

SLD - Surface LED Downlight Series

Dimming Guide and Step-down Transformer Application Note

HALO

The SLD LED Series provides continuous dimming with reverse or forward phase cut dimmers; as low as 5% depending upon dimmer and low-end trim of the dimmer.

SLD4

SLD405827WH	SLD405827WHJB	SLD405827WHR
SLD405830WH	SLD405830WHJB	SLD405830WHR
SLD405835WH	SLD405835WHJB	SLD405927WHR
SLD405840WH	SLD405840WHJB	SLD405930WHR
SLD405927WH	SLD405927WHJB	SLD405830WHC
SLD405930WH	SLD405930WHJB	SLD405840WHC
SLD405935WH	SLD405935WHJB	
SLD405940WH	SLD405940WHJB	

SLD6

SLD606827WH	SLD606827WHJB	SLD606827WHR
SLD606830WH	SLD606830WHJB	SLD606830WHR
SLD606835WH	SLD606835WHJB	SLD606830WHC
SLD606840WH	SLD606840WHJB	SLD606927WHR
SLD606927WH	SLD606927WHJB	SLD606930WHR
SLD606930WH	SLD606930WHJB	
SLD606935WH	SLD606935WHJB	
SLD606940WH	SLD606940WHJB	

Phase Control 120V Dimming

Figure 1

Recessed Housing Installation

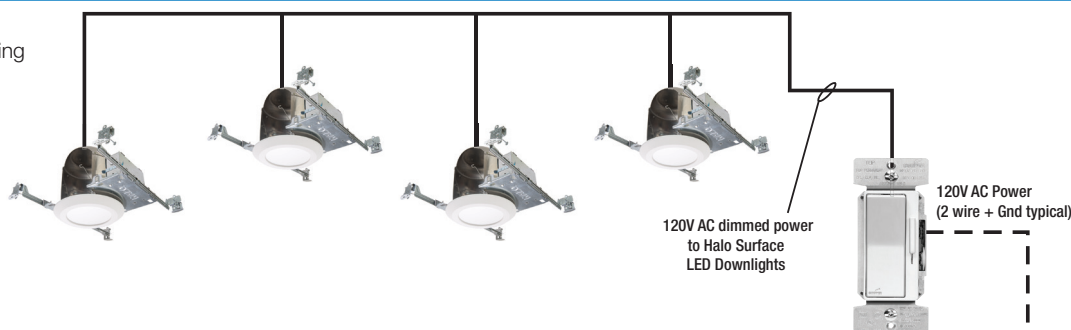


Figure 2

Junction Box 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.



Dimmer Features	Smart dimmer AAL06/WBSD-SMT	Decorator dimmer DAL06P/WBSD-DEC	Slide dimmer SAL06P/WBSD-SLD	Toggle dimmer TAL06P/WBSD-TOG
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	•	•	•	•

*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. Select 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 designated as "fully adjustable" or "selectable ON or OFF".

LED Rated Dimmers

SLD4

SLD405827WH	SLD405827WHJB	SLD405827WHR
SLD405830WH	SLD405830WHJB	SLD405830WHR
SLD405835WH	SLD405835WHJB	SLD405927WHR
SLD405840WH	SLD405840WHJB	SLD405930WHR
SLD405927WH	SLD405927WHJB	SLD405830WHC
SLD405930WH	SLD405930WHJB	SLD405840WHC
SLD405935WH	SLD405935WHJB	
SLD405940WH	SLD405940WHJB	

SLD6

SLD606827WH	SLD606827WHJB	SLD606827WHR
SLD606830WH	SLD606830WHJB	SLD606830WHR
SLD606835WH	SLD606835WHJB	SLD606830WHC
SLD606840WH	SLD606840WHJB	

