LT56 High Lumen Retrofit LED Downlight Series

Dimming Guide and Step-down Transformer Application Note

HALO

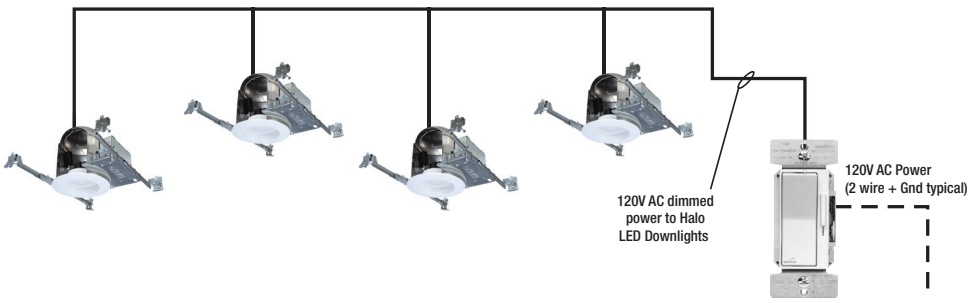
The LT56 High Lumen LED Series provides continuous dimming with reverse or forward phase cut dimmers.

LT56 - 1200 lumen

LT560WH12927
LT560WH12930
LT560WH12935
LT560WH12940
LT560WH12950

Phase Control Dimming

LT56 High Lumen recessed housing installation.



Compatible Dimmers

Dimmer Make	Dimmer Series	Dimmer Model #	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Min Dimming percentage (%)	Max Dimming percentage (%)	Low End Start Time
Lutron	RadioRA 2	RRD-6NA	1	12	10%	98%	<1s
Lutron	Maestro Wireless	MRF2-6ELV	1	12	10%	98%	<1s
Lutron	HomeWorks QS	HQRD-6NA	1	12	10%	98%	<1s
Lutron	Power Modules	PHPM-PA with Grafik Eye QS Main Unit	1	149	10%	99%	<1s
Lutron	Power Modules	PHPM-WBX with 3-wire fluorescent control	1	149	10%	99%	<1s
Lutron	HomeWorks QS/myRoom	LQSE-4A1-D	1	9	10%	100%	<1s
Lutron	HomeWorks QS/myRoom	MQSE-4A1-D	1	9	10%	100%	<1s
Lutron	HomeWorks QS/myRoom	MQSE-3A1	1	9	10%	100%	<1s
Lutron	HomeWorks QS/myRoom	MQSE-2A1-D	1	9	10%	100%	<1s
Lutron	Grafik T	GT-5NEM	1	20	10%	98%	<1s
Lutron	Grafik T	GTJ-5NEM	1	20	10%	98%	<1s
Lutron	Nova T	NTRP-250	1	20	7%	100%	<1s
Lutron	Caseta Wireless Phase Selectable	PD-5NE	1	20	10%	98%	<1s
Lutron	Vive	MRF2S-6ELV	1	12	10%	98%	<1s
Lutron	HomeWorks QS	LQSE-4A-120-D	1	19	10%	100%	<1s

