

SORAA

Electrical compatibility – AR111 12.5W 12V lamps – North America

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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 3-7. 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.

For transformer-lamp compatibility, Soraa only tests up to 5 transformers per circuit. Consult Soraa, controls provider and transformer manufacturer for latest compatibility when installing 5 or more fixtures per circuit. Lamp performance may vary based on field conditions, including but not limited to THD, shared neutral wires, power-quality. Whenever possible, test lamps in-situ to verify satisfactory performance.

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. On the dimmer compatibility tables, the percentages for each transformer/dimmer combination are the percentage of measured 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 - North America

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;

Brand	Model	Wattage	Voltage (Vac)	Transformer Type	1 Lamp	2 Lamps	3 Lamps
North America							
B+L	CV90001 (CV-10/75-12)	10-75	120	Electronic	Pass	Pass	Pass
B+L	CV90010	10-105	120	Electronic	Pass	Pass	Pass
B+L	CV90012	10-150	120	Electronic	Pass	Pass	Pass
B+L	CV90021	10-200	120	Electronic	Pass	Pass	Pass
B+L	CV90112	75	277	Electronic	Pass		
B+L	FX95100	0-75	120	Electronic	Pass	Pass	Pass
B+L	LS94117	75	120	Electronic	NC	NC	NC
B+L	MS90117	35-75	120	Electronic	NC	NC	NC
B+L	MS90119	35-75	120	Electronic	Pass	Pass	Pass
BK Lighting	TRSS150-277	150	277	Electronic	NC	NC	NC
BK Lighting	TRSS75-277	75	277	Electronic	NC	NC	NC
ELG	250LT2512	75	120	Electronic	NC	NC	Pass
Hatch	RL12-60A	60	120	Electronic	Pass	Pass	Pass
Hatch	RL12-60M-LED (*)	60	120	Electronic	Pass	Pass	Pass
Hatch	RS12-60M-LED-277	60	277	Electronic	Pass		
Hatch	RL12-75	75	120	Electronic	Pass	Pass	Pass
Hatch	RL12-75A	75	120	Electronic	Pass	Pass	Pass
Hatch	RS12-150	150	120	Electronic	NC	NC	NC
Hatch	RS12-300	60	120	Electronic	NC	NC	NC
Hatch	RS12-60 (any suffix)	60	120	Electronic	Pass	Pass	Pass
Hatch	RS12-75BF-LED	75	120	Electronic	Pass	Pass	Pass
Hatch	RS12-80 (any suffix)	80	120	Electronic	NC	NC	NC
Hatch	VS12-150	150	120	Electronic	Pass	Pass	Pass
Hatch	VS12-105WD	105	120	Electronic	NC	Pass	Pass
Hatch	VS12-60WD	60	120	Electronic	Pass	Pass	Pass
Hatch	VS12-75WD	75	120	Electronic	Pass	Pass	Pass
K-Light	KL-789		120	Electronic	Pass	Pass	Pass

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - North America

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;

Brand	Model	Wattage	Voltage (Vac)	Transformer Type	1 Lamp	2 Lamps	3 Lamps
North America							
Lightech	LET 75 277 R	75	277	Electronic	Pass (Date code 1526 and after)	Pass (Date code 1526 and after)	Pass (Date code 1526 and after)
Lightech	LET-60, LET 60 BF	60	120	Electronic	Pass	Pass	Pass
Lightech	LET-105W	105	120	Electronic	Pass	Pass	Pass
Lightech	LET-151	150	120	Electronic	NC	NC	NC
Lightech	LET-303-12	300	120	Electronic	Pass	NC	NC
Lightech	LET-60-LW	60	120	Electronic	NC	NC	NC
Lightech	LET-75	75	120	Electronic	Pass	Pass	Pass
LTF	TA15WA12LED	15	120	Electronic	Pass		
LTF	TA60WA12LED	60	120	Electronic	Pass	Pass	Pass
Meanwell	PWM-90-12	90	100-305	Electronic	Pass	Pass	Pass
MDL Corp	316-0002	150	120	Electronic	NC	Pass	Pass
Philips	ET-RZ17LED	17	120	Electronic	Pass		
PONY	PET-120-12-75	75	120	Electronic	Pass	Pass	Pass
PowerSelect Inc	PS20B75A	75	120	Electronic	NC	NC	NC
PowerSelect Inc	PS20B75S	75	120	Electronic	NC	NC	NC
Prescolite	JK-347A	75	120	Electronic	Pass	Pass	Pass
RSA	RT60A	60	120	Electronic	Pass	Pass	Pass
Tech Lighting	700FJ4RFS (LTF TA75WA12-0000)	75	120	Electronic	Pass	Pass	Pass
Tech Lighting	700MOPRT301ES-LED	300	120	Electronic	NC	NC	NC
Tech Lighting	700MOSRT100ES-LED (LTF TA105WA12LED)	105	120	Electronic	Pass	Pass	Pass
TOPSTAR	SL-728	150	120	Electronic	Pass	Pass	Pass
WAC	EN1260-R(B)2	60	120	Electronic	Pass	Pass	Pass
WAC	EN-12100-R-AR	100	120	Electronic	Pass	Pass	Pass
Tech Lighting	700AT152EL (LTF TA150WD12LEDRE)	150	120	Electronic (DC)	Pass	Pass	Pass
Tech Lighting	700AT302EL (LTF TA300WDS12LEDRE-0000)	300	120	Electronic (DC)	Pass	Pass	Pass
Basler Electric	MI-5481E	50	120	Magnetic	Pass	Pass	Pass
Cooper	TF-149911	50	120	Magnetic	Pass	Pass	Pass

