 120V - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Lutron	HomeWorks QS / myRoom	LQSE-4A1 - D/MQSE-4A 1 - D/MQSE - 3A1/MQSE- 2A1-D, 120V, RP	Reverse	max load: 11W: 10 18W: 6 20W: 6	10%	9%	9%	Tested by dimmer manufacturer (*)
Lutron	Maestro	MACL-153M (TX)	Forward	max load: 11W: 13 20W: 7	10%	NC	8%	Tested by dimmer manufacturer (*)
Lutron	Maestro	MAELV-600	Reverse	1, 2	12%	1%	0%	
Lutron	Maestro Sensor	MSCL-OP153M (T2)/MSCL-VP153M (T2)	Forward	max load: 11W: 13 18W: 8 20W: 7	10%	10%	9%	Tested by dimmer manufacturer (*)
Lutron	Maestro Wireless	MRF2-6CL (M6)	Forward	max load: 11W: 13 18W: 8 20W: 7	20%	16%	20%	20W: Startup time at 1.2s Tested by dimmer manufacturer (*)
Lutron	Maestro Wireless	MRF2-6ELV	Reverse	max load: 11W: 13 18W: 8 20W: 7	7%	10%	6%	11W: Startup time at 1.4s 20W: Startup time at 1.5s Tested by dimmer manufacturer (*)
Lutron	Maestro Wireless	MRF2-6ND	Forward	max load: 11W: 13 18W: 7 20W: 7	16%	17%	19%	11W: Startup time at 1.5s 20W: Startup time at 1.4s Tested by dimmer manufacturer (*)
Lutron	Nova T* 250W	NTCL-250 (T8)	Forward	max load: 11W: 22 18W: 12 20W: 12	9%	10%	10%	Tested by dimmer manufacturer (*)
Lutron	Nova T	NTELV-300	Reverse	1, 2	1%	1%	0%	
Lutron	Nova T	NTLV-600	Forward	1, 2	14%	4%	13%	

SORAA ARC Pendant, Adjustable Recessed and Semi-recessed 120V - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Lutron	Nova T*Reverse Phase LEDSlide to-off Dimmer	NTRP-250	Reverse		NC	NC	NC	Tested by dimmer manufacturer (*)
Lutron	Panel Module	GP (Harrier) Card	Forward	max load: 11W: 39 18W: 20 20W: 21	10%	10%	10%	Tested by dimmer manufacturer (*)
Lutron	Panel Module	HW/LP-RPM-4A-120	Reverse	max load: 11W: 87 18W: 46 20W: 60	10%	7%	10%	Tested by dimmer manufacturer (*)
Lutron	Panel Module	HW/LP-RPM-4U-120	Forward	max load: 11W: 39 18W: 20	10%	8%	NC	Tested by dimmer manufacturer (*)
Lutron	Power Modules	PHPM-PA with Grafik Eye QS Main Unit	Reverse	max load: 11W: 87 18W: 46 20W: 61	10%	8%	7%	Tested by dimmer manufacturer (*)
Lutron	Power Modules	PHPM-WBX with 3-wire fluorescent control	Reverse	max load: 11W: 87 18W: 46 20W: 61	10%	8%	7%	Tested by dimmer manufacturer (*)
Lutron	RadioRA 2	Hybrid Keypad C.L RRD-HN6BRL	Forward	max load: 11W: 9 18W: 5 20W: 5	15%	9%	15%	Tested by dimmer manufacturer (*)
Lutron	RadioRA 2	RRD-6CL (R3)	Forward	max load: 11W: 13 18W: 8 20W: 7	20%	16%	20%	20W: Startup time at 1.2s Tested by dimmer manufacturer (*)
Lutron	RadioRA 2	RRD-6D	Forward		NC	NC	NC	Tested by dimmer manufacturer (*)

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Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Lutron	RadioRA 2	RRD-6NA	Reverse	max load: 11W: 13 18W: 8 20W: 7	7%	10%	6%	11W: Startup time at 1.4s 20W: Startup time at 1.5s Tested by dimmer manufacturer (*)
Lutron	RadioRA 2	RRD-10ND	Forward	max load: 11W: 13 18W: 8 20W: 7	16%	17%	19%	11W: Startup time at 1.5s 20W: Startup time at 1.4s Tested by dimmer manufacturer (*)
Lutron	RadioRA 2	RRT-G25LW (R3) without neutral	Forward		NC	NC	NC	Tested by dimmer manufacturer (*)
Lutron	Skylark	SLV-600P	Forward	1, 2	12%	10%	9%	
Lutron	Skylark	SELV-300P	Reverse	1, 2	1%	1%	1%	
Lutron	Skylark	S-600	Forward	1, 2	5%	5%	5%	
Lutron	Skylark	S-603PG	Forward	1, 2	18%	17%	18%	
Lutron	Skylark Contour Slide to -off	CTCL-150	FP	max load: 11W: 13 18W: 8 20W: 7	9%	10%	10%	Tested by dimmer manufacturer (*)
Lutron	Spacer	SPSELV-600	Reverse	1, 2	1%	1%	1%	(*)
Lutron	Stanza	SZ-6ND	Forward	max load: 11W: 8 18W: 4 20W: 4	10%	9%	10%	Tested by dimmer manufacturer (*)
Lutron	Vive	MRF2S-6ND	Forward	max load: 11W: 13 18W: 7 20W: 7	16%	17%	19%	11W: Startup time at 1.5s 20W: Startup time at 1.4s Tested by dimmer manufacturer (*)

SORAA ARC Pendant, Adjustable Recessed and Semi-recessed 120V - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer Model	Dimmer part number	Phase-cut	Quantity of fixtures tested	50mm (11W)	50mm (18W)	100mm (20W)	Comments
Lutron	Vive	MRF2S-6ELV	Reverse	max load: 11W: 13 18W: 8 20W: 7	7%	10%	6%	11W: Startup time at 1.4s 20W: Startup time at 1.5s Tested by dimmer manufacturer (*)
Lutron	Vive	MRF2S-6CL	Forward	max load: 11W: 13 18W: 8 20W: 7	20%	16%	20%	20W: Startup time at 1.2s Tested by dimmer manufacturer (*)
Marlin	Stellar	RMS 4	Reverse	1, 2	1%	1%	1%	(*)

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Notes:

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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 Revision **18Q3**

--%	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