

ProTools 60 Linear Features

whitegoods

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Whitegoods has developed another range of minimal lighting tools, which utilize the form factor of LED to reduce even further their visual impact, and of course they all hold true to our constant principles.

Our Philosophy

- Reduction of detail
- Seamless architectural integration
- Logical, modular systems and families of products
- Ease of specification, installation and maintenance



Smart lighting is not always the brightest

Our perception of a space is primarily based on what we see at a glance when we enter that space. Specifically, our eye is automatically drawn to the brightest object in the room before we are really able to appreciate what else the space has to offer. In architecture the goal is to illuminate the surfaces and objects that you wish to be the focus of the space:

- Feature walls
- Merchandise
- Stairways
- Art objects
- Furniture, to name a few

Another focal point could be a decorative luminaire such as a wall sconce or decorative pendant that acts as a feature in the space by virtue of its brightness.

Rarely is the focal point of the room an architectural light fixture such as a recessed downlight or a linear fixture. The objective of these luminaires is to deliver light to the focal points of the space.

Yet, in many architectural interiors the light ends up being the brightest element in the space, the place that immediately draws your eye and becomes the focal point of the design. Bright stripes of light dominating the visual message of the space.

Whitegoods provides tools for the designer to address this issue with a curated range of lighting tools that seamlessly integrate into the architecture while making the absolute minimum visual impact on the space. ProTools 60 Linear is another range of products specially designed to put your interior in the right light.



Whitegoods ProTools 60
Linear is a complete range of
high performance, extremely
low brightness luminaires that
are used to put light where
it is meant to be without
becoming the brightest object
in the space.



ProTools 60 Linear Introduction

Regressed lens for evenly illuminated, continuous line of light slightly set above the finished ceiling to minimize the brightness while still delivering wide angle illumination.

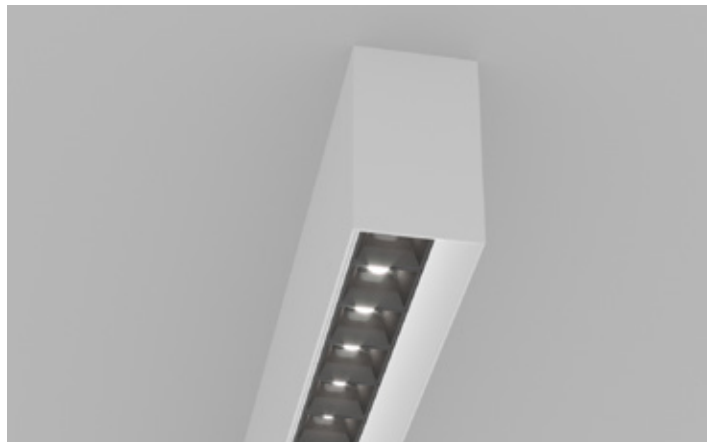
Regressing the lens into the ceiling plane allows the linear nature of the product to be the feature rather than the brightness of the lens. Wide angle light illuminates vertical surfaces and widens the perception of the space.



Recessed lens and louver options further remove the distracting brightness from the occupant's vision and allows the features and architecture of the interior to be on display.

By recessing the lens, we also minimize the size of the lens, minimizing glare surface and improving visual cut-off, and we can use a higher transmittance lens to increase efficiency. Lastly, any gap or imperfection in the lens fit is eliminated.

The recessed louver eliminates nearly all visual access to the LED source from any viewing angle. Use it to completely 'quiet' the luminaire in the ceiling and focus on the object being illuminated.



Whether one wishes to illuminate a vertical plane for spacial clarity or way-finding, or to accent a fine wall-covering or architectural feature, ProTools 60 Linear Wall Wash and Graze optics can accomplish the task.

The optical system delivers accent level illumination to the wall, while effectively hiding the source.

