

RA & RL Retrofit - Adjustable and LED Downlight Series

Dimming Guide and Step-down Transformer Application Note



The RA & RL LED Series provides continuous dimming with reverse or forward phase cut dimmers.

RL4 Series - 80CRI

RL460WH827PK
RL460WH830PK
RL460WH835PK
RL460WH840PK
RL460WH827
RL460WH830
RL460WH830-C
RL460WH835
RL460WH840

RL56 600 Series - 80CRI

RL560WH6827
RL560WH6830
RL560WH6835
RL560WH6840
RL560WH-R
RL560WH-C
RL560WH6827R
RL560WH6835R
RL560WH6840R

RL56 900 Series - 80CRI

RL560WH9827
RL560WH9830
RL560WH9835
RL560WH9840

RA4 Series

RA406927WH
RA406930WH
RA406927NFLWH
RA406930NFLWH
RA406930WHR

RA56 Series

RA5606927WH
RA5606930WH
RA5606927NFLWH
RA5606930NFLWH
RA5606930WHR

RL4 Series - 90CRI

RL460WH927PK
RL460WH930PK
RL460WH935PK
RL460WH940PK
RL460WH927
RL460WH930
RL460WH935
RL460WH940

RL56 600 Series - 90CRI

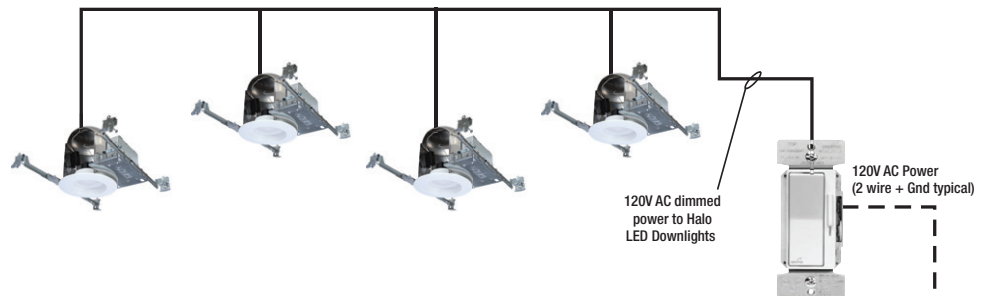
RL560WH6927
RL560WH6930
RL560WH6935
RL560WH6940
RL560WH6927R
RL560WH6930R
RL560WH6935R
RL560WH6940R

RL56 900 Series - 90CRI

RL560WH9927
RL560WH9930
RL560WH9935
RL560WH9940

Phase Control Dimming

RL56 recessed housing installation.



Eaton's AL Series dimmers offer versatile options to set the mood and reduce energy consumption.

Visit www.cooperwiringdevices.com/ALSeries for more information.



***Note:** The Rapid Start feature is used to ensure the right amount of power boost during start-up. When a dimmer with Rapid Start is turned on from a low dimmer setting, the LED lighting may exhibit a momentary flash. Designated dimmer models offer an adjustment of the Rapid Start feature. The user may wish to adjust this setting to reduce the boost and resulting momentary flash. If this capability is desired, the user should select dimmer models noted as "fully adjustable" or "selectable ON or OFF?"

Dimmer Features	ACCELL (AAL06)	DEVINE (DAL06P)	SKYE (SAL06P)	TRACE (TAL06P)
Rapid Start feature*	Selectable ON or OFF	Fully adjustable	Fixed ON	Fully adjustable
Adjustable high-end trim	•	•	•	•
Adjustable low-end trim	•	•	•	•
Wiring configurations	Single-pole or multi-location	Single-pole or 3-way	Single-pole or 3-way	Single-pole or 3-way
Color change kits	•	•	•	•

RL4 & RL56 - 600 Series - 80CRI - 2700K, 3000K, 3500K, 4000K

RL4 Series - 80CRI

RL460WH827PK	RL460WH827
RL460WH830PK	RL460WH830
RL460WH835PK	RL460WH835
RL460WH840PK	RL460WH840
	RL460WH-R
	RL460WH-C
	RL460WH830-C