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - North America

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;

Brand	Model	Wattage	Voltage (Vac)	Transformer Type	1 Lamp	2 Lamps	3 Lamps
North America							
Cooper	TF149911-TP120XFMR	50	120	Magnetic	Pass	Pass	Pass
Cooper	TFA4120	50	120	Magnetic	Pass	Pass	Pass
Hammond Manufacturing	166Q12	75	120	Magnetic	Pass	Pass	Pass
Hatch	RL12-50(E, EN, ENT)	50	120	Magnetic	Pass	Pass	Pass
Hatch	RL12-75(E, EN, ENT)	75	120	Magnetic	Pass	Pass	Pass
Iris	TFA-212	75	120	Magnetic	Pass	Pass	Pass
Iris	TFA-311T	50	120	Magnetic	Pass	Pass	Pass
Iris	TFA-3TR	50	120	Magnetic	Pass	Pass	Pass
Iris	TFA-400	75	120	Magnetic	Pass	Pass	Pass
Iris	TFA-51T	75	120	Magnetic	Pass	Pass	Pass
Juno	310-1333	300	120	Magnetic	Pass	Pass	Pass
MDL Corp	315-0071A – IRIS RPN3MR Fixture dimmerl Tap	50	120	Magnetic	Pass	Pass	Pass
MDL Corp	315-0071A – IRIS RPN3MR Fixture Normal Tap	50	120	Magnetic	Pass	Pass	Pass
MDL Corp	315-0126 – 12.3V	50	120	Magnetic	Pass	Pass	Pass
LINEA	701970	300	120	Magnetic	Pass	Pass	Pass
Orientronic	DLR1250BN	50	120	Magnetic	Pass	Pass	Pass
Philips	Removed from Fixture	50	120	Magnetic	Pass	Pass	Pass
Q-TRAN	Q6S-DC-120-12 (Rectified)	60	120	Magnetic	Pass	Pass	Pass
Q-TRAN	QT20-120/12-TP-RC	20	120	Magnetic	Pass	NC	NC
Q-TRAN	QT50-75CK-PT-277-RC	75	277	Magnetic	Pass	Pass	Pass
Q-TRAN	QT-50-75CK-PT-RC	50-75	120	Magnetic	Pass	Pass	Pass
Q-TRAN	QT50SV-120/12-RC	50	120	Magnetic	Pass	Pass	Pass
Q-TRAN	QTM60-DC+CAP (Rectifier + Filtered)	60	120	Magnetic	Pass	Pass	Pass
TechnoMagnet	ODC75S12	75	120	Magnetic	Pass	Pass	Pass

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - North America

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
- For transformer-lamp compatibility, Soraa only tests up to 5 transformers per circuit. Consult Soraa, controls provider and transformer manufacturer for latest compatibility when installing 5 or more fixtures per circuit. Lamp performance may vary based on field conditions, including but not limited to THD, shared neutral wires, power-quality. Whenever possible, test lamps in-situ to verify satisfactory performance.
- 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 AR111 12V 12.5W - DIMMER / ELECTRONIC TRANSFORMER COMPATIBILITY - North America