LT56 High Lumen

For Reference Only

Dimmer Make	Dimmer Series	Dimmer Model #	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Min Dimming percentage (%)	Max Dimming percentage (%)	Low End Start Time
Leviton	Decora	6673	1	38	11%	98%	<1s [2]
Leviton	SureSlide	6674	1	9	1%	99%	<1s
Leviton	SureSlide	6631-2	1	38	0%	99%	N.A.[1]
Leviton	Illumatech	IPL06	1	9	1%	98%	<1s
Leviton	SureSlide	6633-P	1	38	0%	99%	N.A.[1]
Lutron	Toggler	TG-600P	1	38	1%	98%	>1s [2]
Lutron	Nova T	NTFTU-6A	1	11	16%	98%	<1s
Lutron	Maestro	MAW600	1	38	4%	98%	<1s
Lutron	Toggler	TGCL-153P	1	9	0%	98%	>1s
Lutron	Lumea	LG600P	1	38	0%	98%	N.A.[1]
Lutron	Skylark	SCL-153P-WH	1	9	0%	97%	N.A.[1]
Lutron	Diva	DV603P	1	38	0%	98%	N.A.[1]
Lutron	Diva	DVCL-153P	1	9	0%	97%	<1s
Lutron	Maestro	MACL-153-M	1	9	0%	91%	<1s
Leviton	Vizia	VPE06	1	38	4%	100%	<1s
Leviton	Illumatech	IPE04	1	19	1%	100%	<1s
Leviton	Vizia	VZE04	1	25	6%	100%	<1s
Leviton	Acenti	ATX10	1	64	2%	99%	>1s
Lutron	Maestro	MAELV600	1	38	6%	100%	<1s
Lutron	Faedra	FAELV500	1	32	6%	99%	<1s
Lutron	Diva	DVELV303P	1	19	3%	99%	<1s
Lutron	Skylark	SELV300P	1	19	3%	99%	<1s
Lightolier	Sunrise	ZP260QEW	1	16	2%	99%	<1s
Eaton	Aspire	9530AW	1	38	0%	100%	N.A.[1]
Eaton	Skye	SF8AP	1	61	15%	100%	<1s
Eaton	Devine	DE06P	1	38	1%	91%	<1s
Eaton	React	RI061	1	38	0%	99%	N.A.[1]
Eaton	Toggle	TI061	1	38	0%	88%	N.A.[1]
Lutron	LCP128	LP-RPM-4U-120	1	35	3%	98%	<1s
Lutron	LCP128	LP-RPM-4A-120	1	22	2%	99%	<1s
Lutron	Ariadni	AY-600P	1	38	3%	99%	<1s
Lutron	Contour	CT-103P	1	64	0%	99%	N.A.[1]
Lutron	Contour	CT-600P	1	38	0%	99%	N.A.[1]
Lutron	Rotary	D-600P	1	38	0%	99%	N.A.[1]
Lutron	Diva	DV-600P	1	38	0%	99%	N.A.[1]
Lutron	Glyder	GL-600P	1	38	0%	99%	N.A.[1]
Lutron	Lumia	LG-600PH	1	38	0%	99%	N.A.[1]
Lutron	Maestro	MA-600	1	38	5%	100%	>1s
Lutron	Nova	N-600	1	38	0%	100%	N.A.[1]
Lutron	Skylark	S-600P	1	38	0%	99%	N.A.[1, 2]
Lutron	Centurion	C-600P	1	38	0%	100%	N.A.[1, 2]
Lutron	Ariadni	AYLV-600P	1	28	2%	79%	<1s
Lutron	Glyder	GLV-600	1	28	0%	100%	N.A.[1]
Lutron	Diva	DVLV-600P	1	28	1%	99%	>1s [2]
Lutron	Lumina	LG-103P	1	64	1%	99%	<1s
Lutron	Skylark	SLV-600P	1	28	0%	99%	N.A.[1]
Lutron	Nova	NTLV-600	1	28	3%	100%	<1s
Lutron	Nova	NT-600	1	38	0%	99%	<1s
Eaton	Smart	AAL06	1	19	2%	99%	<1s
Eaton	Devine	TAL06P	1	19	2%	100%	<1s
Eaton	Toggle	DAL06P	1	19	1%	100%	<1s
Eaton	Skye	SAL06P	1	19	2%	100%	<1s
Eaton	Skye	SLC03P	1	19	1%	99%	<1s
Eaton	Devine	DLC03P	1	19	1%	99%	<1s
Eaton	Smart	RF9540-N	1	19	11%	99%	<1s

1. Dim to off.
2. Shimmer at lower dim setting.

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:

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®. These companies and their tradenames, trademarks or brands, where noted, are associated with their respective company and are not associated with EATON.