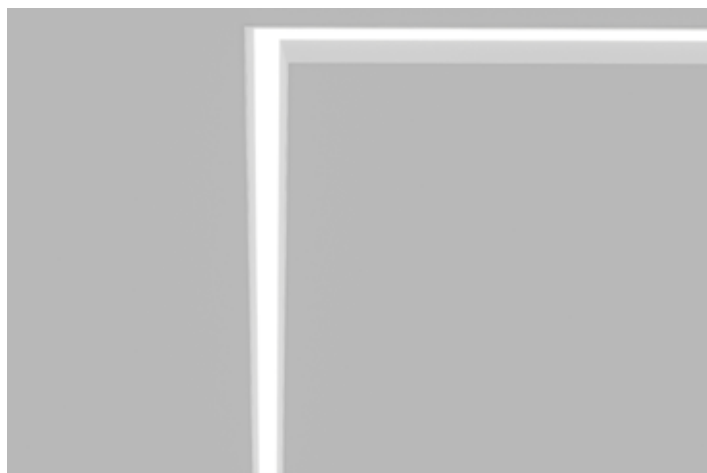
With the Wall Graze and Perimeter systems, the finished wall extends above the ceiling plane, and the wall is rendered full height. The Wall Wash delivers light to the top of the wall, even illumination across the plane and all the way to the floor.



With modular design comes enhanced reconfigurability to meet any illumination or geometric requirements of the space. A common housing that installs into or onto any surface can be populated with any optical insert to deliver just the right light to the intended surfaces.

ProTools 60 Linear has standard lengths to fit all ceiling modules as well as the option to tailor the length to the space.

Standard corners for every mounting method can be used to make rectilinear configurations. The modularity inherent in the system would then allow you to have multiple optical inserts in the same run.

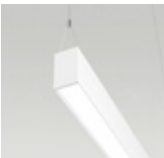


ProTools 60 Linear Family

[Click images to go to product pages](#)



ProTools 60 Linear
Downlight Recessed



ProTools 60 Linear
Downlight Suspended



ProTools 60 Linear
Wall Wash Recessed



ProTools 60 Linear
Direct/Indirect Suspended



ProTools 60 Linear
Wall Graze Recessed



ProTools 60 Linear
Downlight Surface Mount



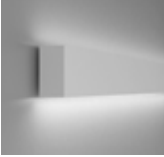
ProTools 60 Linear
Soft Graze Recessed



ProTools 60 Linear
Downlight Wall / Mullion Mount

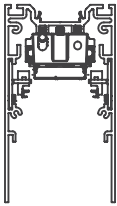


ProTools 60 Linear
Perimeter Recessed

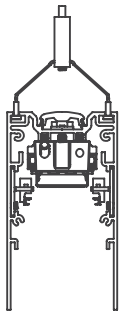


ProTools 60 Linear
Direct/Indirect Wall / Mullion Mount

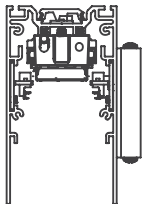
ProTools 60 Linear Family



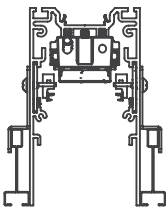
Surface/Recessed Housing



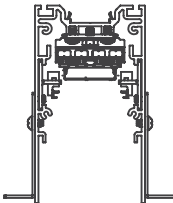
Suspended
(WG-60PTL-S)
(WG-60PTLDI-S)



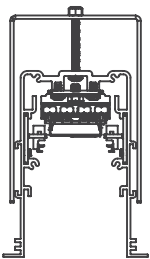
Wall/Mullion Mount
(WG-60PTL-WM/MM)
(WG-60PTLDI-WM/MM)



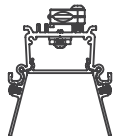
Recessed Grid
(WG-60PTL-RGS)



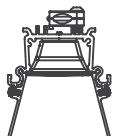
Recessed Plaster Trim
(WG-60PTL-RPT)



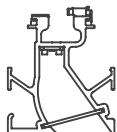
Recessed Bezel Trim
(WG-60PTL-RBT)



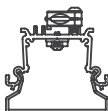
Recessed
Micro-prismatic Lens
(RML)



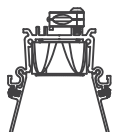
Recessed Louver
(RLW)
(RLB)



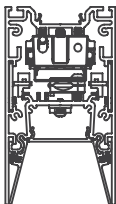
Wall Wash Lens
(WW + RML)



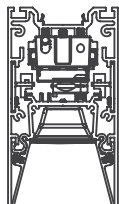
Regressed Opal Lens
(ROL)



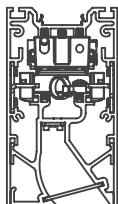
Recessed Narrow Optic
(RNO)



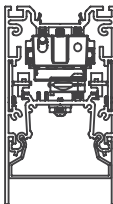
Recessed
Micro-prismatic Lens
(RML)