RL56 600 Series - 80CRI

RL560WH6827	RL560WH6827R
RL560WH6830	RL560WH-R
RL560WH6835	RL560WH-C
RL560WH6840	RL560WH6835R
	RL560WH6840R

LED Rated Dimmers

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Dimmer Max Wattage or Input Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Lutron	Diva	DVCL-153P	INC/HAL/CFL/LED	600(INC/HAL), 150 (LED/CFL)	1	15	90%	1%	≥1 sec
Lutron	Maestro	MACL-153M	INC/CFL/LED	600(INC), 150(LED/CFL)	1	15	83%	1%	≥1 sec
Leviton	IllumaTech	IPL06-10Z	INC/LED/CFL	600(INC), 150(CFL/LED)	1	15	95%	1%	≥1 sec ¹
Leviton	IllumaTech	6674	INC/LED/CFL	600(INC), 150(CFL/LED)	1	15	96%	1%	≤1 sec ¹
EWD	DEVINE	DAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec ²
EWD	ACCELL	AAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	TRACE	TAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	SKYE	SAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	99%	1%	≤1 sec ²
EWD	SKYE	SLC03PC-PTA	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	30	99%	1%	≥1 sec
EWD	DEVINE	DLC03P	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	30	99%	1%	≤1 sec
Legrand	P&S	H703PTUW	LED/CFL/ELV	450(LED/CFL), 700(ELV)	1	36	100%	2%	≤1 sec
ELC	iLumen	SC277-06-UN	Control Platform	20A	1	120	100%	3%	≤1 sec
Lutron	LCP128	LP-RPM-4U-120	Control Platform	16A	1	55	100%	5%	≤1 sec
Lutron	LCP128	LP-RPM-4A-120	Control Platform	16A	1	122	99%	1%	≤1 sec

1. Flash at startup
2. Slight shimmer

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Lighting Controls
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

RA4 & RA56 and RL4 & RL56 - 600 Series - 90CRI - 3000K, 3500K, 4000K

RA4 Series

RA406930WH
RA406930WHR

RA56 600 Series

RA5606930WH
RA5606930WHR

RL4 Series - 90CRI

RL460WH930PK
RL460WH935PK
RL460WH940PK
RL460WH930
RL460WH935
RL460WH940

RL56 600 Series - 90CRI

RL560WH6930
RL560WH6935
RL560WH6940
RL560WH6930R
RL560WH6935R
RL560WH6940R

LED Rated Dimmers

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Dimmer Max Wattage or Input Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Lutron	Diva	DVCL-153P	INC/HAL/CFL/LED	600(INC/HAL), 150 (LED/CFL)	1	15	91%	2%	≤1 sec
Lutron	Maestro	MACL-153M	INC/CFL/LED	600(INC), 150(LED/CFL)	1	15	83%	2%	≤1 sec
Leviton	IllumaTech	IPL06-10Z	INC/LED/CFL	600(INC), 150(CFL/LED)	1	15	97%	1%	≤1 sec
Leviton	IllumaTech	6674	INC/LED/CFL	600(INC), 150(CFL/LED)	1	15	98%	1%	≤1 sec
EWD	DEVINE	DAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	ACCELL	AAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	TRACE	TAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	SKYE	SAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	SKYE	SLC03PC-PTA	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	30	99%	1%	≤1 sec
EWD	DEVINE	DLC03P	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	30	97%	1%	≤1 sec
Legrand	P&S	H703PTUW	LED/CFL/ELV	450(LED/CFL), 700(ELV)	1	36	100%	2%	≤1 sec
ELC	iLumen	SC277-06-UN	Control Platform	20A	1	120	100%	3%	≤1 sec
Lutron	LCP128	LP-RPM-4U-120	Control Platform	16A	1	55	99%	1%	≤1 sec
Lutron	LCP128	LP-RPM-4A-120	Control Platform	16A	1	122	98%	1%	≤1 sec