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Decorator	DAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	96%	4%	<1 Sec
EATON	Smart	AAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	89%	3%	<1 Sec
EATON	Toggle	TAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	99%	6%	<1 Sec
EATON	Slide	SAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	96%	6%	<1 Sec ¹
EATON	Slide	SLC03PC-PTA	INC/HAL/CFL/LED	1	24	91%	5%	<1 Sec
EATON	Toggle	DLC03P	INC/HAL/CFL/LED	1	24	93%	2%	<1 Sec
EATON	ilumin	SC 277-06-UN	Control Panel (Leading Edge)	1	46	99%	6%	<1 Sec ²
Lutron	Diva	DVCL-153P	INC/HAL/CFL/LED	1	12	85%	5%	<1 Sec
Lutron	Toggler	TGCL-153P	INC/HAL/CFL/LED	1	12	86%	5%	<1 Sec
Lutron	Maestro	MACL-153-M	INC/HAL/CFL/LED	1	12	76%	5%	<1 Sec
Lutron	Skylark	SCL-153P-WH	INC/HAL/CFL/LED	1	12	85%	5%	<1 Sec
Lutron	LC128	LP-RPM-4U-120	Control Panel (Leading Edge)	1	122	94%	5%	<1 Sec
Lutron	LC128	LP-RPM-4A-120	Control Panel (Trailing Edge)	1	76	88%	5%	<1 Sec
Leviton	SureSlide	6674	INC/LED/CFL	1	12	89%	4%	<1 Sec
Leviton	Illumatech	IPL06	INC/LED/CFL	1	12	87%	3%	<1 Sec
Legrand	Pass & Seymour	H703PTUW	EFL/MLV/INC/ELV/HAL/CFL/LED	1	36	100%	3%	<1 Sec

1. Mild flashes at startup
2. Slight shimmer

Dimmer Rating - Load Type

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

LED Rated Dimmers

SLD6

SLD606927WH	SLD606927WHJB	SLD606927WHR
SLD606930WH	SLD606930WHJB	SLD606930WHR
SLD606935WH	SLD606935WHJB	
SLD606940WH	SLD606940WHJB	

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Decorator	DAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	98%	3%	<1 Sec
EATON	Smart	AAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	89%	4%	<1 Sec
EATON	Toggle	TAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	97%	5%	<1 Sec
EATON	Slide	SAL06P	INC/HAL/MLV/ELV/CFL/LED	1	24	98%	6%	<1 Sec ¹
EATON	Slide	SLC03PC-PTA	INC/HAL/CFL/LED	1	24	93%	7%	<1 Sec
EATON	Toggle	DLC03P	INC/HAL/CFL/LED	1	24	95%	8%	<1 Sec
EATON	ilumin	SC 277-06-UN	Control Panel (Leading Edge)	1	46	98%	13%	<1 Sec
Lutron	Diva	DVCL-153P	INC/HAL/CFL/LED	1	12	82%	8%	<1 Sec
Lutron	Toggler	TGCL-153P	INC/HAL/CFL/LED	1	12	87%	6%	<1 Sec
Lutron	Maestro	MACL-153-M	INC/HAL/CFL/LED	1	12	74%	9%	<1 Sec
Lutron	Skylark	SCL-153P-WH	INC/HAL/CFL/LED	1	12	82%	8%	<1 Sec
Lutron	LC128	LP-RPM-4U-120	Control Panel (Leading Edge)	1	122	93%	2%	<1 Sec
Lutron	LC128	LP-RPM-4A-120	Control Panel (Trailing Edge)	1	76	85%	5%	<1 Sec
Leviton	SureSlide	6674	INC/LED/CFL	1	12	91%	2%	<1 Sec ^{1,2}
Leviton	Illuminatech	IPL06	INC/LED/CFL	1	12	89%	3%	<1 Sec ^{1,2}
Legrand	Pass & Seymour	H703PTUW	EFL/MLV/INC/ELV/HAL/CFL/LED	1	36	99%	3%	<1 Sec ^{1,2}

