

D010 Drivers

D010 250 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	278	343	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	278	343	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	278	280	93	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	300	300	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	300	300	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	551	941	100	1	<1s

D010 500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	133	174	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	133	174	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	133	157	93	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	213	300	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	213	300	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	266	533	100	1	<1s

D010 750 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	96	129	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	96	129	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	96	116	100	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	154	300	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	154	300	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	192	410	100	1	<1s

D010 Drivers

D010 1000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	97	130	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	97	130	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	97	118	93	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	156	300	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	156	300	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	195	421	100	1	<1s

D010 1500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	60	83	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	60	83	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	60	75	94	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	96	20	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	96	20	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	121	26	100	1	<1s

D010 2000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	43	60	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	43	60	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	43	54	93	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	69	158	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	69	158	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	86	197	100	1	<1s

D010 Drivers

D010 2500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	30	42	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	30	42	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	30	38	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	48	109	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	48	109	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	60	136	100	1	<1s

D010 3000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	29	41	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	29	41	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	29	37	92	1	<1s
Lutron	DIVA	DVTV	0-10V	1	47	107	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	59	134	100	1	<1s

D010 3500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	24	33	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	24	33	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	24	30	100	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	38	84	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	38	84	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	48	105	100	1	<1s

D010 Drivers

D010 4000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	19	27	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	19	27	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	19	24	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	31	70	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	31	70	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	39	88	100	1	<1s

D010 4500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	19	26	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	19	26	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	19	23	93	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	30	68	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	30	68	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	38	85	100	1	<1s

D010 5000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	33	46	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	33	46	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	33	42	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	54	120	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	54	120	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	67	150	100	1	<1s

D010 Drivers

D010 5500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	31	43	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	31	43	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	31	39	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	50	113	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	50	113	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	62	141	100	1	<1s

D010 6000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	14	20	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	14	20	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	14	18	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	23	50	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	23	50	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	29	62	100	1	<1s

D010 6500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	13	19	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	13	19	100	1	<1s
Leviton	Illumatech	IP710-DL	0-10V	1	13	17	93	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	22	47	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	22	47	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	27	59	100	1	<1s

D010 Drivers

D010 7000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	12	17	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	12	17	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	12	15	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	19	43	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	19	43	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	24	54	100	1	<1s

D010 7500 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	11	16	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	11	16	≤ 100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	11	14	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	18	41	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	18	41	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	23	51	100	1	<1s

D010 8000 Lumens

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Minimum Lamps or Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit) at 120V	Maximum Recommended Luminaires (per circuit) at 277V	Max Dimming percentage (%)	Min Dimming percentage (%)	Low End Start Time
Eaton	Slide Dimmer	SF10P	0-10V	1	10	14	100	1	<1s
Eaton	Decorator Dimmer	DF10P	0-10V	1	10	14	100	1	<1s
Leviton	Illuminatech	IP710-DL	0-10V	1	10	13	92	1	<1s
Lutron	NTFTV	NOVA T	0-10V	1	16	37	100	1	<1s
Lutron	DIVA	DVTV	0-10V	1	16	37	100	1	<1s
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	21	46	100	1	<1s

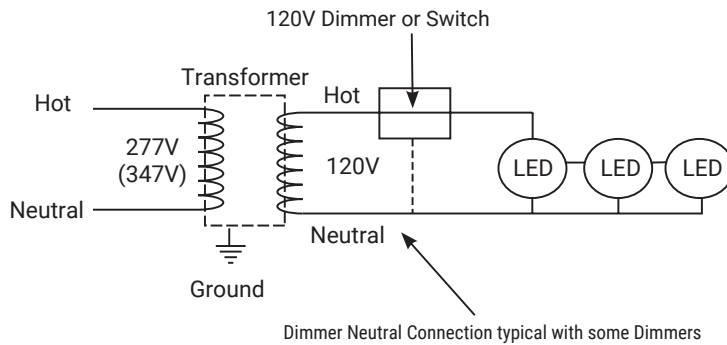
Dimmer Notes:

- 1) Start time is measured at the lowest dimmer setting.
- 2) Some LED dimmers have a "rapid start" design used to provide a momentary power boost to LED and CFL lamps during start-up. When a LED luminaire is on a dimmer with "rapid start" the boost may cause a momentary flash of the LED lighting. This "flash" is generated by the dimmer, and may be more noticeable when the dimmer is at a low setting. A solution is available with EATON dimmers which provide adjustment capability of the "rapid start": Devine (DAL06P), Accell (AAL06P), and Trace (TAL06P). Refer to product specifications online at www.eaton.com for more details.

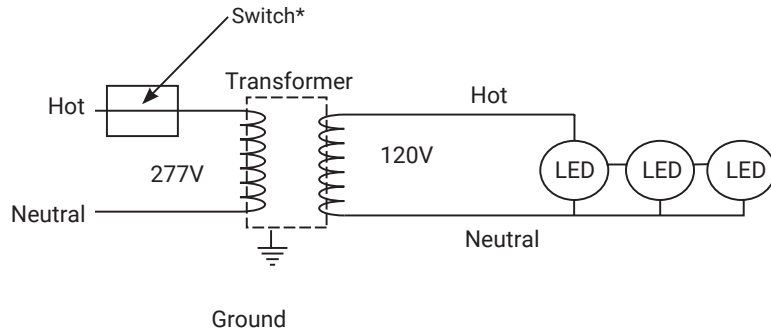
Dimming Guide Disclaimer:

