CABINET LIGHTING

TASK LIGHTING SERIES

ULTRA LEVEL

Task Lighting

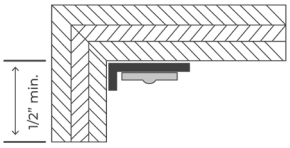
Phantom™ Ultra TL Series LED light strips are designed for any linear task or under-cabinet lighting application and represent a breakthrough in strip lighting technology. Perfect for kitchens, offices, desks, or counter tops, these low profile task lights are easily concealed regardless of the cabinet design, giving new definition to the phrase, "See the Light, Not the Fixture."

Custom mounting trims establish the optimum aiming angle which allows the contents of any area to be illuminated to a precise degree at the highest level of aesthetics yet to be seen. Strips are precut to any desired length to be custom fitted for continuous under-cabinet lighting. Strips are dimmable using a magnetic low voltage dimmer and produce a quality of consistent color and lumen output unmatched by competing products.

PHANTOM ULTRA TL SERIES FEATURES

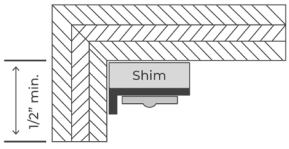
- Low profile, concealed linear LED lighting source designed for any under-cabinet lighting application
- Excellent assortment of power connectors, jumpers, and accessories for ease of installation
- Dimmable high-performance compact magnetic low-voltage 24VDC drivers (available in both 120V and 277V)

Ultra TL Series Exploded View



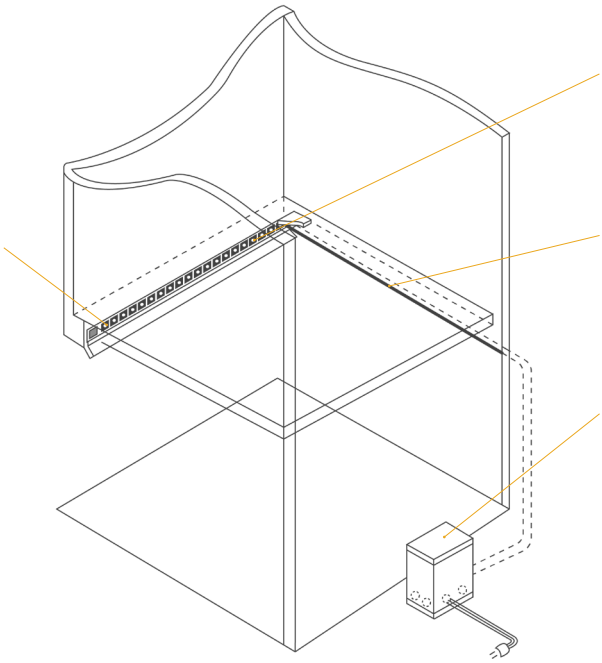
LIGHTING STRIP LOCATION

For best results, always mount the lights behind the front lip of the upper cabinet and use a matte finish on the back of the cabinet or wall to minimize glare and reflections. Note: stone finishes, such as granite, marble, and ceramic tile are notorious for reflecting lamp images from normal viewing angles.



LIGHTING STRIP TIP

It may be necessary, depending on the trim used, to field adjust lighting strips up or down with a shim to accommodate larger wood reveals and fine tune lighting coverage to the edge of the countertop.



LED LIGHTING STRIP

Each LED lighting strip is concealed by either a trim or a lensed enclosure. For best results, use a matte finish on the back of the cabinet to minimize reflections and/or glare.

WIRE SLEEVE TIP

We recommend that you fabricate a small removable wood cover for the purpose of hiding the wires between the fixture and where the wire exits the wall. Most applications require an end feed connection.

DRIVER (REMOTE MOUNT)

Magnetic drivers are sized to match the total wattage of your lighting load and come equipped with one or more secondary circuit breakers. (See driver sheet for more sizing information and amperage calculations).