1. Mild flashes at startup
2. Blinks at power on

Dimmer Rating - Load Type

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LED Rated Dimmers

SLD6

SLD612827WH SLD612927WH
 SLD612830WH SLD612930WH
 SLD612835WH SLD612935WH
 SLD612840WH SLD612940WH

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Decorator	DAL06P	Triac (INC/HAL/MLV/ELV/CFL/LED)	1	24	95%	3%	<1sec;
EATON	Smart	AAL06P	Triac(INC/HAL/MLV/ELV/CFL/LED)	1	24	87%	3%	<1sec;
EATON	Toggle	TAL06P	Triac(INC/HAL/MLV/ELV/CFL/LED)	1	24	96%	9%	<1sec;
EATON	Slide	SAL06P	Triac(INC/HAL/MLV/ELV/CFL/LED)	1	24	95%	5%	<1sec;
EATON	Slide	SLC03PC-PTA	Triac (INC/HAL/CFL/LED)	1	24	92%	2%	<1sec;
EATON	Toggle	DLC03P	Triac (INC/HAL/CFL/LED)	1	24	94%	1%	<1sec;
EATON	ilumin	SC 277-06-UN	Control Panel(Leading Edge)	1	107	98%	7%	<1sec;
Lutron	Diva	DVCL-153P	Triac (INC/HAL/CFL/LED)	1	12	84%	4%	<1sec;
Lutron	Toggle	TGCL-153P	Triac (INC/HAL/CFL/LED)	1	12	85%	10%	2<t<10sec;
Lutron	Maestro	MACL-153-M	Triac (INC/HAL/CFL/LED)	1	12	76%	3%	<1sec;
Lutron	Skylark	SCL-153P-WH	Triac (INC/HAL/CFL/LED)	1	12	84%	1%	<1sec;
Lutron	LC128	LP-RPM-4A-120	Control Panel (Leading Edge)	1	11	84%	4%	<1sec;
Lutron	LC128	LP-RPM-4U-120	Control Panel (Trailing Edge)	1	96	93%	2%	<1sec;
Leviton	SureSlide	6674	Triac (INC/LED/CFL)	1	12	88%	1%	<1sec;
Leviton	Ilumatech	IPL06	Triac (INC/LED/CFL)	1	12	85%	1%	<1sec;

Dimmer Rating - Load Type

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HAL = Halogen **CFL** = Compact Fluorescent
MLV = Magnetic Low Voltage **FLR** = Fluorescent

LED Rated Dimmers

SLD6 -1200 Series UNV

SLD612827WHUNVJB	SLD612927WHUNVJB
SLD612830WHUNVJB	SLD612930WHUNVJB
SLD612835WHUNVJB	SLD612935WHUNVJB
SLD612840WHUNVJB	SLD612940WHUNVJB

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Devine	DAL06P	Triac (INC/HAL/MLV/ELV/CFL/LED)	1	20	98%	3%	<1sec
EATON	Smart	AAL06P	Triac (INC/HAL/MLV/ELV/CFL/LED)	1	20	98%	4%	<1sec
EATON	Toggle	TAL06P	Triac (INC/HAL/MLV/ELV/CFL/LED)	1	20	98%	15%	<1sec
EATON	Skye	SAL06P	Triac (INC/HAL/MLV/ELV/CFL/LED)	1	20	98%	7%	<1sec
EATON	Skye	SLC03PC-PTA	Triac (INC/HAL/CFL/LED)	1	20	98%	5%	<1sec
EATON	Toggler	DLC03P	Triac (INC/HAL/CFL/LED)	1	20	98%	5%	<1sec
EATON	iLumen	SC 277-06-UN	Control Panel (Leading Edge)	1	8	98%	12%	<1sec
Lutron	Diva	DVCL-153P	Triac (INC/HAL/CFL/LED)	1	10	98%	5%	<1sec
Lutron	Toggler	TGCL-153P	Triac (INC/HAL/CFL/LED)	1	10	98%	5%	2<t<10sec ¹
Lutron	Maestro	MACL-153-M	Triac (INC/HAL/CFL/LED)	1	10	98%	5%	<1sec
Lutron	Skylark	SCL-153P-WH	Triac (INC/HAL/CFL/LED)	1	10	98%	5%	<1sec ²
Lutron	LC128	LP-RPM-4U-120	Control Panel (Leading Edge)	1	7	98%	1%	2<t<10sec
Lutron	LC128	LP-RPM-4A-120	Control Panel (Trailing Edge)	1	81	98%	5%	<1sec
Leviton	SureSlide	6674	Triac (INC/LED/CFL)	1	10	98%	1%	<1sec
Leviton	Illumatech	IPL06	Triac (INC/LED/CFL)	1	10	98%	1%	<1sec
Legrand	Pass & Seymour Harmony	H703PTUW	Triac (EFL/MLV/INC/ELV/HAL/CFL/LED)	1	30	99%	10%	<1sec