- 1) Leviton® is a registered trademark of Leviton Manufacturing Co. Inc.; Lutron® is a registered trademark of Lutron Electronics Co. Inc.; Lightolier® is a registered trademark of Philips Lighting; Hubbell® is a registered trademark of Hubbell Incorporated; Legrand® and Pass & Seymour® are registered trademarks of Legrand®; Eaton® is a registered trademark of Eaton Corporation. These companies and their tradenames, trademarks or brands, where noted, are associated with their respective company and are not associated with Cooper Lighting Solutions.
- 2) Testing conducted by Cooper Lighting Solutions is not a substitute for and does not imply certification by an independent laboratory or any other standards certification. Refer to the manufacturer specifications for more detailed information on product certifications and standards.
- 3) This is a representative list of typical dimmers as tested by Cooper Lighting Solutions for performance with the designated LED luminaires only. Test data contained in this literature is based upon dimmers obtained in the marketplace. Information about these other manufacturers products is obtained from packaging and published information made available by the manufacturer and is deemed to be reliable, but has not been verified. Dimmer performance and perceived limitations of the dimmers are based on factors outside of Cooper Lighting Solutions' control. The specifications of these dimming controls and their conditions of use may change without notice to Cooper Lighting Solutions or any other user. Cooper Lighting Solutions makes no specific recommendation on product selection and there are no warranties of performance or compatibility implied. Installer must ensure proper local and national electrical codes are followed; and that the dimmer application and condition of use is per dimmer manufacturer instructions and guidelines.

**Transformer with Dimmer/
Switch on 120V Secondary**

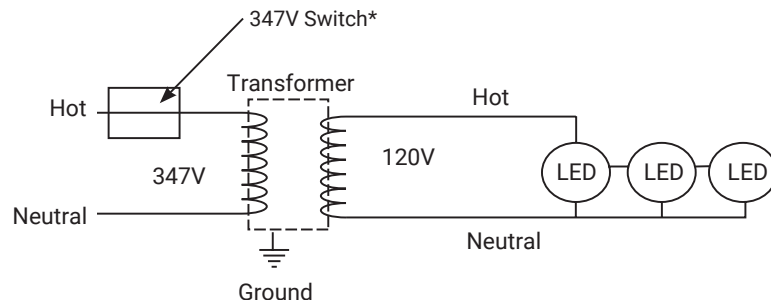


Transformer with Switch on 277V Primary



*Use of a dimmer ahead of the transformer is not recommended

Transformer with Switch on 347V Primary



Application Note

H277, H347 and H347200 step-down transformers are qualified to drive multiple Halo LED on a single circuit in Non-IC construction. Installation of these transformers with individual LED fixtures on circuits with multiple LED loads is not recommended. This is not recommended due to resulting multiple inductive currents pulled by each transformer; in this situation the majority of the power would then be reactive (VARS) and not real (WATTS). If H277, H347 or H347200 transformers should be used individually on each LED fixture in a single circuit, then that circuit should be sized for lowered power factor as well as increased apparent power on the circuit. H277, H347 and H347200 are UL/cUL listed for use with Halo recessed housings: H750T, H750TCP, H7T, H7TNB, H7RT.

Step Down Transformers

H277 = Steps 277 line voltage down to 120 volts. Attaches to knockout on first fixture's junction box in a circuit and is 300VA rated. H277 is a UL recognized Component listed under the luminaire UL/cUL listing for Halo Non-IC housings.

H347 and H347200 = Steps 347 line voltage down to 120 volts. Attaches to knockout on first fixture's junction box in a circuit. H347 is 75VA and H347200 is 200VA rated. H347 is a CSA/UL Listed Component for use under the luminaire UL/cUL listing with Halo Non-IC housings.

Transformer Load - H277 (300VA)

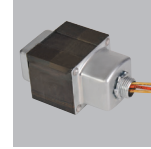
1. H277 Transformer at full loading consumes a maximum of 16W of power.
2. When a dimmer or switch is on the secondary (120V) side of the transformer, power is consumed by the transformer when the dimmer or switch is in "OFF" mode at 6.5W and in "ON" mode at 16W maximum under full loading.
3. When a switch is on the primary (277V) side ahead of the transformer, power is consumed only in "ON" mode to a maximum of 16W under full loading. (Use of a dimmer ahead of the transformer is not recommended)

Transformer Load - H347 (75VA)

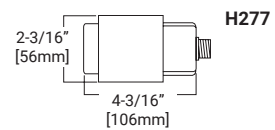
1. H347 Transformer at full loading consumes a maximum of 15W of power.
2. When a dimmer or switch is on the secondary (120V) side of the transformer, power is consumed by the transformer when the dimmer or switch is in "OFF" mode at 2.5W and in "ON" mode at 15W maximum under full loading.
3. When a switch is on the primary (347V) side ahead of the transformer, power is consumed only in "ON" mode to a maximum of 15W under full loading. (Use of a dimmer ahead of the transformer is not recommended)

Transformer Load - H347200 (200VA)

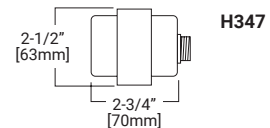
1. H347200 Transformer at full loading on 120V side consumes a maximum of 28W of power.
2. When a dimmer or switch is on the secondary (120V) side of the transformer, power is consumed by the transformer when the dimmer or switch is in "OFF" mode at 9.2W and in "ON" mode at 28W maximum under full loading.
3. When a switch is on the primary (347V) side ahead of the transformer, power is consumed only in "ON" mode to a maximum of 28W under full loading. When a switch is on the primary (277V) side ahead of the transformer, power is consumed only in "ON" mode to a maximum of 12W under full loading. (Use of a dimmer ahead of the transformer is not recommended)



H277
277V Step Down Transformer,
300VA



H347
347V Step Down Transformer, 75VA



H347200
347V Step Down Transformer,
200VA

