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Pendent LED Fixture
Low Voltage
6 or 9 Watt Tunable White
Direct Current Controlled

PEN-60

Bright LEDs, Cool operation
Low Voltage mounting solution

[Product Description - Pen-60](#)

This LED fixture offers high lumen output, recessed point light source, and safe low voltage operation, with perfect dimming.

Operating at 6 watts, with over 780 lumens, this LED fixture allows code compliant LED installations in single family or MDU with low voltage wiring. Because all the power in goes to the LED (there is no driver or electronics involved) and because the COB LED source is not diffused – the Lumen output is comparable to 10 watt 120 VAC fixtures.

Available in Fixed CCT or Tunable white.

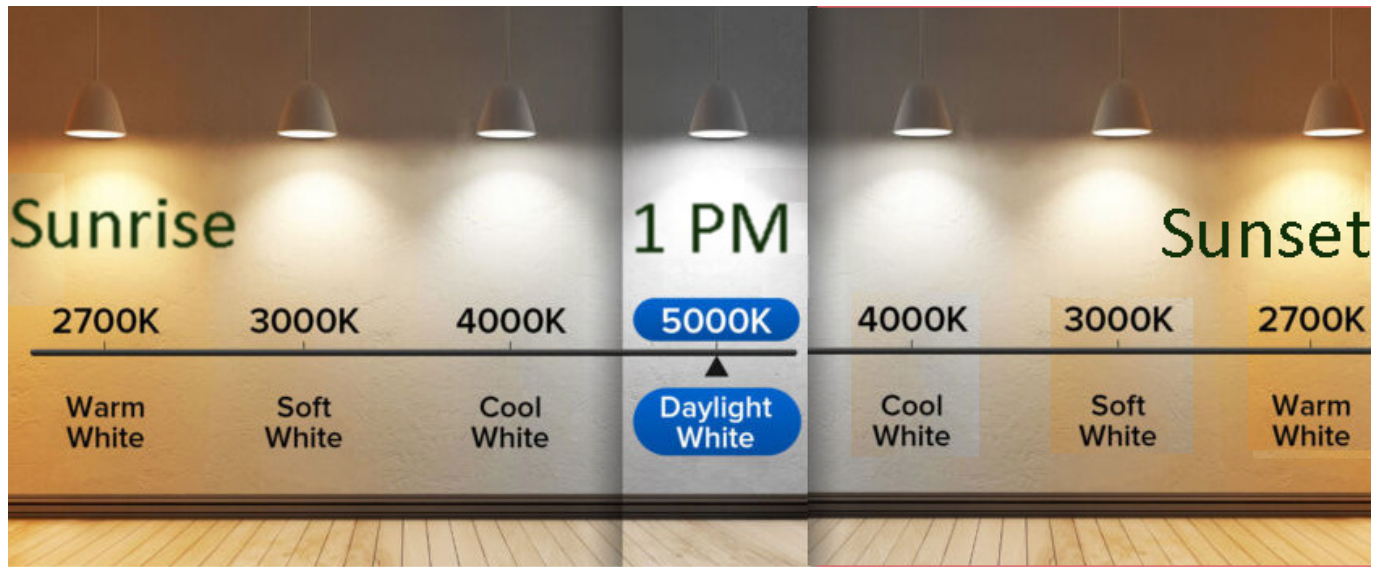
Trimless ceiling mud-in ring included.



Technical specifications

Size	72mm diameter
CRI	90 and better
Dimming	0 to 100%, flicker free, no artifacts
Driver Type	Use 3 or 4 wire drivers
Operating Wattage	6 Watts 9v typically
Operating current	0 to 720 mA total of current in both channels, can mix for color control
Maximum wattage	7 watts
Lumens	780
Color Temperature	6 options available
Operating Voltage	7.5 to 9.0 volts
Recommended wiring	Series, 4 or 5 fixtures in series sharing one driver
Connectors	2x OJ-606 (M + F)
Constant Voltage	do not use Constant Voltage
Operating Temperature	Ceiling mount, -20 to 50 Deg C non condensing
IP Rating	IP65 Suitable for indirect water exposure