1. 5% 3 seconds
2. flashes with every switch turning on

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SLD4

SLD405827WH	SLD405827WHJB	SLD405827WHR
SLD405830WH	SLD405830WHJB	SLD405830WHR
SLD405835WH	SLD405835WHJB	SLD405927WHR
SLD405840WH	SLD405840WHJB	SLD405930WHR
SLD405927WH	SLD405927WHJB	SLD405830WHC
SLD405930WH	SLD405930WHJB	SLD405840WHC
SLD405935WH	SLD405935WHJB	
SLD405940WH	SLD405940WHJB	

SLD6

SLD606827WH	SLD606827WHJB	SLD606827WHR
SLD606830WH	SLD606830WHJB	SLD606830WHR
SLD606835WH	SLD606835WHJB	SLD606830WHC
SLD606840WH	SLD606840WHJB	

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Toggle	TI-061	INC/HAL	1	38	70%	8%	<1 Sec
EATON	Aspire	9530AW	INC	1	38	99%	4%	<1 Sec
EATON	Rotary	RI061	INC/HAL	1	38	96%	9%	<1 Sec ¹
EATON	Slide	SF8AP	CFL	1	76	74%	8%	<1 Sec
EATON	Decorator	DE06P	ELV	1	38	95%	10%	>10 Sec
Lutron	Toggler	TG-600P	INC	1	38	88%	10%	<1 Sec
Lutron	Diva	DV600P	INC	1	38	87%	6%	<1 Sec
Lutron	Maestro	MAW600	INC/HAL	1	38	86%	3%	<1 Sec
Lutron	Lumea	LG600P	INC/HAL	1	38	88%	6%	>10 Sec
Lutron	Skylark	S600P	INC/HAL	1	38	87%	6%	<1 Sec
Lutron	Skylark Contour	CT103P	INC/HAL/MLV	1	64	87%	5%	<1 Sec
Lutron	Diva	DV603P	INC/HAL	1	38	87%	7%	<1 Sec
Lutron	Nova T	NTFTU-5A	CFL	1	48	95%	14%	<1 Sec
Lutron	Maestro	MAELV600	ELV	1	38	88%	7%	<1 Sec
Lutron	Faetra	FAELV500	ELV	1	32	89%	7%	<1 Sec
Lutron	Diva	DVELV303P	ELV	1	19	82%	6%	<1 Sec
Lutron	Skylark	SELV300P	ELV	1	19	83%	5%	<1 Sec
Leviton	Decora	6673	CFL/INC	1	38	90%	7%	<1 Sec
Leviton	SureSlide	6631-2	INC	1	38	91%	5%	<1 Sec
Leviton	Illuminatech	RP106	INC	1	38	99%	9%	>10 Sec
Leviton	Illuminatech	IP106	INC	1	38	98%	5%	<1 Sec
Leviton	Vizia	VP106	INC	1	38	30%	15%	>10 Sec ^{1,2}
Leviton	Decora	6161	INC	1	32	88%	8%	<1 Sec
Leviton	SureSlide	6633-P	INC	1	38	97%	3%	>10 Sec
Leviton	Acenti	ATX10	CFL	1	64	91%	8%	<1 Sec ¹
Leviton	Plug In Lamp	TBI03	Triac	1	19	99%	5%	>10 Sec
Leviton	Vizia	VPE06	ELV	1	38	98%	5%	<1 Sec
Leviton	Illuminatech	IPE04	ELV	1	19	95%	4%	<1 Sec
Leviton	Vizia	VZE04	ELV	1	25	94%	7%	<1 Sec
Legrand	Pass & Seymour	HLV703PTC	MLV	1	44	93%	6%	5 Sec ³
Hubbell	Trade Select	RD600PDK	INC	1	38	86%	23%	<1 Sec

1. Shimmer
2. Slight flicker
3. Blinks at power on. With 4 fixtures starts to shimmer

Dimmer Rating - Load Type

INC = Incandescent	ELV = Electric Low Voltage
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Incandescent and Electronic Low Voltage Rated Dimmers - For Reference Only