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Lighting Controls
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

RA4 & RA56 - 600 Series - 90CRI - 2700K and RL4 & RL56 - 600 Series - 90CRI - 2700K

RL4 Series - 90CRI

RL460WH927PK
RL460WH927

RL56 600 Series - 90CRI

RL560WH6927
RL560WH927R

RA4 Series

RA406927WH
RA406927NFLWH

RA56 600 Series

RA5606927WH
RA5606927NFLWH

LED Rated Dimmers

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Dimmer Max Wattage or Input Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Lutron	Diva	DVCL-153P	INC/HAL/CFL/LED	600(INC/HAL), 150 (LED/CFL)	1	15	89%	1%	≥1 sec
Lutron	Maestro	MACL-153M	INC/CFL/LED	600(INC), 150(LED/CFL)	1	15	81%	1%	≥1 sec
Leviton	IllumaTech	IPL06-10Z	INC/LED/CFL	600(INC), 150(CFL/LED)	1	15	92%	1%	≥1 sec
Leviton	IllumaTech	6674	INC/LED/CFL	600(INC), 150(CFL/LED)	1	15	95%	1%	≤1 sec
EWD	DEVINE	DAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec ²
EWD	ACCELL	AAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec ¹
EWD	TRACE	TAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	SKYE	SAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	30	97%	1%	≤1 sec
EWD	SKYE	SLC03PC-PTA	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	30	98%	1%	≤1 sec
EWD	DEVINE	DLC03P	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	30	100%	1%	≤1 sec
Legrand	P&S	H703PTUW	LED/CFL/ELV	450(LED/CFL), 700(ELV)	1	36	100%	2%	≤1 sec
ELC	iLumen	SC277-06-UN	Control Platform	20A	1	120	98%	2%	≤1 sec
Lutron	LCP128	LP-RPM-4U-120	Control Platform	16A	1	55	99%	1%	≤1 sec
Lutron	LCP128	LP-RPM-4A-120	Control Platform	16A	1	122	99%	1%	≤1 sec

1. Flash at startup
2. Slight shimmer

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Lighting Controls
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

RL56 - 900 Series - 80CRI and 90CRI - 2700K, 3000K, 3500K, 4000K

RL56 900 Series - 80CRI

RL560WH9827	RL560WH9827R
RL560WH9830	RL560WH9830R
RL560WH9835	RL560WH9835R
RL560WH9840	RL560WH9840R

RL56 900 Series - 90CRI

RL560WH9927	RL560WH9927R
RL560WH9930	RL560WH9930R
RL560WH9935	RL560WH9935R
RL560WH9940	RL560WH9940R

LED Rated Dimmers

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Dimmer Max Wattage or Input Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Lutron	Diva	DVCL-153P	INC/HAL/CFL/LED	600(INC/HAL), 150 (LED/CFL)	1	12	96%	1%	≥1 sec
Lutron	Maestro	MACL-153M	INC/CFL/LED	600(INC), 150(LED/CFL)	1	12	93%	1%	≥1 sec
Leviton	IllumaTech	IPL06-10Z	INC/LED/CFL	600(INC), 150(CFL/LED)	1	12	98%	1%	≤1 sec
Leviton	IllumaTech	6674	INC/LED/CFL	600(INC), 150(CFL/LED)	1	12	98%	1%	≤1 sec
EWD	DEVINE	DAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	24	99%	1%	≤1 sec ¹
EWD	ACCELL	AAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	24	97%	1%	≤1 sec ²
EWD	TRACE	TAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	24	97%	1%	≤1 sec
EWD	SKYE	SAL06P	INC/HAL/FLR/MLV/ELV/CFL/LED	600(INC/HAL/FLR/MLV/ELV), 300(CFL/LED)	1	24	99%	2%	≤1 sec ¹
EWD	SKYE	SLC03PC-PTA	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	24	99%	1%	≤1 sec
EWD	DEVINE	DLC03P	INC/HAL/CFL/LED	600(INC/HAL), 300(CFL/LED)	1	24	99%	1%	≤1 sec
Legrand	P&S	H703PTUW	LED/CFL/ELV	450(LED/CFL), 700(ELV)	1	29	100%	3%	≤1 sec
ELC	iLumen	SC277-06-UN	Control Platform	20A	1	97	99%	2%	≤1 sec
Lutron	LCP128	LP-RPM-4U-120	Control Platform	16A	1	45	99%	1%	≤1 sec
Lutron	LCP128	LP-RPM-4A-120	Control Platform	16A	1	28	96%	1%	≤1 sec