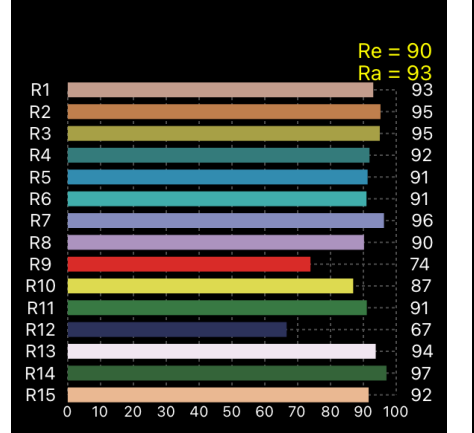
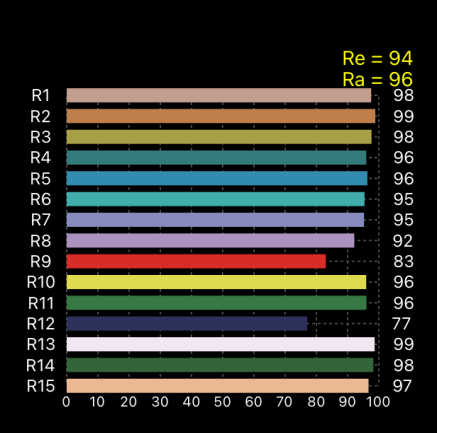
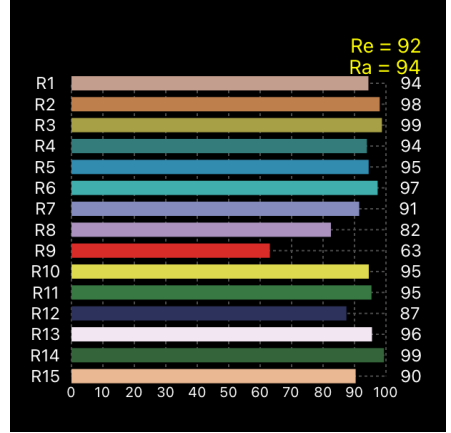
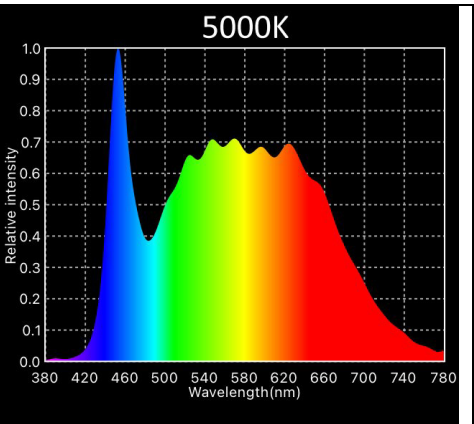
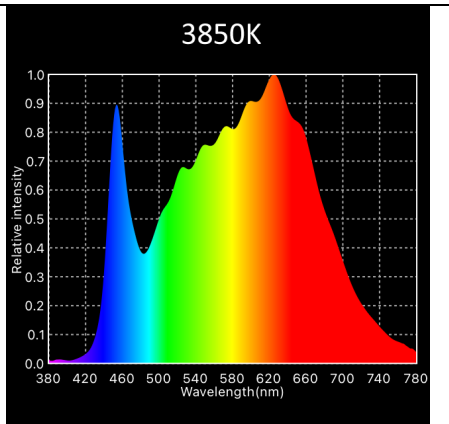
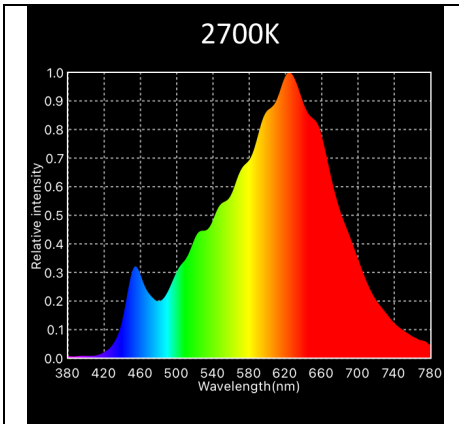
Color Temperature options



Optional Time of Day lighting rhythm

Available in 6 different color temperatures, this fixture can be operated as a fixed color, or tunable white fixture. Any 660 mA current source can be used. Up to 5 fixtures can be wired in series to share one driver. That driver can be located up to 150 ft from the LEDs – since constant current eliminates the concerns about voltage drop. Connecting both inputs in parallel will generate the color CCT marked #. .