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Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Toggle	TI-061	INC/HAL	1	38	72%	9%	<1 Sec
EATON	Aspire	9530AW	INC	1	38	100%	5%	<1 Sec
EATON	Rotary	RI061	INC/HAL	1	38	95%	10%	>10 Sec ¹
EATON	Slide	SF8AP	CFL	1	76	95%	16%	<1 Sec
EATON	Decorator	DE06P	ELV	1	38	73%	9%	<1 Sec
Lutron	Toggler	TG-600P	INC	1	38	94%	10%	<1 Sec
Lutron	Diva	DV600P	INC	1	38	89%	5%	<1 Sec
Lutron	Maestro	MAW600	INC/HAL	1	38	88%	3%	<1 Sec ²
Lutron	Lumea	LG600P	INC/HAL	1	38	87%	7%	>10 Sec
Lutron	Skylark	S600P	INC/HAL	1	38	87%	6%	<1 Sec
Lutron	Skylark Contour	CT103P	INC/HAL/MLV	1	64	87%	6%	>10 Sec
Lutron	Diva	DV603P	INC/HAL	1	38	86%	8%	<1 Sec
Lutron	Nova T	NTFTU-5A	CFL	1	48	97%	15%	<1 Sec
Lutron	Maestro	MAELV600	ELV	1	38	88%	8%	<1 Sec
Lutron	Faetra	FAELV500	ELV	1	32	87%	7%	<1 Sec
Lutron	Diva	DVELV303P	ELV	1	19	80%	6%	<1 Sec
Lutron	Skylark	SELV300P	ELV	1	19	81%	6%	<1 Sec
Leviton	Decora	6673	CFL/INC	1	38	92%	7%	<1 Sec ³
Leviton	SureSlide	6631-2	INC	1	38	94%	4%	>10 Sec
Leviton	Illumatech	RP106	INC	1	38	100%	7%	>10 Sec ⁴
Leviton	Illumatech	IP106	INC	1	38	100%	4%	<1 Sec
Leviton	Vizia	VP106	INC	1	38	91%	5%	<1 Sec ⁵
Leviton	Decora	6161	INC	1	32	89%	8%	<1 Sec
Leviton	SureSlide	6633-P	INC	1	38	99%	2%	2-10 Sec
Leviton	Acenti	ATX10	CFL	1	64	91%	9%	<1 Sec
Leviton	Plug In Lamp	TBI03	Triac	1	19	99%	6%	>10 Sec
Leviton	Vizia	VPE06	ELV	1	38	98%	6%	<1 Sec
Leviton	Illumatech	IPE04	ELV	1	19	97%	4%	<1 Sec
Leviton	Vizia	VZE04	ELV	1	25	93%	7%	<1 Sec
Legrand	Pass & Seymour	HLV703PTC	MLV	1	44	93%	8%	<1 Sec ⁶
Hubbell	Trade Select	RD600PDK	INC	1	38	86%	22%	<1 Sec

1. Dims to 10% then turns off when dimmed lower
2. Shimmer at lowest dim setting
3. Mild flashes at startup and during dimming
4. Dims to 7% then turns off when dimmed lower
5. Stutters while dimming
6. Fixtures at 2% dimming level no starts lightly shimmer