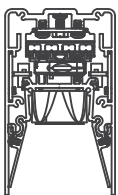
Recessed Louver
(RLW)
(RLB)



Recessed Lens + Wall Wash
(RML + WW)

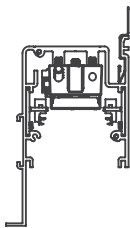


Regressed Opal Lens
(ROL)

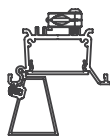


Recessed Narrow Optic
(RNO)

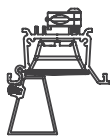
ProTools 60 Linear Family



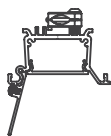
Recessed Perimeter Housing



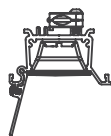
Lens + Wall Graze
(REO + WG)



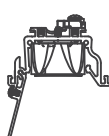
Louver + Wall Graze
(RLW + WG)
(RLB + WG)



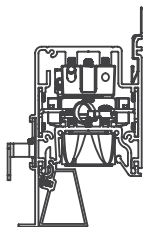
Perimeter
Recessed Lens
(RML)



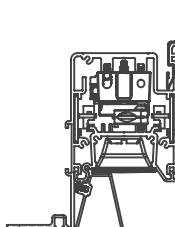
Perimeter with
Recessed Louver
(RLW)
(RLB)



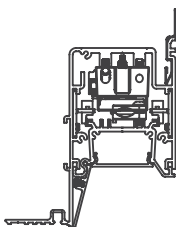
Perimeter with
Recessed Elliptical Optic
(REO)



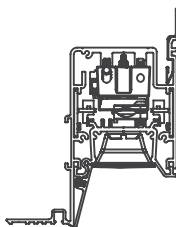
Recessed Lens
+ Wall Graze
(REO + WG)



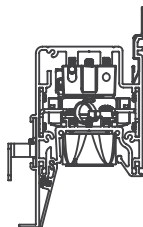
Recessed Louver
+ Wall Graze
(RLB + WG)
(RLW + WG)



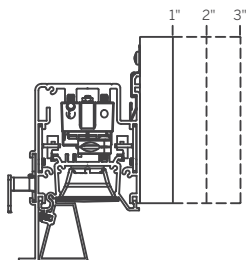
Recessed
Micro-prismatic Lens
(RML)



Recessed Louver
(RLW)
(RLB)



Recessed Elliptical Optic
(REO)



Soft Graze: 1" 2" 3"
(SG - 1, SG - 2, SG - 3)

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ProTools 60 Linear Features

Quality of Light

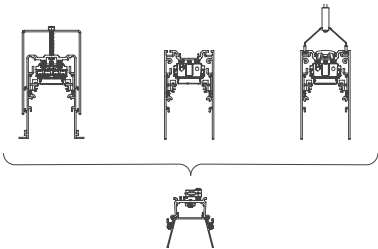
Quality of light starts with the LED technology. Standard is 90+ CRI and 3-Step MacAdam Ellipse binning. These LED devices are used in all Whitegoods Linear products to ensure high quality and uniformity throughout any space designed using multiple Whitegoods products. Next, best of class drivers are used that precisely regulate the LED at full power as well as through a dimming range from 100% to 0.1% without flicker. Finally, precision optics are incorporated to place the light where it is intended, control brightness and not distort the color or the beam of light that is delivered to the space.

Modularity

A key feature in all Whitegoods products is a modular approach to product and systems design. By developing interchangeable components within a product range, inventory, assembly, installation and specification are positively affected. A modular system reduces production time and speeds the install housing to the jobsite when it is needed.

ProTools 60 Linear is easy to specify; one linear form with many performance options. A common housing fitting all mounting requirements, and optical inserts with all the required lighting distributions allow even the most complex combinations to be easily configured.

Standards to fit most application requirements, and customization to fit every space



Technology

Proprietary LED boards provide the most efficient and effective linear lighting solution that combines efficiency and brightness control in a small, integrate-able package. Whitegoods has specially designed a selection of constant current LED boards to be used consistently throughout its linear range. We even conformal coat the boards to protect them against humidity.

Lumens Per Watt	Lumens Per Foot	CCT	CRI	L70	SDCM
170	350 - 2500	2700K - 4000K	92	50,000 HRS	3

*nominal LED board lumens at 3000K

Tuneable White Light

Tuneable White allows you to select any color temperature between 2200K and 4000K, while maintaining the same high quality color rendering as the standard LED. This feature is often used in health and wellness applications, as well as work spaces to increase productivity, architectural spaces to match natural light, and for design focus in retail and hospitality environments.