Model	2700	3000	3500	3850	4000	5000
Pen-60	•			#		•
Pen-60C		•	•		•	



CCT	2689 K
CRI(Ra)	94
CQS	93
TLCI(Qa)	92.2
GAI	48.6
Illuminance	8824 lux
Foot Candle	819.7 fc
λ_p	624 nm
Flicker Percentage	0.1 %

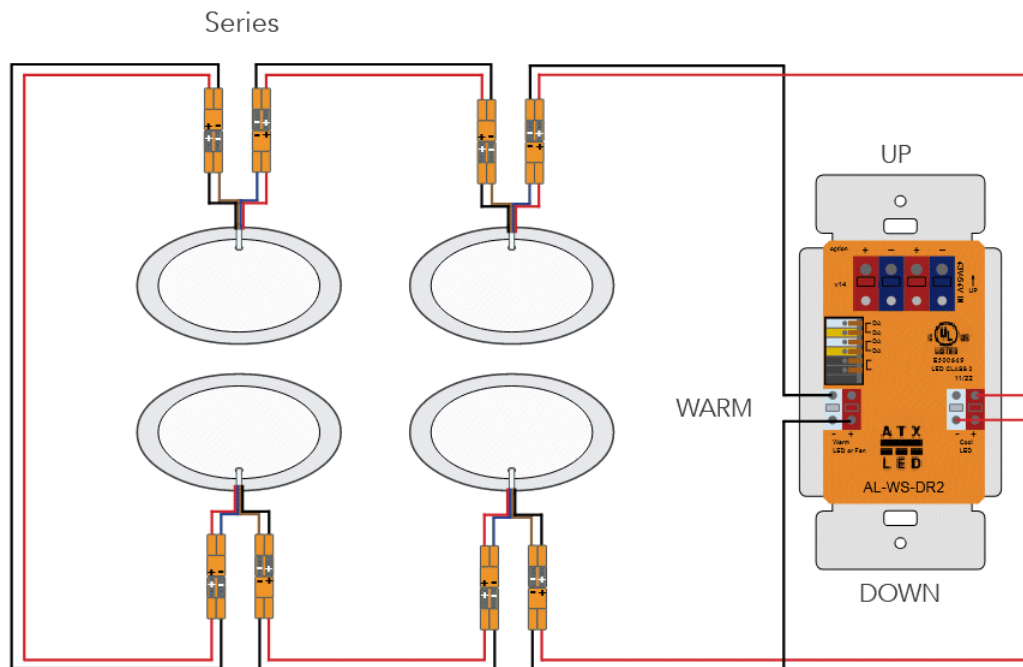
CCT	3684 K
CRI(Ra)	96
CQS	93
TLCI(Qa)	95.9
GAI	76.9
Illuminance	10317 lux
Foot Candle	958.5 fc
λ_p	625 nm
Flicker Percentage	0.1 %
Flicker Index	0.00

CCT	4818 K
CRI(Ra)	93
CQS	91
TLCI(Qa)	94.6
GAI	86.7
Illuminance	11708 lux
Foot Candle	1087.7 fc
λ_p	453 nm
Flicker Percentage	0.1 %

Ordering part numbers

Model	Voltage	Current	Watts	CCT	CRI	Lumens
PEN-60	7.5-8.6	0-660mA	5.6	2700K 3850K 5000K tunable	90	650
PEN-60 parallel	7.5-8.6	0-990mA	9	3850K	90	900
PEN-60 series	15-17.2	0-330mA 0-500mA	5.6 9	3850K	90	650 900

AL-WS-DR2 wiring



360 mA operation

This 6 watt LED can be installed for 360 mA operation for use with 360 or 300 mA drivers. The total power is 6 watts at 3850 CCT for the PEN-60 and 3500 CCT for the PEN-60C. The voltage increases from 9v to 18v in this method.