Dimmer (120V) →														
Transformer (120V) ↓			Creston DIN-1DIMU4	Lutron Grafik Eye QS + PHPM-PA-DV-WH module	Lutron Diva DVELV-300P	Lutron SPSELV-600	Lutron Maestro MAELV-600	Lutron Nova T NTELV-300	Lutron Skylark SELV-300P	Leviton 6615-P 300W	MARLIN CONTROLS Stellar-DIMMING CABINET P/N 6-3-08-20-3-103T	Lutron Radio RA2 RRD-6NA-WH 600W	Lutron Caseta PD-5NE-XX	Lutron LP-RPM-4A-120
North America														
B+L	CV90001 (CV-10/75-12)	Electronic		10%	10%	18%	16%	17%	12%	NC		14%		
B+L	CV90021 (CV-10/105-12)	Electronic		10%	11%	17%	17%	19%	12%	NC		14%		
B+L	FX95100	Electronic		10%	9%	18%	13%	15%	10%	NC		16%		
B+L	MS90119	Electronic		10%	1,2 lamps: 8% 3 lamps: N C	1,2 lamps: 17% 3 lamps: N C	14%	1,2 lamps: 15% 3 lamps: N C	10%	NC		17%		
ELG	250LT2512	Electronic		1,2 lamps: N C 3 lamps: 10%	1 lamp: N C 2,3 lamps: 10%	1 lamp: N C 2,3 lamps: 15%	1 lamp: N C 2,3 lamps: 14%	NC	1 lamp: N C 2,3 lamps: 11%	NC		13%		
Hatch	RL12-75	Electronic						9%	12%					
Hatch	RS12-150	Electronic		10%	8%	15%	15%	16%	10%	NC	NC	15%		
Hatch	RL12-60M-LED (*)	Electronic	6%	5%	4%						6%	7%	13%	6%
Hatch	RS12-60M-LED	Electronic		10%	7%	13%	12%	14%	8%	NC	10%	17%		
Hatch	VS12-105	Electronic		1 lamp: N C 2-3 lamps: 20%	1 lamp: N C 2-3 lamps: 20%	1 lamp: N C 2-3 lamps: 25%	1 lamp: N C 2-3 lamps: 22%	1 lamp: N C 2-3 lamps: 23%	1 lamp: N C 2-3 lamps: 19%	NC	NC	1,2 Lamps: N C 3 lamps 23%		
Hatch	VS12-150	Electronic		10%	9%	18%	15%	15%	10%	NC	1, 2 Lamps: N C 3 Lamps: 21%			
Hatch	VS12-60	Electronic		10%	7%	14%	12%	13%	8%	NC	1 Lamp: N C 2,3 lamps: 19%	15%		
Hatch	VS12-60WD	Electronic		10%	8%	16%	14%	15%	10%	27%	1 Lamp: N C 2,3 Lamps: 19%	16%		
Hatch	VS12-75WD	Electronic		9%	8%	16%	13%	15%	9%	25%	NC	16%		
Lightech	303 AC 120 12	Electronic		10%	10%	19%	1,3 lamps: 26% 2 lamps: N C	18%	1,3 lamps: 21% 2 lamps: N C	26%	NC			
Lightech	LET 105	Electronic		10%	7%	12%	12%	14%	9%	NC	1 Lamp: N C 2 Lamps: 23% 3 Lamps: N C	15%		