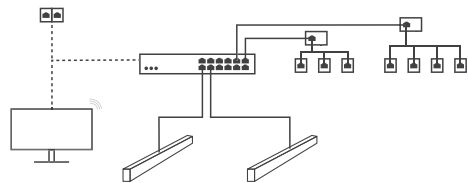
Control and Connectivity

Color Temperature	Description	Typical Usage
4000K	Cool	Office, Exterior
3500K	Neutral Cool	Office
3000K	Neutral Warm	Office, Residential
2700K	Warm: Halogen Incandescent	Residential, Hotel
2200K	Very Warm Incandescent	Residential

ProTools 60 Linear is compatible with the major dimming technologies available on the market today; 0-10V, Lutron, DMX, DALI. In combination with our proprietary Constant Current LED boards, full-range, flicker-free dimming is available, even for high-definition video camera.

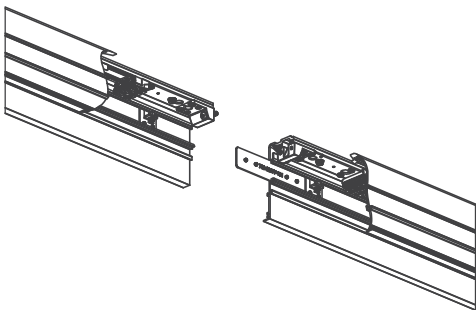
Wireless systems such as Casambi can be used for ease of localized control where flexibility and accessibility are considerations.

The use of POE (power over ethernet) technology allows ProTools 60 Linear products to be included into a local area network of electrical devices that can be easily configured for maximum control flexibility while minimizing wiring.



Mechanical Integrity

Whitegoods has introduced the *Sure-lock* to ensure that the individual fixtures in a continuous run are not just aligned, but also drawn tightly together to create the most minimal seam. Passive means of holding fixtures together does not work. *Sure-lock* pulls the fixtures together and maintains a tight joint for the life of the installation.



Delivering Illumination Without the Brightness



Typical Flush Lens



ProTools 60 Linear Recessed Lens

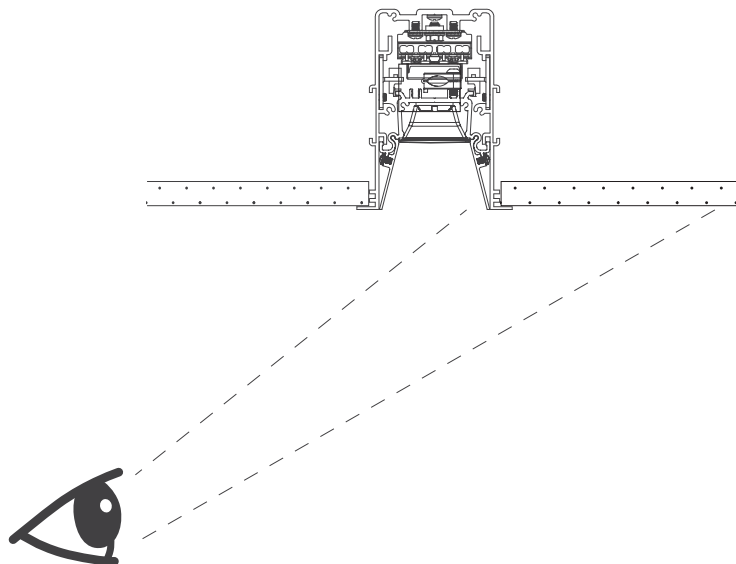
Luminance

Luminance is the measure of how bright an object appears to the human eye and is a reading of the amount of light (candelas/m²) that reaches your eye. The luminance value, combined with the visual cut-off angle, is important in determining if a luminaire will be a glare nuisance in the space.

The relationship between the luminance values of the luminaire and the ceiling will indicate the contrast between them. A contrast ratio $> 5:1$ (luminaire to ceiling luminance) indicates that the luminaire will be a focal point in the space as it is significantly brighter than its surroundings.

A ratio $< 5:1$ (ex. $3:1$) will indicate a very 'quiet' luminaire that will most likely not stand-out as the brightest object in the space.