1. Flash at startup, bright flash after several seconds off
2. Flash at startup, Flicker

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Lighting Controls
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

Incandescent & Electronic Low Voltage Rated Dimmers - For Reference Only

RL4 and RL56 - 600 Series - 80CRI - 2700K, 3000K, 3500K, 4000K

Testing conducted by Cooper Lighting is not a substitute for and does not imply certification by an independent laboratory or any other standards certification. Refer to manufacturer specifications for more detailed information on product certifications and standards. Refer to this dimming guide notes section. Consult the dimmer manufacturer prior to installation to ensure compatibility.

RL56 600 Series - 80CRI

RL560WH6827	RL560WH-C
RL560WH6830	RL560WH-R
RL560WH6835	RL560WH6835R
RL560WH6840	RL560WH6840R

RL4 Series - 80CRI

RL460WH827PK	RL460WH827	RL460WH-R
RL460WH830PK	RL460WH830	RL460WH-C
RL460WH835PK	RL460WH835	
RL460WH840PK	RL460WH840	

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Dimmer Max Wattage or Input Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Leviton	Decora	6673	INC	600(INC), 300(CFL)	1	48	93%	11%	≤1 sec
Leviton	SureSlide	6631-2	INC, CFL	600	1	24	99%	1%	≤1 sec
Leviton	Illumatech	RP106	INC	600	1	48	99%	0%	≤1 sec
Leviton	Illumatech	IP106	INC	600	1	48	100%	1%	≥1 sec
Leviton	Vizia	VP106	INC	600	1	48	90%	1%	≤1 sec
Leviton	Decora	6161	INC	600	1	48	95%	5%	≤1 sec
Leviton	SureSlide	6633-P	INC	500	1	40	99%	0%	>1 sec
Lutron	Toggler	TG-600P	INC	600	1	48	100%	8%	≤1 sec
Lutron	Diva	DV600P	INC/HAL	600	1	48	93%	2%	≤1 sec
Lutron	Lumea	LG600P	INC	600	1	48	95%	4%	≤1 sec
Lutron	Skylark	S600P	INC/HAL	600	1	48	95%	4%	≤1 sec
Lutron	Skylark Contour	CT103P	INC/HAL/MLV	1000	1	80	96%	3%	≤1 sec
Lutron	Diva	DV603P	INC/HAL	600	1	48	94%	5%	≤1 sec
Leviton	Plug In Lamp Dimmer	TBI04	INC	300	1	24	99%	3%	>1 sec
Leviton	Vizia	VPE06	ELV	400	1	32	100%	4%	≤1 sec
Leviton	Illumatech	IPE04	ELV	300	1	24	99%	2%	≤1 sec
Leviton	Vizia	VZE04	ELV	400	1	32	98%	7%	≤1 sec
Lutron	Maestro	MAELV600	ELV	600	1	48	91%	5%	≤1 sec
Lutron	Faedra	FAELV500	ELV	500	1	40	91%	5%	≤1 sec
Lutron	Diva	DVELV303P	ELV	300	1	24	84%	2%	≤1 sec
Lutron	Skylark	SELV300P	ELV	300	1	24	85%	3%	≤1 sec
EWD	Devine	DEL06P	ELV	300	1	24	95%	1%	≤1 sec
Lightolier	Sunrise	ZP260QEW	ELV	260	1	21	87%	3%	≤1 sec
Hubbell	Tradeselect	RD600PDK	INC	600	1	48	90%	1%	≥1 sec
Legrand	P&S	HLV703PTC	MLV	700	1	56	94%	1%	≥1 sec ¹
Legrand	P&S	H703PW	INC	700	1	56	98%	1%	≤1 sec