DIMMER CONTROLS (BY OTHERS)

Magnetic low voltage transformers should always be used with a dimmer designated for magnetic or inductive loads. Electronic transformers should always be used with a dimmer designated for electronic loads.

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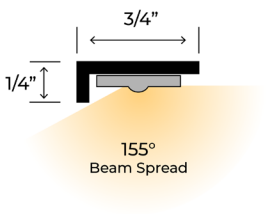
PHANTOM™ LIGHTING SYSTEM

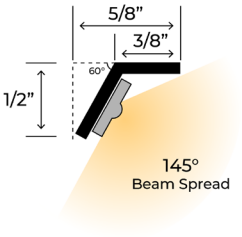
SHIELDED
Trim Profiles

Shielded options are best for shaping the light in precise patterns and for minimizing hot spots on surrounding surfaces and spill light that may stray outside the display.

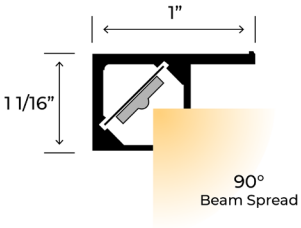
TRIM 1



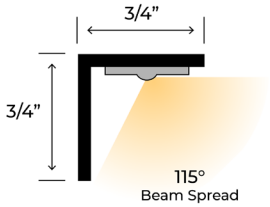
TRIM 2



TRIM 3

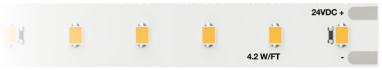


TRIM 4



Our most popular shielded trims for under cabinet task lighting are trims 1 and 2. Both shielded trims are great for applications that have a under cabinet reveal as they provide the best light distribution and glare control. Trim 3 is perfect for cabinets that have no reveal and can be installed and painted to match the cabinet color. For lensed trims, we recommend trim 6 and 9 for the ultimate in light distribution to hide the LED diodes and provide total diffusion to prevent reflected glare from tile, granite, marble, stainless steel or gloss finishes. **See page 3 for lensed trim options.**

ULTRA TAPE SPECIFICATIONS FOR SHIELDED TRIM PROFILES

24VDC LED Tape	Wattage	Kelvin Color	Lumens per Foot	Efficacy (LM/W)	CRI	Diodes per Foot	Cut Mark	Max Run Length
	**4.2** Standard	1800K	349	83	94+	24	4.00 inches	23 feet
		2100K	398	94				
		2700K	400	95				
		3000K	460	109				
		3500K	465	110				
		4000K	490	116				

Phantom Ultra Lighting Strips - Ordering Matrix
Sample Order Number: **TL-US-1-18-4.2-DL-12-FW-XX**

US LISTED 73355 — ETL LISTED, MISCELLANEOUS FIXTURES, CONFORMS TO UL STD, 1598

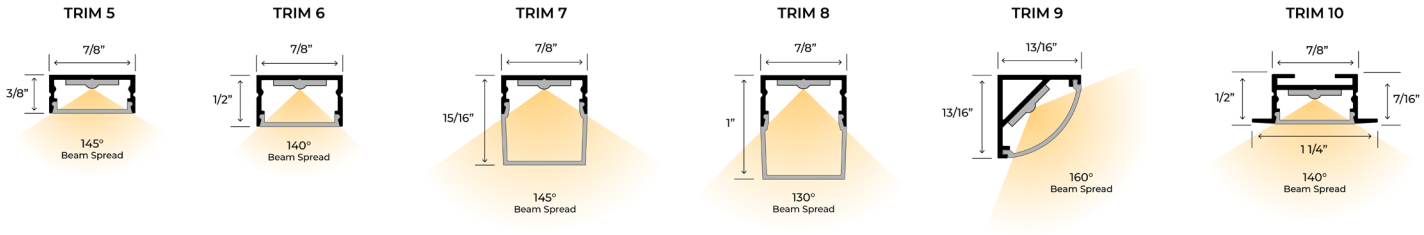
MODEL	SERIES TYPE	TRIM PROFILE	KELVIN COLOR	WATTS/FT	LEAD WIRES*	LEAD LENGTH	TRIM PAINT COLOR	TRIM LENGTH
TL	**US**	**1**	**18**	**4.2**	**DL**	**12**	**FW**	**XX**
TL	**US** - Ultra Shielded	**1** **2** **3** **4**	**18** - 1800K **21** - 2100K **27** - 2700K **30** - 3000K **35** - 3500K **40** - 4000K	**4.2**- 4.2W	**DL** - Double Leads **LR** - Leads Right **LL** - Leads Left	**12"** **24"** **36"** **48"** **120"** **300"**	**FW** - Flat White **GW** - Gloss White **FB** - Flat Black **GB** - Gloss Black **LB** - Light Beige **MB** - Medium Brown **LA** - Light Almond **UF** - Unfinished **CC** - Custom Color**	**Inches** Specify Your Trim Length In Inches