All ProTools 60 Linear luminance values are indicated on their photometric reports. These photometric reports are also used to calculate the light levels in a space, and thus can be used to determine luminance of a surface such as walls and ceilings.



Unified Glare Rating

Unified Glare Rating is an indicative rating that designers can use to create a space that avoids the discomfort and distraction of glare. For luminaires, this rating is primarily based on a calculation that takes into account:

- Luminance value of the luminaire
- Background luminance
- Viewing angle to the light source as seen by people in the space

UGR = 8 log [0.25 / L_b Σ (L² ω / p²)]

UGR is one way to compare the relative glare or brightness control of one luminaire versus another. A rating of <19 is acceptable for most spaces. The UGR rating for each ProTools 60 Linear luminaire is located on the photometric report and available at inter-lux.com/whitegoods.

Efficiency

ProTools 60 Linear starts with the highest lumen per watt rating from the proprietary LED boards that are used throughout the Whitegoods brand. The design and technology that delivers light only where it is needed and simultaneously minimizes glare are sympathetic design features. High efficiency optics that include low brightness features are utilized to deliver light only where it is needed.

Luminaire efficiency is a measure of the light output of the luminaire in relation to the light output of the light source (LED). The higher the percentage of light that is emitted by the luminaire, the greater the efficiency. LED efficacy is represented by the amount of light emitted by the bare LED in ratio to the power expended to produce that light expressed in lumens per watt.

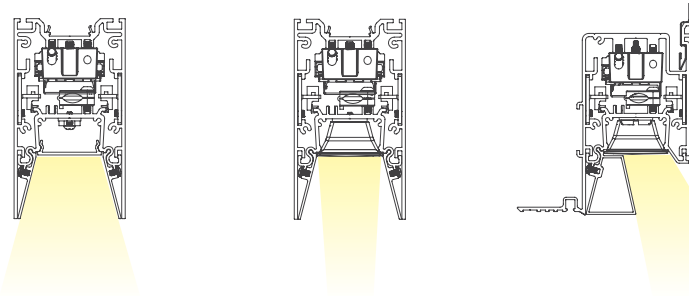
The system efficacy would be the ratio of light emitted from the luminaire in relation to the power expended, expressed in delivered lumens/watt. Thus the more light that is allowed to exit the luminaire, the more efficient the design is and the fewer watts per square foot could be your design – if all the light goes where you need it!

We feel that beam control is also a factor in luminaire efficiency. That is why ProTools 60 Linear is offered with various optics and reflectors to accommodate any application in the most efficient manner.

LED Efficiency (180 lumens per watt)

Lens	Luminaire	System Efficacy
Recessed Micro-prismatic Lens	59%	78 lumens per watt
Recessed Black Louver	87%	101 lumens per watt
Regressed Opal Lens	54%	72 lumens per watt

*Based on 3000K LED



ProTools 60 Linear Wall Graze / Soft Graze

Wall Graze



Soft Graze 1"



All feature walls are not created equal -so why graze them in the same way?

ProTools 60 Llinear Wall Graze and Soft Graze allow you to illuminate a wall surface with the appropriate set-back so you can control the amount of contrast that is visible on a textured or patterned surface.

Absolute brightness control eliminates glare and ensures that the wall is the brightest feature.

The luminaire housing allows the wall to be illuminated full height and from above the ceiling plane.

The Soft Graze bracket integrates seamlessly between the wall and the luminaire to offer fine-tuning of the wall contrast for just the right effect.

Of course further fine tuning is possible by specifying any of the standard color temperatures available from 2700-4000K. Or specify Tuneable White that allows you to change the color temperature from 2200K to 4000K at any time.

Additionally, flicker-free, full-range dimming is standard and an absolute requirement in video spaces.

A range of lumen output options and optics are suited to graze walls from 8' to above 30' in height.

Soft Graze 2"

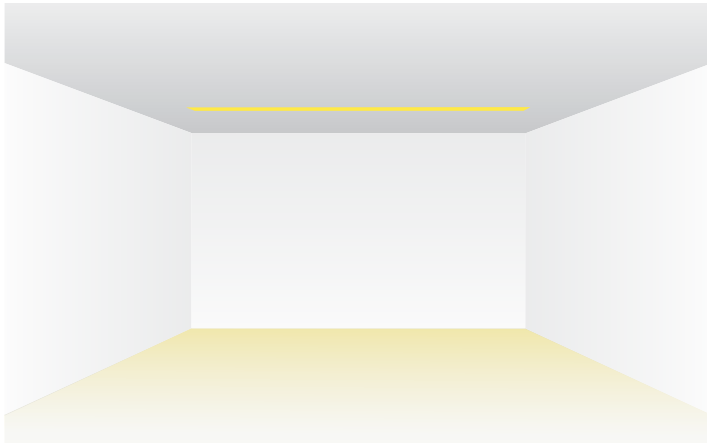


Soft Graze 3"



ProTools 60 Linear Design Guide

Downlight



Regressed Lens

Delivers wide angle general illumination for open spaces such as offices, corridors and classrooms.