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SLD6

SLD612827WH	SLD612927WH
SLD612830WH	SLD612930WH
SLD612835WH	SLD612935WH
SLD612840WH	SLD612940WH

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Trace	TI-061	Triac (INC/HAL)	1	38	70%	7%	<1sec
EATON	Aspire	9530AW	Triac(INC)	1	38	99%	7%	<1sec
EATON	Rotary	RI061	Triac(INC/HAL)	1	38	96%	19%	<1sec ¹
EATON	Slide	SF8AP	Triac (Fluorescent)	1	172	97%	18%	<1sec
EATON	Decorator	DE06P	ELV	1	38	74%	7%	<1sec
Lutron	Toggler	TG-600P	Triac (INC)	1	38	87%	10%	<1sec
Lutron	Diva	DV600P	Triac (INC)	1	38	86%	5%	>10sec ¹
Lutron	Maestro	MAW600	Triac (INC/HAL)	1	38	85%	3%	<1sec
Lutron	Lumea	LG600P	Triac (INC/HAL)	1	38	87%	6%	2<t<10sec
Lutron	Skylark	S600P	Triac (INC/HAL)	1	38	86%	6%	2<t<10sec
Lutron	Skylark Contour	CT103P	Triac (INC/HAL/MLV)	1	64	86%	7%	<1sec
Lutron	Diva	DV603P	Triac (INC/HAL)	1	38	86%	8%	<1sec
Lutron	Nova T	NTFTU-5A	Triac (Fluorescent)	1	144	95%	15%	<1sec
Lutron	Maestro	MAELV600	ELV	1	38	87%	7%	<1sec
Lutron	Faetra	FAELV500	ELV	1	32	86%	7%	<1sec
Lutron	Diva	DVELV303P	ELV	1	19	74%	5%	<1sec
Lutron	Skylark	SELV300P	ELV	1	19	96%	5%	<1sec
Leviton	Decora	6673	Triac (CFL/INC)	1	38	89%	7%	<1sec ²
Leviton	SureSlide	6631-2	Triac (INC)	1	38	92%	5%	<1sec
Leviton	Illuminatech	RPI06	Triac (INC)	1	38	98%	14%	<1sec ¹
Leviton	Illuminatech	IPI06	Triac (INC)	1	38	98%	6%	<1sec
Leviton	Vizia	VP106	Triac (INC)	1	38	89%	6%	<1sec
Leviton	Decora	6161	Triac (INC)	1	32	87%	8%	<1sec
Leviton	SureSlide	6633-P	Triac (INC)	1	38	96%	2%	>10sec
Leviton	Acenti	ATX10	Triac (Fluorescent)	1	64	91%	16%	<1sec
Leviton	Plug In Lamp Dimmer	TBI03	Triac	1	19	98%	7%	>10sec ¹
Leviton	Vizia	VPE06	ELV	1	38	96%	6%	<1sec
Leviton	Illuminatech	IPE04	ELV	1	19	86%	4%	<1sec
Leviton	Vizia	VZE04	ELV	1	25	97%	4%	<1sec
Legrand	Pass Seymour	HLV1103PW	MLV	1	44	95%	5%	<1sec
Hubbell	Trade Select	RD600PDK	Triac (INC)	1	38	87%	20%	<1sec ¹
Legrand	Harmony	H703PTUW	Triac (INC)	1	44	99%	2%	<1sec ¹

1. Shimmer
2. Slight flicker

Dimmer Rating - Load Type

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

Incandescent and Electronic Low Voltage Rated Dimmers - For Reference Only

Testing conducted by Eaton's lighting division 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.

SLD6 -1200 Series UNV

SLD612827WHUNVJB	SLD612927WHUNVJB
SLD612830WHUNVJB	SLD612930WHUNVJB
SLD612835WHUNVJB	SLD612935WHUNVJB
SLD612840WHUNVJB	SLD612940WHUNVJB

Note: Not recommended to connect SLD6-1200UNV and SLD6-1200 to the same dimmer.

