Adjustable Exposed Shelf Lighting

Phantom™ Elite AE Series LED light strips are designed for adjustable shelf and cabinet linear lighting applications and represent a breakthrough in strip lighting technology due to proprietary wiring methods. Imagine having the ability to freely move your lighted shelves without rewiring, using only a phillips head screwdriver! These low profile cabinet lights are easily concealed regardless of the shelf 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 cabinet 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 to moveable shelves. There are no visible wires and shelf positions can be changed without any rewiring whatsoever. Strips are dimmable using a magnetic low voltage dimmer and produce a quality of consistent color and lumen output unmatched by competing products.

PHANTOM ELITE AE SERIES FEATURES

- Low profile, concealed linear LED lighting source designed for adjustable shelf lighting or adjustable display applications

- Exclusive current carrying design using existing metal shelf standards and brass mounting hardware

- Dimmable high-performance compact magnetic low-voltage 24VDC drivers (available in both 120V and 277V)

Elite AE Series Exploded View
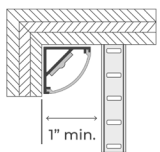

SPACE REQUIREMENT
For best results, a wood reveal should be used to conceal the fixture. For applications above eye level use a shielded trim & extend wood reveal as necessary. Allow 1" clearance between light fixture and holes.

1" min.

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.

POWER CONNECTION
Attach power leads from driver to existing buss bar using ring connectors provided with product.
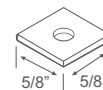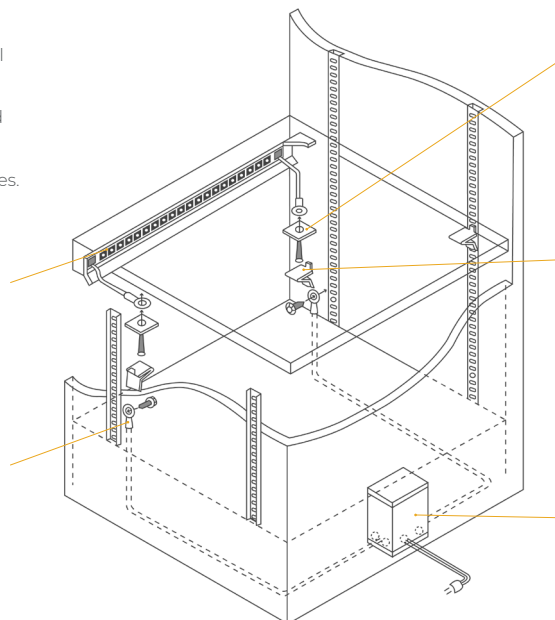
BRASS CONTACT PADS
Brass contact pads are designed to transfer electricity from the shelf support clip to the individual fixtures utilizing a safe low voltage current. Contact is made when the shelf is installed. No tools are required to rearrange the shelves!

5/8" 5/8"
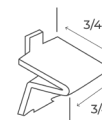
EXPOSED STEEL SHELF SUPPORTS (BY OTHERS)
You can easily energize new or existing stell supports to conduct safe low voltage current for our exposed wiring method. This system virtually eliminates all the visible wiring and allows you to use standard shelf support clips. The use of aluminum shelf supports is **not** recommended!
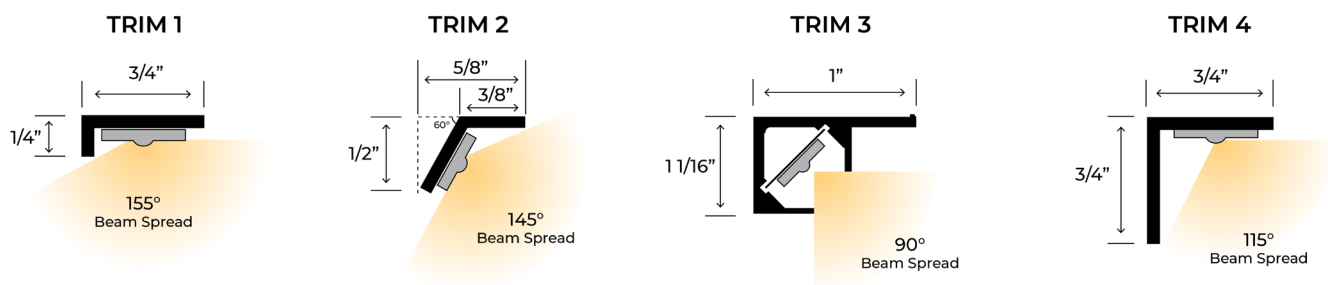
3/4" 3/4"

DRIVER
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).