Recessed Lens

General illumination with greater brightness control. Spaces where wide angle illumination is required and the source of illumination is not intended as a feature of the space.

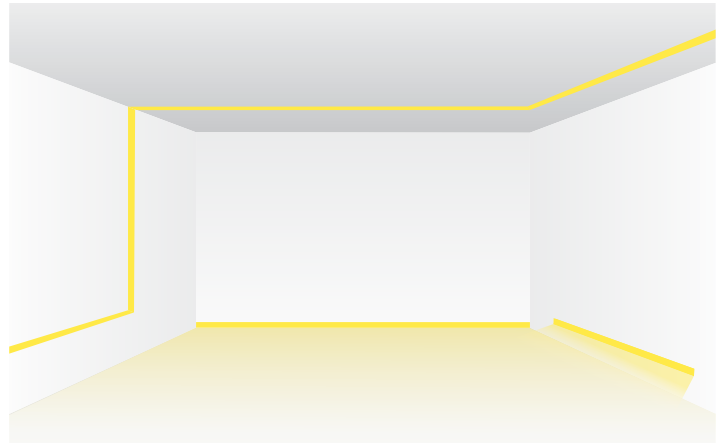
Recessed Louver

This optic features an optic that delivers narrow to wide angle illumination and a deep recessed louver that eliminates any direct source of brightness. Most applicable for spaces where the object to be illuminated is the intended to be the most visible object in the space.

Mounting Options

- Recessed in any ceiling type
- Surface mounted
- Suspended
- Wall mounted
- Perimeter mounting

Wallwash



Recessed Lens

Spaced appropriately from the wall, even illumination is applied up to 10' ceiling height. Classic wall wash from soft start at the ceiling, majority of light concentrated at the visual range and light all the way to the base of the wall. Deep recessed lens and a choice of reflector finishes can render the wall as the focal point, rather than the fixture aperture

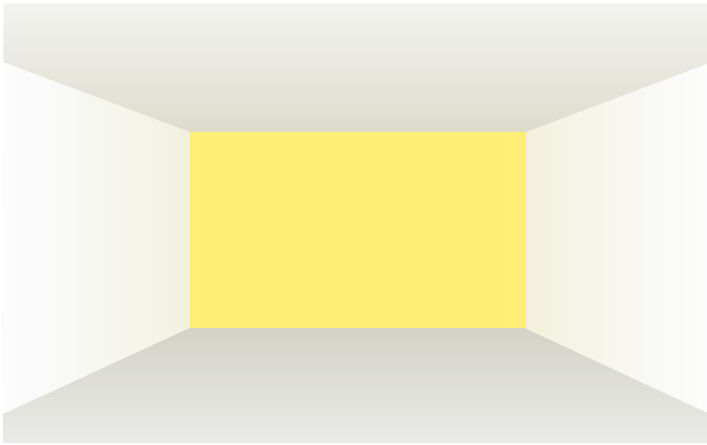
Recessed Louver

For higher ceilings and higher levels of illumination, coupled with extreme brightness control, the recessed louver optic delivers wall wash distribution while hiding the source of light from any normal viewing angle.

Mounting Options

- Recessed in any ceiling type
- Surface mounted
- Suspended

Wallgraze



Recessed Lens

The specially designed recessed housing positions the optic above the junction of the wall and ceiling and allows the finished wall to continue past the finished ceiling to deliver a soft grazing light down the wall.

Use the Recessed Lens in up to 12 foot ceiling heights when the light is to obviously emanate from above the ceiling and gradually diminish towards the floor.

Recessed Louver

By adding a tighter beam of light to the wall graze distribution, light is driven further down the wall and delivers a sheet of light from above the finished ceiling to the base of the wall. The recessed louver cuts viewing angles to the light source when viewed from any angle, and the choice of low or no brightness finishes on the wall-side reflector ensures that the wall is the brightest object in the space.