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	Minimum Luminaires (per circuit)	Maximum Recommended Luminaires (per circuit)	Max Dimming percentage (%)	Min Dimming percentage (%)	Start Time
EATON	Trace	TI-061	Triac (INC/HAL)	1	32	95%	6%	<1sec
EATON	Aspire	9530AW	Triac (INC)	1	32	98%	7%	2<t<10sec
EATON	Decora	RI061	Triac (INC/HAL)	1	32	98%	40%	<1sec
EATON	SureSlide	SF8AP	Triac (Fluorescent)	1	65	98%	44%	<1sec
EATON	Illumatech	DE06P	ELV	1	32	98%	11%	<1sec ^{1,2}
Lutron	Toggler	TG-600P	Triac (INC)	1	32	98%	13%	<1sec
Lutron	Diva	DV600P	Triac (INC)	1	32	98%	5%	>10sec
Lutron	Maestro	MAW600	Triac (INC/HAL)	1	32	98%	5%	<1sec ³
Lutron	Lumea	LG600P	Triac (INC/HAL)	1	32	97%	6%	2<t<10sec
Lutron	Skylark	S600P	Triac (INC/HAL)	1	32	98%	6%	<1sec ³
Lutron	Skylark Contour	CT103P	Triac (INC/HAL/MLV)	1	54	97%	11%	<1sec
Lutron	Diva	DV603P	Triac (INC/HAL)	1	32	99%	8%	<1sec
Lutron	Nova T	NTFTU-5A	Triac (Fluorescent)	1	40	98%	36%	<1sec
Lutron	Maestro	MAELV600	ELV	1	32	98%	11%	<1sec
Lutron	Faetra	FAELV500	ELV	1	27	98%	11%	<1sec
Lutron	Diva	DVELV303P	ELV	1	16	98%	6%	<1sec
Lutron	Skylark	SELV300P	ELV	1	16	98%	6%	<1sec
Leviton	Decora	6673	Triac (CFL/INC)	1	32	98%	10%	<1sec ²
Leviton	SureSlide	6631-2	Triac (INC)	1	32	98%	3%	2<t<10sec
Leviton	Illumatech	IPI06	Triac (INC)	1	32	98%	8%	<1sec
Leviton	Vizia	VP106	Triac (INC)	1	32	97%	8%	<1sec
Leviton	Decora	6161	Triac (INC)	1	27	98%	15%	<1sec ⁴
Leviton	SureSlide	6633-P	Triac (INC)	1	32	98%	3%	>10sec
Leviton	Acenti	ATX10	Triac (Fluorescent)	1	54	98%	17%	<1sec
Leviton	Plug In Lamp Dimmer	TBI03	Triac	1	16	98%	54%	<1sec
Leviton	Vizia	VPE06	ELV	1	32	99%	8%	<1sec
Leviton	Illumatech	IPE04	ELV	1	16	98%	4%	<1sec
Leviton	Vizia	VZE04	ELV	1	21	98%	11%	<1sec
Legrand	Pass & Seymour Harmony	HLV703PTC	Triac (MLV)	1	38	99%	5%	2<t<10sec ^{3,5}
Hubbell	TradeSelect	RD600PDK	Triac (INC)	1	32	98%	33%	<1sec

1. Couple of blinks
2. Mild flashes at startup
3. Slightly shimmer
4. Not able to turn off
5. 5% 3 seconds

Dimmer Rating - Load Type

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

0-10V Low Voltage Rated Dimmers - For Reference Only

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Halo LED models that are specified for 0-10V dimming capability use drivers that are designed for use with 0-10V DC low voltage dimmers. 0-10V DC dimmers are quite commonly used with 0-10V fluorescent dimming ballasts such as Mark-7®, Quicktronic Helios™ or TVE™ that operate using two low voltage dimming wires that are separate from the 120V AC or 277V AC power. Switching on/off is controlled via the line voltage power (120V AC or 277V AC). The dimming control signal runs on two low voltage control wires (color coded violet and gray). The 0-10V dimmer operates on a "sinking" control signal where the dimmer uses a different level of the control voltage to set the desired dimming level.

SLD6 -1200 Series UNV

SLD612827WHUNVJB	SLD612927WHUNVJB
SLD612830WHUNVJB	SLD612930WHUNVJB
SLD612835WHUNVJB	SLD612935WHUNVJB
SLD612840WHUNVJB	SLD612940WHUNVJB

Dimmer Make	Dimmer Series	Dimmer Model #	Dimmer Rating	"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 percent-age(%)	Low End Start-up time
EATON	SKYE	SF10	0-10V	1	64	88	98%	12%	<1sec
EATON	DEVINE	DF10	0-10V	1	64	88	97%	8%	2<t<10sec
Lutron	DIVA	DVTV	0-10V	1	51	118	97%	9%	<1sec
Lutron	NOVA T	NTFTV	0-10V	1	51	118	97%	10%	<1sec
Leviton	Illumatech	IP710	0-10V	1	64	64	95%	9%	<1sec
EATON	iLumin	SC277-06	0-10V	1	50	50	97%	12%	<1sec
EATON	Greengate	CK4A	0-10V	1	50	50	97%	0%	>10sec

Dimmer Rating - Load Type

0-10V = 0-10V Low Voltage

Dimmer Notes:

1. Start time is measured at the lowest dimmer setting.
2. Some LED rated dimmers have a "rapid start" design used to provide a momentary power boost for 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 in the following EATON dimmers which provide adjustment capability of the "rapid start": Decorator (DAL06P), Smart (AAL06), and Toggle (TAL06P). Refer to product specifications online at www.cooperwiringdevices.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®. 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 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 or any other user.
 - EATON 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 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)

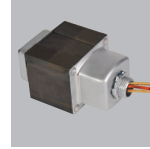
Transformer Load - H347200 (200VA)

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)

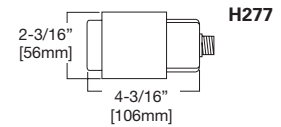
SLD - Surface LED Downlight Series

SLD Maximum Units on Step Down Transformer
Powered Circuits

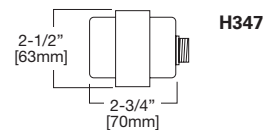
	VA Rating	SLD4, SLD6 - 80 CRI	
		SLD4 - 90 CRI Max # of Fixtures	SLD6 - 90 CRI Max # of Fixtures
H277	300	18	16
H347	75	4	4
H347200	200	12	10



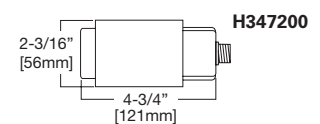
H277
277V Step Down Transformer,
300VA



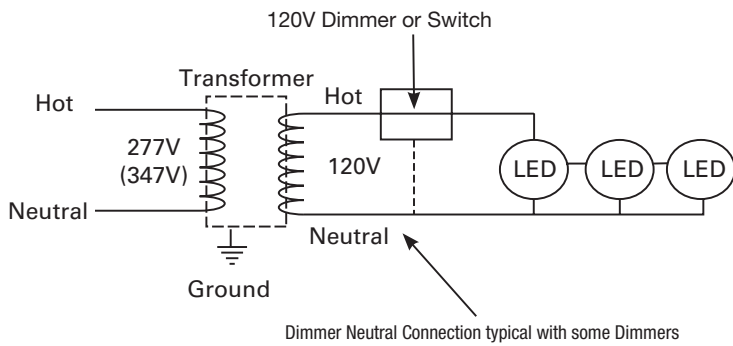
H347
347V Step Down Transformer,
75VA



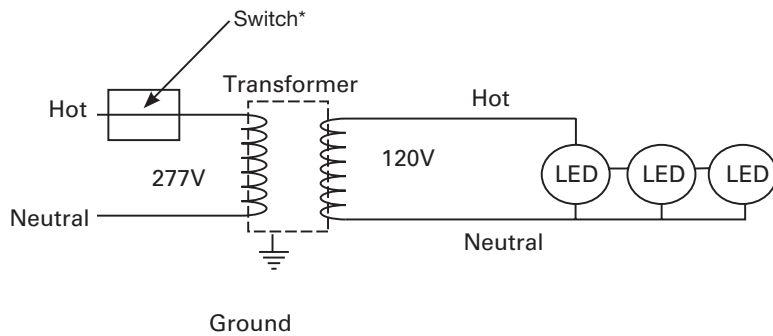
H347200
347V Step Down Transformer,
200VA



Transformer with Dimmer/Switch on 120V Secondary

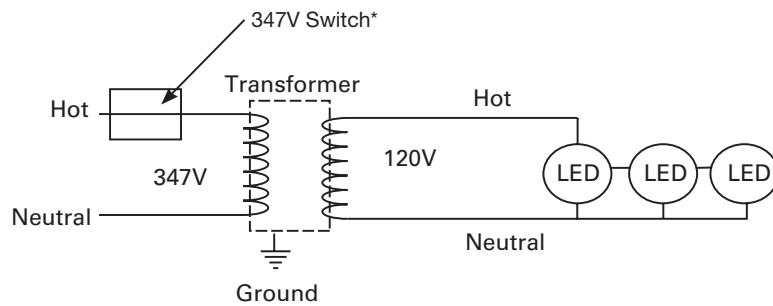


Transformer with Switch on 277V Primary



*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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