2) Testing conducted by EATON 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 EATON lighting solutions business 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 EATON's control. The specifications of these dimming controls and their conditions of use may change without notice to EATON lighting solutions or any other user. EATON 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.

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 dimmer or 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)

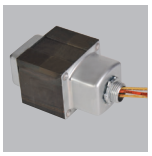
Transformer Load - H347200 (200VA)

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)

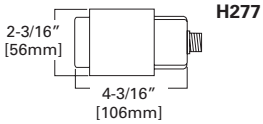
LT56 Retrofit LED Downlight Series

(LT56 Maximum Units on Step Down Transformer Powered Circuits)

		Max # of Fixtures	
Transformer	**VA Rating**	**600 Series**	**900 Series**
H277	300	24	16
H347	75	6	4
H347200	200	16	10

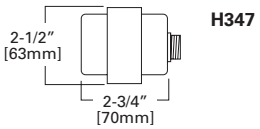


H277
277V Step Down Transformer, 300VA



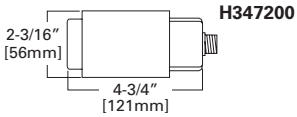


H347
347V Step Down Transformer, 75VA

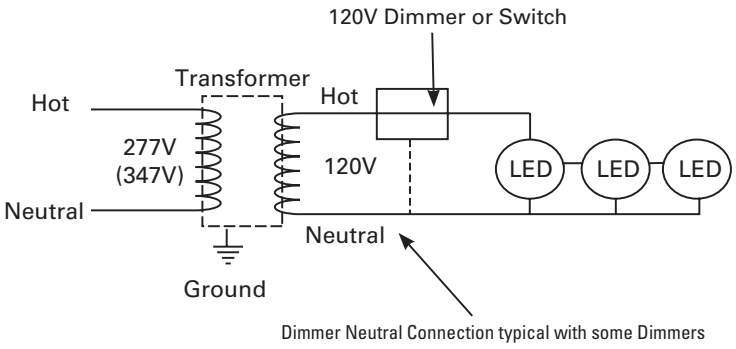




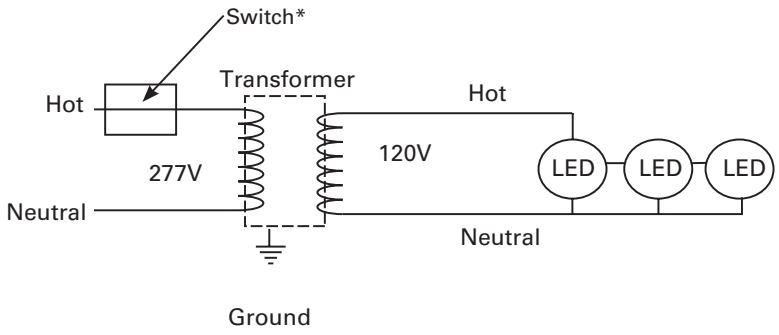
H347200
347V Step Down Transformer, 200VA



Transformer with Dimmer/Switch on 120V Secondary

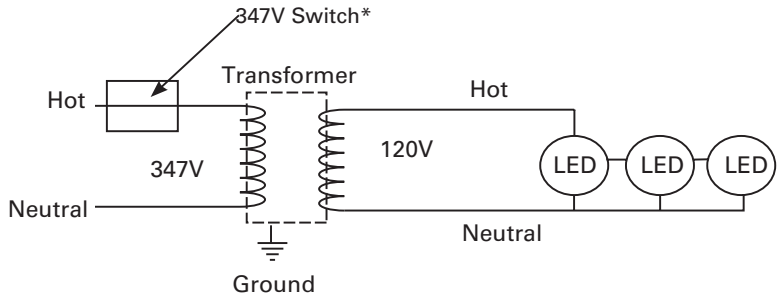


Transformer with Switch on 277V Primary



*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

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Specifications and dimensions
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