Recommended DC Drivers with Dimming

N=# of LEDs

DC drivers *	Fixed Color	Tunable White	WiFi	DALI
AL-WS-DR1	5			
AL-WS-DR2	10	5		X
AL-WS-DR2C	10	5		
AL-WS-DR2W	10	5	X	
LDD-600H	5			
LDD-600HDA	5			X

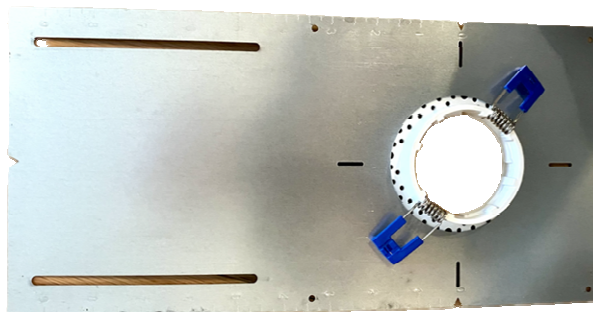
*51 volt DC input (with 54v supply, one additional is allowed – 5 instead of 4)

** no dimming

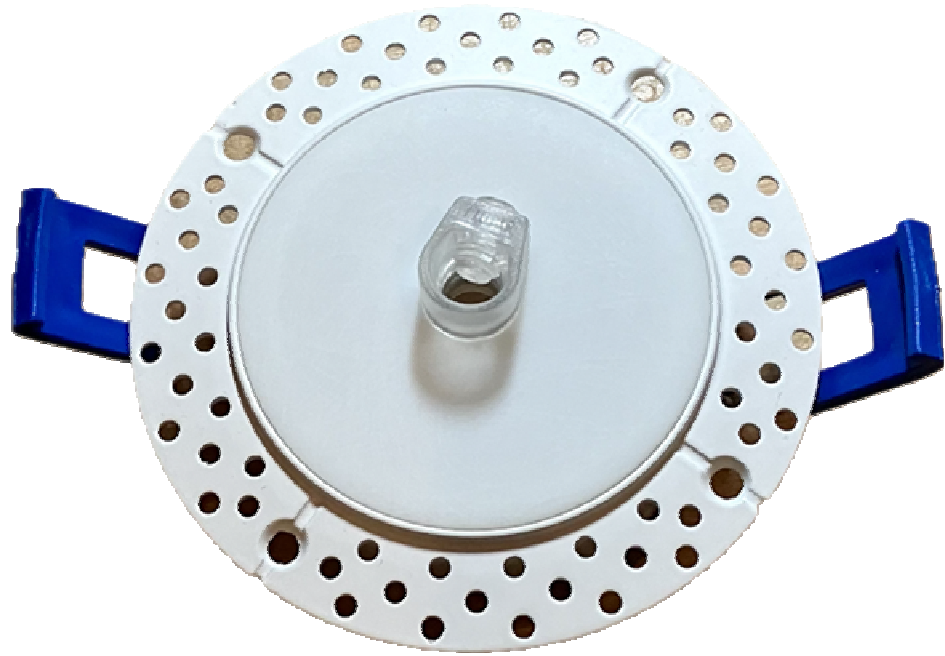
Examples of AC Drivers with Dimming

N=# of LEDs

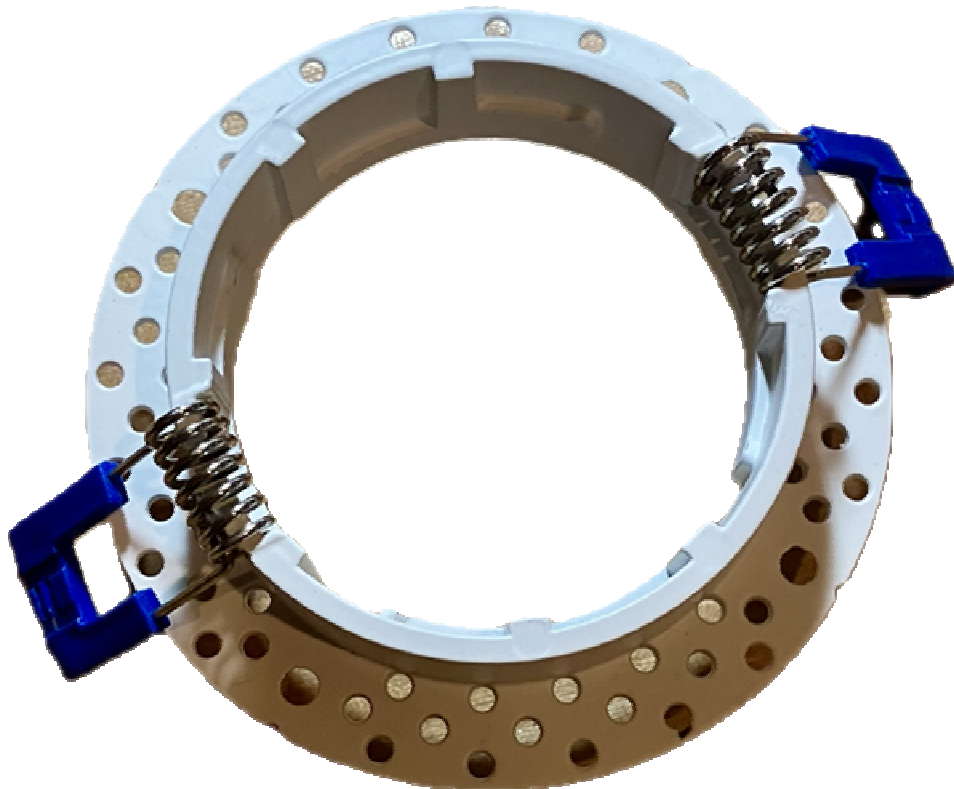
AC drivers from 120 / 240 vac to DC current	Watts	Fixed Color	Tunable White	0-10v	DALI	DMX
SMT-086-0700CM	35 / 48v	9			X	
SR-2309-75CCT	75 / 48v		5		X	
WP-80-40A-2AM	75 / 36v	8	4	X		