1. Shimmer may be present

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Lighting Controls
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

Incandescent & Electronic Low Voltage Rated Dimmers - For Reference Only

RL4, RL56, RA4, RA56 - 600 Series - 90CRI - 3000K, 3500K, 4000K

Testing conducted by Cooper Lighting is not a substitute for and does not imply certification by an independent laboratory or any other standards certification. Refer to manufacturer specifications for more detailed information on product certifications and standards. Refer to this dimming guide notes section. Consult the dimmer manufacturer prior to installation to ensure compatibility.

RL56 600 Series - 90CRI

RL560WH6930
RL560WH6935
RL560WH6940
RL560WH6930R
RL560WH6935R
RL560WH6940R

RA56 Series - 90CRI

RA560WH6930WH
RA560WH6930NFLWH
RA560WH6935WH
RA560WH6935NFLWH
RA560WH6940WH
RA560WH6940NFLWH

RL4 Series - 90CRI

RL460WH930PK
RL460WH935PK
RL460WH940PK
RL460WH930
RL460WH935
RL460WH940

RA4 Series - 90CRI

RA406930WH
RA406930NFLWH
RA406935WH
RA406935NFLWH
RA406940WH
RA406940NFLWH

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Dimmer Max Wattage or Input Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Leviton	Decora	6673	INC	600(INC), 300(CFL)	1	48	95%	10%	≤1 sec
Leviton	SureSlide	6631-2	CFL, INC	600	1	48	100%	1%	≤1 sec
Leviton	Illumatech	RP106	INC	600	1	48	100%	0%	>1 sec
Leviton	Illumatech	IPI06	INC	600	1	48	100%	1%	≥1 sec
Leviton	Vizia	VP106	INC	600	1	48	91%	1%	≤1 sec ¹
Leviton	Decora	6161	INC	600	1	48	96%	5%	≤1 sec
Leviton	SureSlide	6633-P	INC	500	1	40	100%	0%	≥1 sec
Lutron	Toggler	TG-600P	INC	600	1	48	100%	7%	≤1 sec
Lutron	Diva	DV600P	INC/HAL	600	1	48	93%	2%	≤1 sec
Lutron	Lumea	LG600P	INC	600	1	48	97%	3%	≤1 sec
Lutron	Skylark	S600P	INC/HAL	600	1	48	96%	3%	≤1 sec
Lutron	Skylark Contour	CT103P	INC/HAL	1000	1	80	96%	3%	≤1 sec
Lutron	Diva	DV603P	INC/HAL	600	1	48	95%	4%	≤1 sec
Leviton	Plug In Lamp Dimmer	TBI04	INC	300	1	24	100%	3%	>1 sec
Leviton	Vizia	VPE06	ELV	400	1	32	100%	3%	≤1 sec
Leviton	Illumatech	IPE04	ELV	300	1	24	100%	2%	≤1 sec ¹
Leviton	Vizia	VZE04	ELV	400	1	32	99%	6%	≤1 sec
Lutron	Maestro	MAELV600	ELV	600	1	48	91%	5%	≤1 sec
Lutron	Faedra	FAELV500	ELV	500	1	40	91%	5%	≤1 sec
Lutron	Diva	DVELV303P	ELV	300	1	24	84%	2%	≤1 sec
Lutron	Skylark	SELV300P	ELV	300	1	24	85%	2%	≤1 sec
EWD	Devine	DEL06P	ELV	300	1	24	96%	1%	≤1 sec
Lightolier	Sunrise	ZP260QEW	ELV	260	1	21	86%	2%	≤1 sec
Hubbell	Tradeselect	RD600PDK	INC	600	1	48	95%	1%	≥1 sec ²
Legrand	P&S	HLV703PTC	MLV	700	1	56	96%	1%	≤1 sec
Legrand	P&S	H703PW	INC	700	1	56	98%	1%	≤1 sec