***When facing application**
****Contact factory for details**

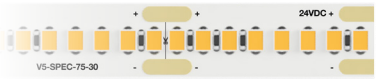
LENSED

Trim Profiles

Lensed options are the best for applications where the light fixture may be visible, by hiding the individual LED diodes and preventing object or surface reflections by homogenizing the light pattern.



ULTRA TAPE SPECIFICATIONS FOR LENSED TRIM PROFILES

24VDC LED Tape	Wattage	Kelvin Color	Lumens per Foot	Efficacy (LM/W)	CRI	Diodes per Foot	Cut Mark	Max Run Length
	**5.0** High Density	1800K	362	72	94+	64	1.50 inches	20 feet
		2100K	491	98				
		2700K	514	102				
		3000K	565	113				
		3500K	595	119				
		4000K	610	122				
	**7.5** High Density	1800K	604	80	94+	72	1.375 inches	13 feet
		2100K	670	89				
		2700K	698	93				
		3000K	774	103				
		3500K	872	116				
		4000K	862	110				

Phantom Ultra Lighting Strips - Ordering Matrix
Sample Order Number: **TL-UL-5-18-5.0-DL-12-SA-XX**

ETL LISTED, MISCELLANEOUS FIXTURES, CONFORMS TO UL STD. 1598
73355

MODEL	SERIES TYPE	TRIM PROFILE	KELVIN COLOR	WATTS/FT	LEAD WIRES*	LEAD LENGTH	TRIM PAINT COLOR	TRIM LENGTH
TL	**UL**	**5**	**18**	**5.0**	**DL**	**12**	**SA**	**XX**
TL	**UL** - Ultra Lensed	**5** **6** **7** **8** **9**	**18** - 1800K **21** - 2100K **27** - 2700K **30** - 3000K **35** - 3500K **40** - 4000K	**5.0** - 5.0W **7.5** - 7.5W	**DL** - Double Leads **LR** - Leads Right **LL** - Leads Left	**12"** **24"** **36"** **48"** **120"** **300"**	**SA** - Satin Aluminum **CC** - Custom Color**	**Inches** Specify Your Trim Length In Inches

