Dimming Guide and Step-down Transformer Application Note

HALO

SMD12 and SMD14 / 0-10V Dimming

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	34	49	100	4	<1S
Eaton	Decorator Dimmer	DF10P	0-10V	1	34	49	100	4	<1S
Leviton	Illumatech	IP710-DL	0-10V	1	34	44	100	4	<1S
Lutron	NTFTV	NOVA T	0-10V	1	55	121	100	4	<1S
Lutron	DIVA	DVTV	0-10V	1	55	121	100	4	<1S
Cooper Lighting Solutions	iLumin	SC277-06	0-10V	1	55	121	100	5	<1S
Cooper Lighting Solutions	Greengate	CK4A	0-10V	1	68	152	100	4	<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/lighting for more details.

Dimming Guide Disclaimer:

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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.
- 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)

SMD - Surface LED Downlight Series

SMD Maximum Units on Step Down Transformer Powered Circuits VA Rating		SMD4, SMD6 - 80 CRI SMD4 - 90 CRI Max # of Fixtures	SMD6 - 90 CRI Max # of Fixtures		
H277	300	18	16		
H347	75	4	4		
H347200	200	12	10		



H277 277V Step Down Transformer, 300VA





H347 347V Step Down Transformer, 75VA





H347200 347V Step Down Transformer, 200VA





Transformer with Dimmer/Switch on 120V Secondary



Transformer with Switch on 277V Primary



Ground

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

Transformer with Switch on 347V Primary



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



Cooper Lighting Solutions 1121 Highway 74 South Peachtree City, GA 30269 P: 770-486-4800 www.cooperlighting.com

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