1. Uneven dimming response
2. Shimmer may be present

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Lighting Controls
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

Incandescent & Electronic Low Voltage Rated Dimmers - For Reference Only

RA4 & RA56 and RL4 & RL56 - 600 Series - 90CRI - 2700K

Testing conducted by Cooper Lighting is not a substitute for and does not imply certification by an independent laboratory or any other standards certification. Refer to manufacturer specifications for more detailed information on product certifications and standards. Refer to this dimming guide notes section. Consult the dimmer manufacturer prior to installation to ensure compatibility.

RL4 Series - 90CRI

RL460WH927PK
RL460WH927

RL56 600 Series - 90CRI

RL560WH6927
RL560WH6927R

RA4 Series

RA406927WH
RA406927NFLWH

RA56 600 Series

RA560WH6927WH
RA560WH6927NFLWH

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Dimmer Max Wattage or Input Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Leviton	Decora	6673	INC	600(INC), 300(CFL)	1	48	94%	9%	≤1 sec
Leviton	SureSlide	6631-2	CFL, INC	600	1	48	97%	0%	≥1 sec
Leviton	Illumatech	RP106	INC	600	1	48	99%	0%	>1 sec
Leviton	Illumatech	IP106	INC	600	1	48	99%	0%	≥1 sec
Leviton	Vizia	VP106	INC	600	1	48	88%	1%	≤1 sec ¹
Leviton	Decora	6161	INC	600	1	48	93%	3%	≤1 sec
Leviton	SureSlide	6633-P	INC	500	1	40	99%	0%	>1 sec
Lutron	Toggler	TG-600P	INC	600	1	48	99%	5%	≤1 sec
Lutron	Diva	DV600P	INC/HAL	600	1	48	91%	1%	≤1 sec
Lutron	Lumea	LG600P	INC	600	1	48	94%	2%	≤1 sec
Lutron	Skylark	S600P	INC/HAL	600	1	48	94%	2%	≤1 sec
Lutron	Skylark Contour	CT103P	INC/HAL	1000	1	80	93%	2%	≤1 sec
Lutron	Diva	DV603P	INC/HAL	600	1	48	93%	4%	≤1 sec
Leviton	Plug In Lamp Dimmer	TBI04	INC	300	1	24	100%	3%	≤1 sec
Leviton	Vizia	VPE06	ELV	400	1	32	100%	2%	≤1 sec
Leviton	Illumatech	IPE04	ELV	300	1	24	100%	1%	≤1 sec ¹
Leviton	Vizia	VZE04	ELV	400	1	32	96%	5%	≤1 sec
Lutron	Maestro	MAELV600	ELV	600	1	48	89%	4%	≤1 sec
Lutron	Faetra	FAELV500	ELV	500	1	40	89%	4%	≤1 sec
Lutron	Diva	DVELV303P	ELV	300	1	24	79%	2%	≤1 sec
Lutron	Skylark	SELV300P	ELV	300	1	24	81%	2%	≤1 sec
EWD	Devine	DEL06P	ELV	300	1	24	94%	1%	≤1 sec
Lightolier	Sunrise	ZP260QEW	ELV	260	1	21	83%	2%	≤1 sec
Hubbell	Tradeselect	RD600PDK	INC	600	1	48	95%	1%	≥1 sec ²
Legrand	P&S	HLV703PTC	MLV	700	1	56	96%	1%	≤1 sec
Legrand	P&S	H703PW	INC	700	1	56	98%	1%	≤1 sec

1. Uneven dimming response
2. Shimmer may be present

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Cooper Controls Business
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

Incandescent & Electronic Low Voltage Rated Dimmers - For Reference Only

RL56 - 900 Series - 80CRI & 90CRI - 2700K, 3000K, 3500K, 4000K

Testing conducted by Cooper Lighting is not a substitute for and does not imply certification by an independent laboratory or any other standards certification. Refer to manufacturer specifications for more detailed information on product certifications and standards. Refer to this dimming guide notes section. Consult the dimmer manufacturer prior to installation to ensure compatibility.