SORAA AR111 12V 12.5W - DIMMER / ELECTRONIC TRANSFORMER COMPATIBILITY - North America

Dimmer (120V) →													
Transformer (120V) ↓			Grafik Eye 3000 + PHPM-PA-DV-WH module	Diva DVELV-300P	Lutron SPSELV-600	Maestro MAELV-600	Nova T NTELV-300	SkyJark SELV-300P	Leviton 6615-P 300W	MARLIN CONTROLS Stellar DIMMING CABINET P/N 6-3-08-20-3- 103TI	Lutron Radio RA2 RRD-6NA-WH 600W	Lutron CTELV-303P	Lutron FAELV-500M
North America													
Lightech	LET 151 R LDC	Electronic	1,2 lamps: N C 3 lamps: 19%	NC	NC	NC	13%	7%	NC	1 Lamp: N C 2,3 Lamps: 20%	1 lamp: N C 2,3 Lamps: 21%		
Lightech	LET 60	Electronic	10%	7%	13%	12%	13%	9%	36%	16%	16%		
Lightech	LET 60LW	Electronic	NC	NC	NC	NC	NC	NC	NC	1 Lamp: N C 2, 3 lamps: 20%			
Lightech	LET 75	Electronic	10%	5%	11%	10%	12%	7%	NC	1,2 Lamps: 23% 3 Lamps: N C	NC		
Lightech	9/24/2015	Electronic	9%										
LTF	TA15WA12LED	Electronic	3%		5%	6%	6%	2%				6%	6%
LTF	TA60WA12LED	Electronic	10%	8%	13%	12%	14%	9%	NC		16%		
Magnitude	E60L12DC-KO	Electronic		1 Lamp: N C 2,3 Lamps: 10%	NC	NC	1 lamp: N C 2,3 Lamps:14%	1 Lamp: N C 2,3Lamps: 9%					
MDL Corp	316-002	Electronic	10%	5%	12%	12%	12%	7%	NC		16%		
PONY	PET-120-12-75	Electronic	10%	7%	12%	12%	14%	8%	NC		14%		
Prescolite	JK-347A	Electronic				14%	12%	9%					
Tech Lighting	700MOSRT100ES-LED (LTF TA105WA12LED)	Electronic					15%	13%			16%		
Topstar	SL-728	Electronic	10%	8%	13%	12%	13%	9%	NC		13%		
WAC	EN1260-R(B)2	Electronic		7%		15%					20%		
WAC	EN-12100-R-AR	Electronic	7%	9%	16%	15%	16%	11%	NC		14%		
Tech Lighting	700AT152EL (LTF TA150WD12LEDRE)	Electronic (DC)					16%	14%			13%		
Tech Lighting	700AT302EL (LTFTA300WDS12LEDRE- 0000)	Electronic (DC)					16%	13%			14%		
Tech Lighting	700FJ4RFS (LTF TA75WA12-0000)	Electronic (DC)					14%	8%			13%		

SORAA AR111 12V 12.5W – DIMMER(ELECTRONIC)/TRANSFORMER COMPATIBILITY - North America

Dimmer (120V) → Transformer (120V) ↓			Lutron VTELV-600M-B	Lutron Skylark SLV-600P	Crestron CLS-C6(M)	Crestron CLS-EXP-DIM	Crestron CLS-EXP-DIMU	Crestron CLX-1DIM4, CLX-1DIM8, CLX-2DIM8	Crestron CLX-1DELV4	Crestron DIN-1DIM4	Crestron DIN-1DIMU4	Crestron CLW-DIMSWEX, CLW-DIMSWCN, CLW-DIMEX, CLW-DIMCN, P-DIMEX	Crestron GLX-DIM6	Crestron GLXX-2DIM8
North America														
Hatch	RL12-75	Electronic	8%	10%										
Hatch	RS12-60M-LED	Electronic			NC	NC	10%	NC	10%	NC	8%	NC	NC	NC
Lightech	LET 75	Electronic			NC	NC	5%	NC	12%	NC	5%	NC	NC	NC
Prescolite	JK-347A	Electronic	10%											

TESTED BY DIMMER MANUFACTURER Transformer ↓		Dimmer →	ETC							
			(Unison DRd) D20	(Unison Legacy) D20	(Sensor 3) D20	Legacy Unison ELV10	DRd ELV10	(Sensor 3) ELV10-S	Echo ELVD	ERP 300W
North America										
Hatch	RS12-60M-LED	Electronic	NC	NC	NC	NC	16%	18%	32%	12%

Dimmer (277V) → Transformer (277V) ↓			Leviton Renoir II AWSMT-EA (TE)
North America			
Hatch	RS12-60M-LED-277	Electronic	8%