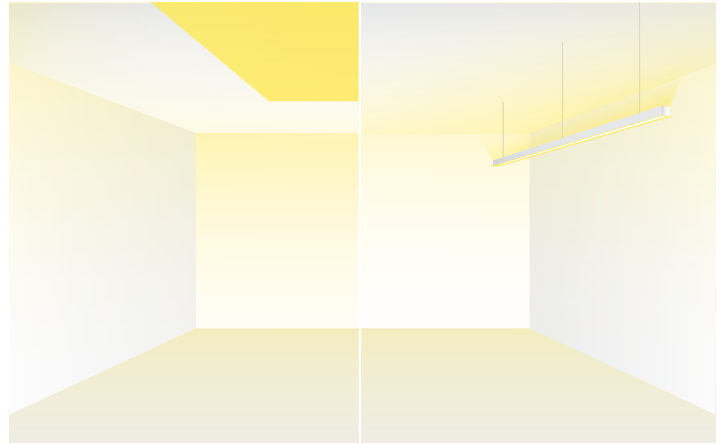
Soft-Graze

This feature simply extends the optic further from the wall and softens the contrast effect on the wall. All texture or imperfections of the wall will be less noticeable while you still have the option of using this fine grazing light.

Mounting Options

- Recessed in any ceiling type
- Surface mounted
- Perimeter mounting

Perimeter



Recessed Lens

A continuous perimeter lighting system that delivers an even wash of light at the top of the wall, above the finished ceiling, and gradually diminishes closer to the floor. The Perimeter system can be used to illuminate corridors and provide definition to feature walls.

Recessed Louver

Adding narrow beam optics and a deeply recessed louver in the perimeter system can deliver high levels of light to accent a wall feature up to 25 feet high, and illuminate objects below such as furniture or plant walls - while eliminating all source of glare.

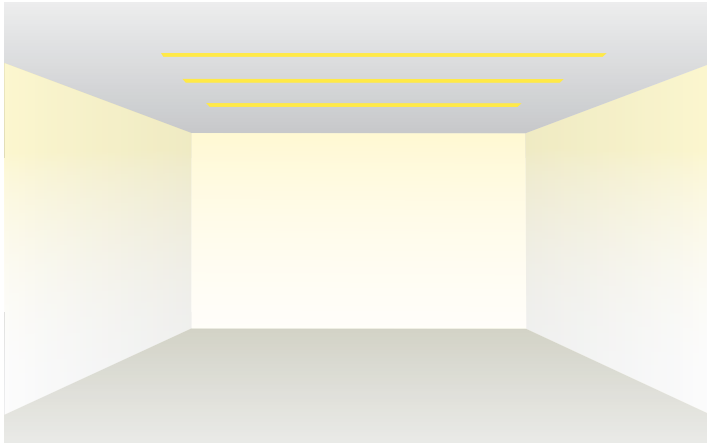
Soft-Graze

This feature simply extends the optic further from the wall, softens the contrast effect on the wall and projects more light to horizontal surfaces and features on the floor below.

Mounting Options

- Recessed in any ceiling type
- Surface mounted
- Suspended
- Wall mounted
- Perimeter mounting

Indirect



Batwing

ProTools Linear uplight optics are accomplished through high efficiency refractor lenses specially designed for our led boards. The Batwing is the wide angle lens that also delivers an even level of light directly above the luminaire. Use this lens when you are as close to the ceiling as 6 inches, use low power led and still get light out into the space. Typical distances from the ceiling would be 12 inches and more for higher light output.

Assymetric

The assymetric lens is used to direct the majority of the light to one direction. Using this uplight option in a wall mount luminaire will put much less light on the wall and more into the space being illuminated.