RL56 900 Series - 80CRI

RL560WH9827
RL560WH9830
RL560WH9835
RL560WH9840

RL56 900 Series - 90CRI

RL560WH9927
RL560WH9930
RL560WH9935
RL560WH9940

Dimmer Make	Dimmer Series	Dimmer Model #	Types of Dimmer	Dimmer Max Wattage	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
Leviton	Decora	6673	CFL, INC	600(INC), 300(CFL)	1	39	97%	8%	≤1 sec
Leviton	SureSlide	6631-2	INC	600	1	39	99%	2%	≤1 sec
Leviton	Illumatech	RP106	INC	600	1	39	100%	0%	>1 sec
Leviton	Illumatech	IPI06	INC	600	1	39	100%	2%	≥1 sec
Leviton	Vizia	VP106	INC	600	1	39	97%	1%	≤1 sec
Leviton	Decora	6161	INC	500	1	32	98%	6%	≤1 sec
Leviton	SureSlide	6633-P	INC	600	1	39	100%	0%	>1 sec
Lutron	Toggler	TG-600P	INC	600	1	39	97%	10%	≤1 sec
Lutron	Diva	DV600P	INC/HAL	600	1	39	98%	3%	≤1 sec
Lutron	Lumea	LG600P	INC	600	1	39	98%	4%	≤1 sec
Lutron	Skylark	S600P	INC/HAL	600	1	39	98%	4%	≤1 sec
Lutron	Skylark Contour	CT103P	INC/HAL/MLV	1000	1	65	98%	3%	≤1 sec
Lutron	Diva	DV603P	INC/HAL	600	1	39	98%	6%	≤1 sec
Leviton	Plug In Lamp Dimmer	TBI04	INC	300	1	19	100%	5%	>1 sec
Leviton	Vizia	VPE06	ELV	400	1	26	100%	3%	≤1 sec
Leviton	Illumatech	IPE04	ELV	300	1	19	100%	2%	≤1 sec ¹
Leviton	Vizia	VZE04	ELV	400	1	26	99%	7%	≤1 sec
Lutron	Maestro	MAELV600	ELV	600	1	39	96%	5%	≤1 sec
Lutron	Faetra	FAELV500	ELV	500	1	32	96%	5%	≤1 sec
Lutron	Diva	DVELV303P	ELV	300	1	19	92%	2%	≤1 sec
Lutron	Skylark	SELV300P	ELV	300	1	19	92%	2%	≤1 sec
EWD	Devine	DEL06P	ELV	300	1	19	98%	1%	≤1 sec
Lightolier	Sunrise	ZP260QEW	ELV	260	1	17	93%	2%	≤1 sec
Hubbell	Tradeselect	RD600PDK	INC	600	1	38	96%	1%	≥1 sec ²
Legrand	P&S	HLV703PTC	MLV	700	1	45	98%	1%	≤1 sec
Legrand	P&S	H703PW	INC	700	1	45	98%	1%	≤1 sec

1. Uneven dimming response
2. Shimmer may be present

Dimmer Make or Series

EWD = Eaton's Wiring Devices
ELC = Eaton's Cooper Controls Business
P&S = Pass & Seymour Harmony

Dimmer Rating - Load Type

INC = Incandescent
HAL = Halogen
MLV = Magnetic Low Voltage
ELV = Electric Low Voltage
CFL = Compact Fluorescent
FLR = Fluorescent