DMX-50-500-1750	50 / 48v	6				X



Flat Sheet rough in plate “flat3”



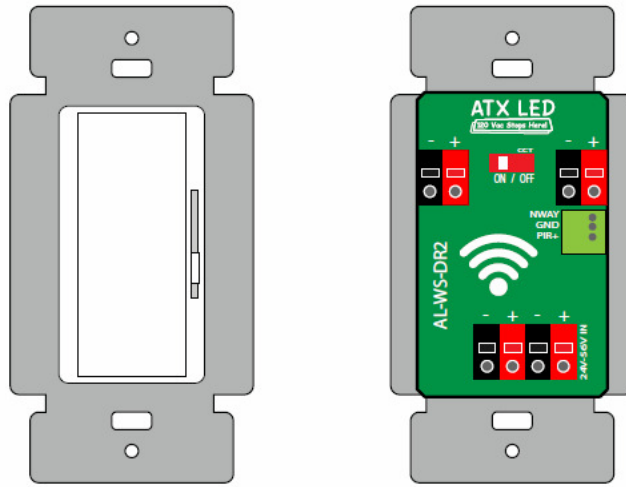
Invisible Ceiling plate (mud in ring + Insert)



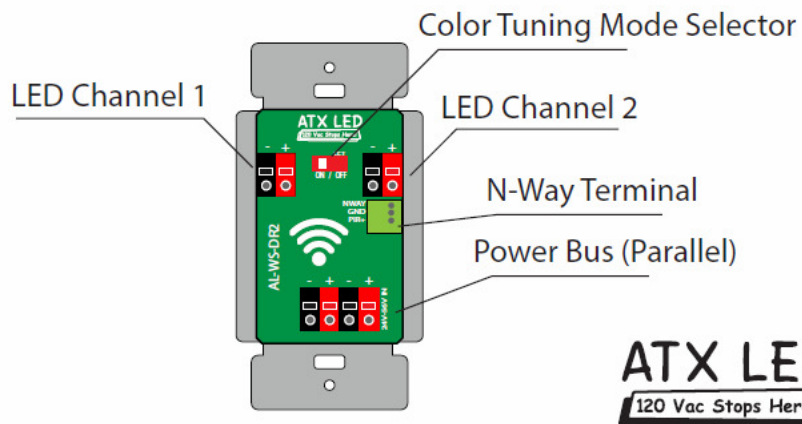
Mud in ring

Meet the DR2

The DR2 is the heart of the entire system. From the front it looks like a typical style wall switch with a slide dimmer. This is where the driver for the LEDs is located. The DR2 uses current control technology to provide perfect dimming to each of its corresponding LEDs. There are several different types of DR2 available, depending on application.



Front



ATX LED
120 Vac Stops Here!

E26 bulbs also available



ATX-E26



RL-E26



RL-E12