*When facing application
**Contact factory for details

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PHANTOM™ LIGHTING SYSTEM

Ultra TL Series Drivers

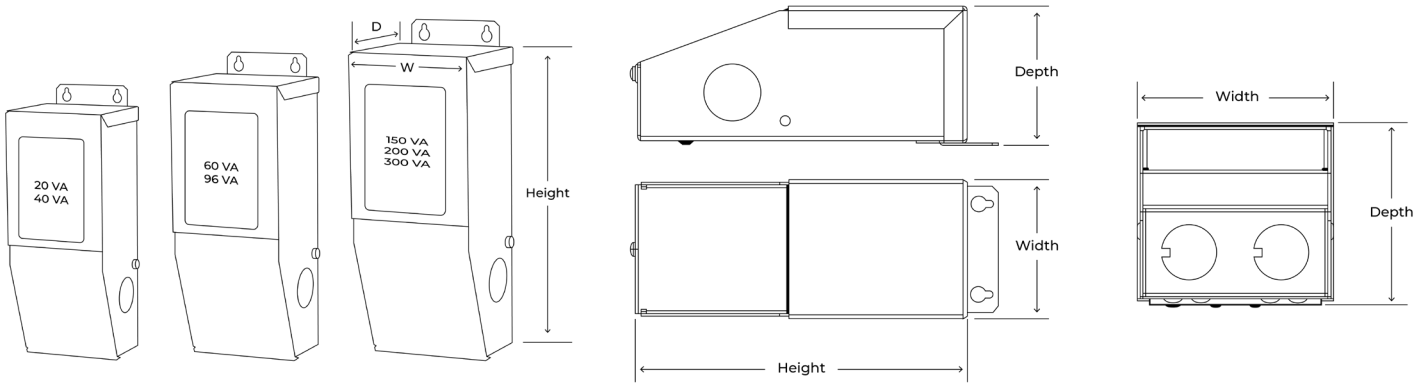
DRIVER SPECIFICATIONS

	20 VA	40 VA	60 VA	96 VA	150 VA	200 VA	300 VA
120VAC/24VDC	MD20-24	MD40-24	MD60-24	MD96-24	MD150-24	MD200-24	MD300-24
277VAC/24VDC	MD20-24-277	MD40-24-277	MD60-24-277	MD96-24-277	MD150-24-277	MD200-24-277	MD300-24-277
Maximum Load*	16	32	48	77	120	160	240
Minimum Load	10	16	24	38	60	80	120
Circuit Breaker	Auto	Auto	Auto	Auto	Auto	Manual	Manual
Height (H)	5.50"	5.50"	6.50"	6.50"	9.50"	9.80"	9.80"
Width (W)	2.25"	2.25"	2.75"	2.75"	3.25"	3.25"	4.25"
Depth (D)	2.00"	2.00"	2.25"	2.25"	4.00"	3.00"	3.50"
Weight (lbs)	1.80	1.80	2.00	2.00	5.00	5.50	8.75

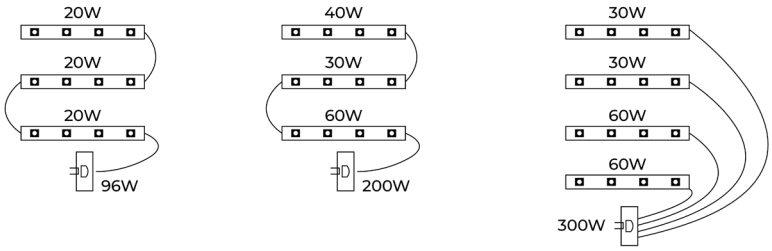
***These numbers reflect the 20% safety factor that is recommended to avoid overload or nuisance tripping when selecting a transformer.** (Wattage x 1.20)

To calculate amperage, divide total wattage by secondary voltage (Wattage/Voltage = Amperage).
To calculate wattage, divide amperage by secondary voltage (Amperage/Voltage = Wattage)

Driver Dimensions



Ultra TL Series Load Examples



20W x 3 = 60W
60W x 1.20 = 72W
(1) 96W Required

40W + 30W + 60W = 130W
130W x 1.20 = 158W
(1) 200W Required

30W + 30W + 60W + 60W = 180W
240W x 1.20 = 288W
(1) 300W Required

TERMS AND CONDITIONS

To comply with Phantom™ Lighting System warranty policies and ETL standards, all lighting strips must be used in conjunction with Phantom™ Lighting drivers. All Phantom lighting transformers are ETL Approved for Class 2 applications and are strongly recommended for proper orientation of lighting strips. Phantom™ drivers should **not** be located in areas without ventilation or be subjected to high ambient temperatures. If ambient temperatures exceed 115°F (46°C) around the driver, the circuit breakers may nuisance-trip due to excessive heat and void any warranty.

CAUTION: Failure to correctly size primary and secondary conductors and/or overload protection may result in bodily injury or serious property damage.

If you have any questions or concerns regarding your application, please contact the factory at **(713) 863-1184** or consult a licensed electrician or the National Electric Code.

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