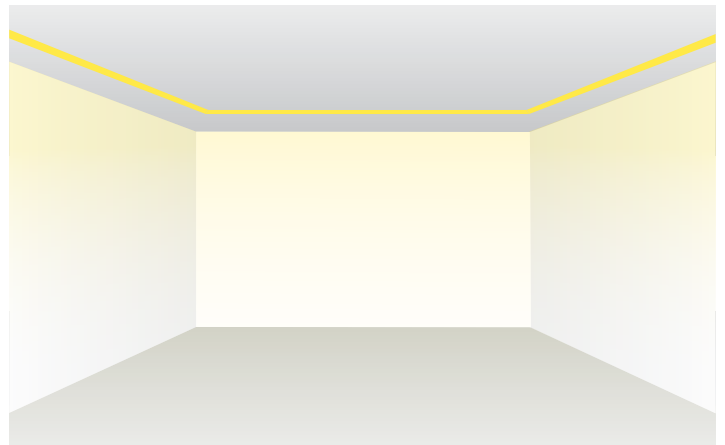
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Mounting Options

- Suspended
- Wall mounted

Direct/Indirect



Direct Light

The downlight component of any Direct/Indirect luminaire utilizes the same optical inserts, thus the same optics as previously referenced under: Downlight.

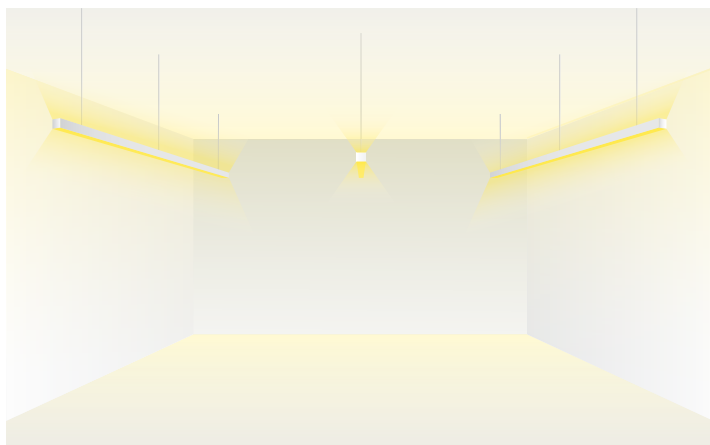
Indirect Light

The uplight component of any Direct/Indirect luminaire utilizes the same optical inserts, thus the same optics as previously referenced under: Indirect.

Mounting Options

- Suspended
- Wall mounted

Configurations



Configurations

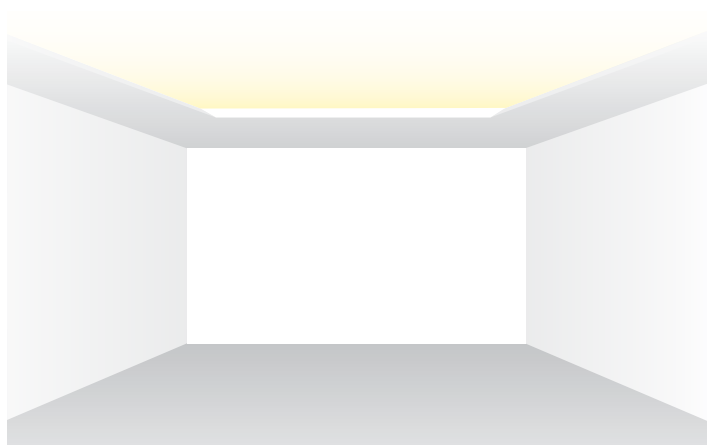
All Protools Linear products are capable of being combined to produce continuous runs of any length. Our Housings can be produced to exact dimensions, the illuminated lenses (Regressed and Recessed) can fill the entire housing with light. Only the Recessed Louver has practical length limitations and cannot accommodate any length - so the led/louver is provided in 12 inch increments and the difference is filled with a recessed snap-in cover, finished to the same color as the housing and evenly applied to both ends of a run. Of course we can customize that.

We provide corners in 90 degree standard as well as custom. In the same plane, or in two planes such as wall-to-ceiling and wall-to-wall.

Mounting Options

- Recessed
- Surface mount
- Suspended
- Wall mounted
- Perimeter

Combinations



Combinations

Because Protools Linear has been designed in such a modular fashion, we can populate the housings with different optical inserts - even in a single luminaire or run of multiple luminaires.

As long as you specify in 12 inch segments with minimum 24 inch lengths, we can accommodate your space with a multiple function linear solution.

A Combination is appropriate in spaces where a clean, low brightness, continuous appearance in combination with different lighting applications are required, such as retail, conference rooms and lobbies.

Mounting Options

- Recessed
- Surface mount
- Suspended
- Wall mounted



The application of light to the surfaces around us is a critical factor in our perception of any space.

When proper consideration is given to the architecture, function and the desired atmosphere, lighting can become a truly integrated part of the overall environment being created, often unseen although defining and enhancing the space.