SORAA AR111 12V 12.5W - DIMMER / MAGNETIC TRANSFORMER COMPATIBILITY - North America

Dimmer (120V) → Transformer (120V) ↓			Lutron Grafik Eye #3000	Lutron Skylark SLV-600P	Lutron Diva DVLV-600P	Lutron Ceana CNLV-600P	Lutron NTLV-600	MARLIN CONTROLS Stellar DIMMING CABINET P/N 6-3-08-20-3-103T with RMS 8 Control Unit - approx. 6 Kilo-Watts Total	Lutron Radio RA2 RRD-6NA-WH 600W	Lutron Radio RA2 RRD-10D-SW 800W	Lutron QSGRJ-4P + Custom PHPM (forced leading edge) @277Vac (*)
North America											
Basler Electric	MI-5481E	Magnetic	10%	NC	NC	NC		9%			
Cooper	T50W120VSL	Magnetic			NC				13%		
Cooper	TF-149911	Magnetic	11%	NC	NC	NC		7%			
Cooper	TF 149911-TP120	Magnetic	10%	NC	NC	NC		9%			
Cooper	TFA4120	Magnetic			28%				19%		
Hammond Manufacturing	166Q12	Magnetic	13%	NC	NC	NC		10%			
Hatch	LT12-75-JIL-1	Magnetic			1-3 lamps: 23% 4 lamps: 20%		20%		13%		
Iris	TFA212	Magnetic					19%		24%		
Iris	TFA311T	Magnetic					19%		15%		
Juno	310-1333	Magnetic	13%	NC	NC	NC		10%			
Linea	701970	Magnetic	13%	NC	NC	NC		9%			
MDL Corp	315-0071A – IRIS RPN3MR Fixture dimmer Tap	Magnetic		28%	NC						
MDL Corp	315-0071A – IRIS RPN3MR Fixture Normal Tap	Magnetic		27%	NC				9%	10%	
MDL Corp	315-0126 – 12.3V	Magnetic		26%	NC				9%	8%	
Orientronic	DLR1250BN	Magnetic	13%	27%	27%	27%		8%			28%

SORAA AR111 12V 12.5W - DIMMER / MAGNETIC TRANSFORMER COMPATIBILITY - North America

Dimmer (120V) → Transformer (120V) ↓			Lutron Grafik Eye #3000	Lutron Skylark SLV-600P	Lutron Diva DVLV-600P	Lutron Ceana CNLV-600P	Lutron NTLV-600	MARLIN CONTROLS Stellar DIMMING CABINET P/N 6-3-08- 20-3-103T with RMS 8 Control Unit - approx. 6 Kilo-Watts Total	Lutron QSGRJ-4P + Custom PHPM (forced leading edge) @277Vac (*)
North America									
Q-Tran	Q6S-DC-120-12 (Rectified)	Magnetic	13%	21%	21%	21%		10%	
Q-TRAN	QT10-120/12-TP-RC	Magnetic	9%	24%	24%	24%		8%	
Q-TRAN	QT20-120/12-TP-RC	Magnetic	9%	28%	28%	28%		9%	30%
Q-Tran	QT50-75CK-PT-277-RC	Magnetic							27%
Q-TRAN	QT-50-75CK-PT-RC Date 11/11	Magnetic	10%	23%	23%	23%		1 Lamp: N C 2,3 Lamps: 20%	
Q-TRAN	QT50SV-120/12-RC	Magnetic	13%	30%	30%	30%			
Q-Tran	QTM60-DC+CAP (Rectified + Filtered)	Magnetic	10%	NC	NC	NC		1 Lamp: 10% 2,3 Lamps: N C	

<p style="text-align: center;">Dimmer (120V) →</p> <p style="text-align: center;">Transformer (120V) ↓</p>			Creston CLS-C6(Any Suffix)	Creston CLS-EXP-DIM	Creston CLS-EXP-DIMU	Creston CLX-1DIM\$, CLX-1DIM8, CLX-2DIM2, CLX-2DIM8	Creston CLS-1DELV4	Creston DIN-1DIM4	Creston DIN1DIMU4	Creston CLW-DIM(any suffix), P-DIMEX	Creston GLX-DIM6	Creston GLXX-2DIM8	Creston CLW-DELVEX(any suffix)	Forbes & Lomax FLRL603P	
		North America													
Hatch	LS12-50EN	Magnetic													NC
Q-TRAN	QT50SV-120/12-RC	Magnetic													NC
TechnoMagnet	ODC75S12	Magnetic	12%	10%	NC	14%	NC	8%	NC	8%	8%	8%	NC		

<p style="text-align: center;">TESTED BY DIMMER/TRANSFORMER MANUFACTURER</p> <p style="text-align: center;">Transformer ↓</p>		<p style="text-align: center;">Dimmer →</p>	ETC		
			(Unison DRd) D20	(Unison Legacy) D20	(Sensor 3) D20
North America					
Q-TRAN	Q6S-300	Magnetic	TESTED	TESTED	TESTED

SORAA AR111 12V 12.5W - 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 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