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 wiring devices business AL series 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) EATON lighting controls is a unit of EATON lighting solutions, and with EATON wiring devices, these are businesses of EATON; in which their product names, where identified, are tradenames or trademarks of EATON or its Affiliates. 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 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 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)

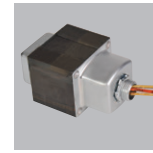
Transformer Load - H347200 (200VA)

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)

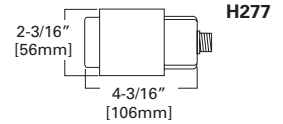
RL56 Retrofit LED Downlight Series

(RL56 Maximum Units on Step Down Transformer Powered Circuits)

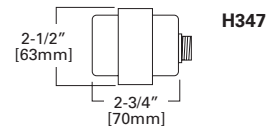
Transformer	VA Rating	Max # of Fixtures	
		600 Series	900 Series
H277	300	24	16
H347	75	6	4
H347200	200	16	10



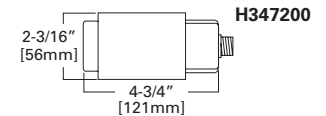
H277
277V Step Down Transformer, 300VA



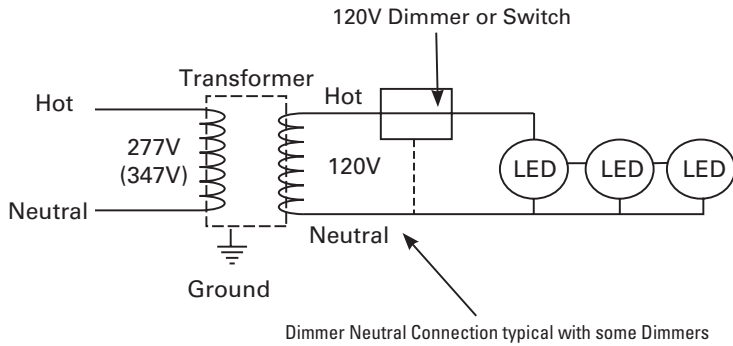
H347
347V Step Down Transformer, 75VA



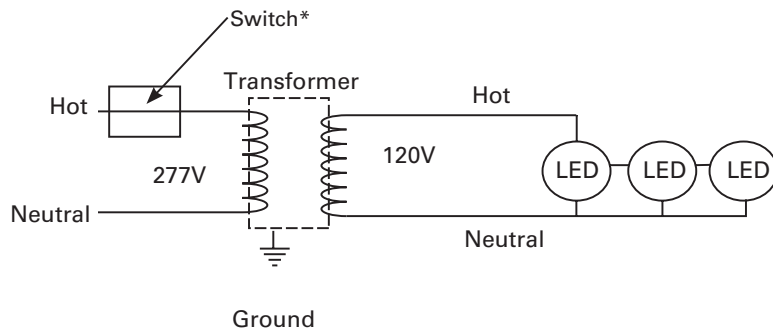
H347200
347V Step Down Transformer, 200VA



Transformer with Dimmer/Switch on 120V Secondary

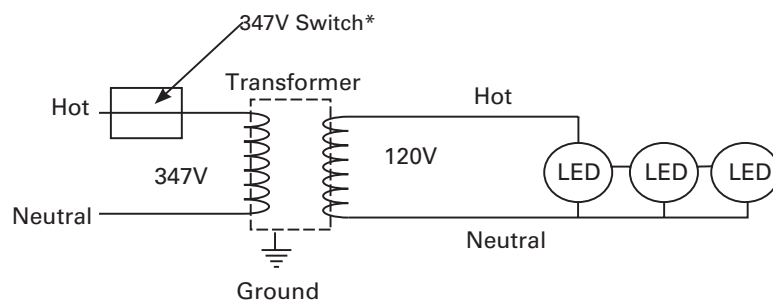


Transformer with Switch on 277V Primary



*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