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
3/4"
1/4"
155° Beam Spread

TRIM 2
5/8"
3/8"
1/2"
60°
145° Beam Spread

TRIM 3
1"
1 1/16"
90° Beam Spread

TRIM 4
3/4"
3/4"
115° Beam Spread

Our most popular shielded trims for this adjustable mounting method are trims 2 and 3. Both shielded trims are great for applications that have a shelf reveal as they provide the best light distribution and glare control. Trim 3 is perfect for shelves that have no reveal and can be installed and painted to match the cabinet color. For lensed trims, we recommend trim 9 for the ultimate in light distribution to conceal the LED diodes and provide total diffusion to prevent reflected glare from displayed objects, reflective or gloss finishes. **See page 3 for lensed trim options.**

ELITE 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
V5-STND-E-30 1.8 W/FT 24VDC + -	1.8 Economy	1800K	102	57	94+	12	6.00 inches	50 feet
		2100K	131	73				
		2700K	144	80				
		3000K	148	82				
		3500K	158	88				
		4000K	160	89				
2.2 W/FT 24VDC + -	2.2 Standard	1800K	142	64	94+	18	4.00 inches	45 feet
		2100K	161	73				
		2700K	178	81				
		3000K	187	85				
		3500K	194	88				
		4000K	196	89				

Phantom Elite Lighting Strips - Ordering Matrix
Sample Order Number: **AE-ES-1-18-2.2-AD-12-FW-XX**

MODEL	SERIES TYPE	TRIM PROFILE	KELVIN COLOR	WATTS/FT	LEAD WIRES*	LEAD LENGTH	TRIM PAINT COLOR	TRIM LENGTH
AE	**ES**	**1**	**18**	**2.2**	**AD**	**12**	**FW**	**XX**
AE	ES - Elite Shielded	1 2 3 4	18 - 1800K 21 - 2100K 27 - 2700K 30 - 3000K 35 - 3500K 40 - 4000K	1.8 - 1.8W 2.2 - 2.2W	AD – Adjustable	12" 24" 36"	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

PHANTOM™
LIGHTING SYSTEM

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.

TRIM 5	TRIM 6	TRIM 7	TRIM 8	TRIM 9	TRIM 10

TRIM 5 — 7/8", 3/8", 145° Beam Spread
TRIM 6 — 7/8", 1/2", 140° Beam Spread
TRIM 7 — 7/8", 15/16", 145° Beam Spread
TRIM 8 — 7/8", 1", 130° Beam Spread
TRIM 9 — 13/16", 13/16", 160° Beam Spread
TRIM 10 — 7/8", 1/2", 7/16", 1 1/4", 140° Beam Spread

ELITE 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
EL-SPEC-15-30 1.5 W/FT	1.5 High Density	1800K	129	86	94+	56	1.75 inches	60 feet
		2100K	154	102				
		2700K	179	119				
		3000K	191	127				
		3500K	195	130				
		4000K	197	131				
EL-SPEC-28-30 2.8 W/FT	2.8 High Density	1800K	235	83	94+	56	1.75 inches	35 feet
		2100K	246	87				
		2700K	273	97				
		3000K	298	106				
		3500K	319	113				
		4000K	303	108				

Phantom Elite Lighting Strips - Ordering Matrix
Sample Order Number: **AE-EL-5-18-2.8-AD-12-SA-XX**

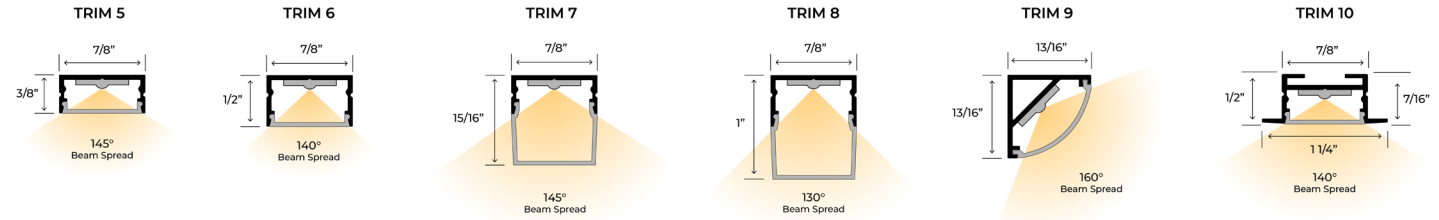US ETL LISTED, MISCELLANEOUS FIXTURES, CONFORMS TO UL STD, 1598
ETL LISTED 73355

MODEL	SERIES TYPE	TRIM PROFILE	KELVIN COLOR	WATTS/FT	LEAD WIRES*	LEAD LENGTH	TRIM PAINT COLOR	TRIM LENGTH
AE	**EL**	**5**	**18**	**2.8**	**AD**	**12**	**SA**	**XX**
AE	EL - Elite Lensed	5 6 7 8 9 10	18 - 1800K 21 - 2100K 27 - 2700K 30 - 3000K 35 - 3500K 40 - 4000K	1.5 - 1.5W 2.8 - 2.8W	AD – Adjustable	12" 24" 36"	SA - Satin Aluminum CC - Custom Color**	Inches Specify Your Trim Length In Inches

*When facing application
**Contact factory for details

PHANTOM™ LIGHTING SYSTEM

Elite AE 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

Driver Dimensions
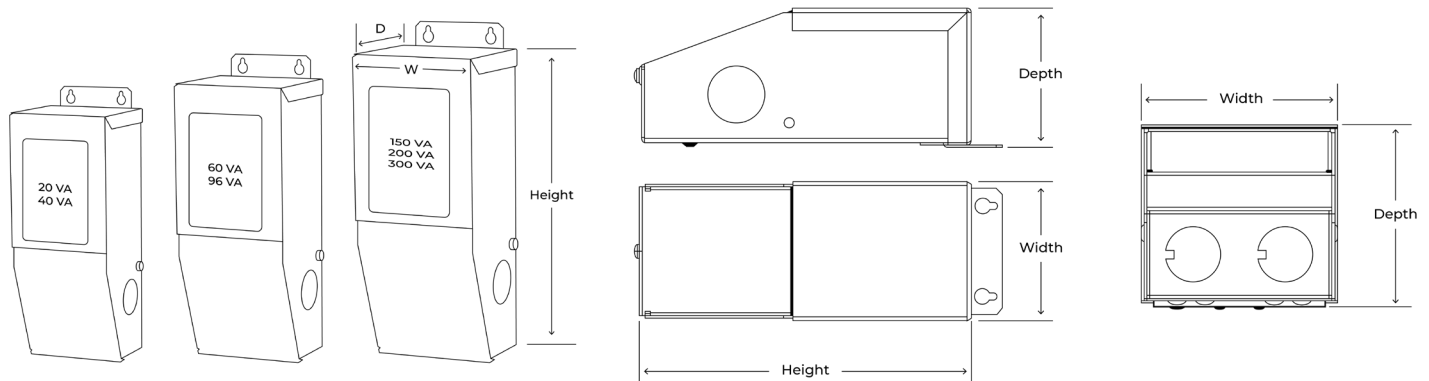
Elite AE Series Load Examples

8W x 4 = 32W
32W x 1.20 = 38.4W
(1) 60W Required

20W x 5 = 100W
100W x 1.20 = 120W
(1) 150W Required

48W x 4 = 132W
192W x 1.20 = 230.4W
(1) 300W Required
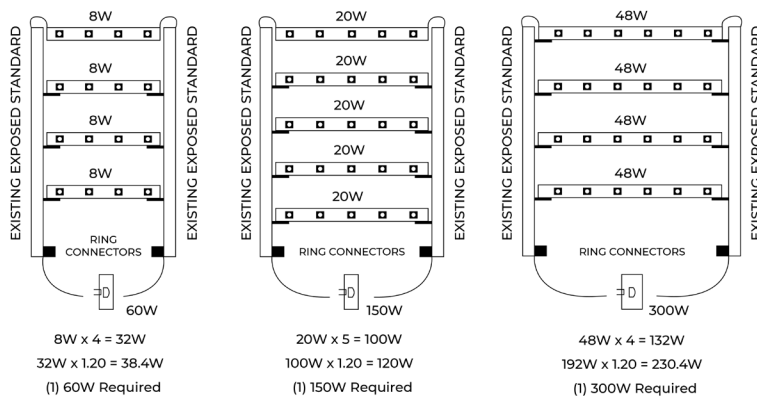
TERMS AND CONDITIONS

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.