Whitepaper: Illuminating Planes

Introduction

Light shapes how we experience architecture. While direct illumination addresses the functional need for light, illuminating walls and ceilings uses architectural surfaces themselves to define space, establish visual hierarchy, and influence the perception of scale, brightness, and depth.

This whitepaper explores the fundamentals of wall and ceiling illumination, including the primary techniques available, key design considerations, performance criteria, and specification best practices for architectural applications. It also examines how to select the appropriate luminaire and optical system to achieve the desired effect.

Why Illuminate Architectural Planes?

Illuminating walls and ceilings does more than reveal surfaces—it influences how an entire space is perceived and experienced. Thoughtfully illuminated planes can:

- **Increase perceived brightness** without relying solely on higher ambient light levels.
- **Define architectural form** and reinforce the geometry of a space.
- **Create a greater sense of openness, height, or depth** by illuminating vertical and overhead surfaces.
- **Direct visual attention** toward artwork, materials, textures, and architectural features.
- **Establish atmosphere and visual hierarchy** through controlled brightness and contrast.
- **Integrate light with architecture,** allowing surfaces to become part of the lighting composition rather than simply receiving light.

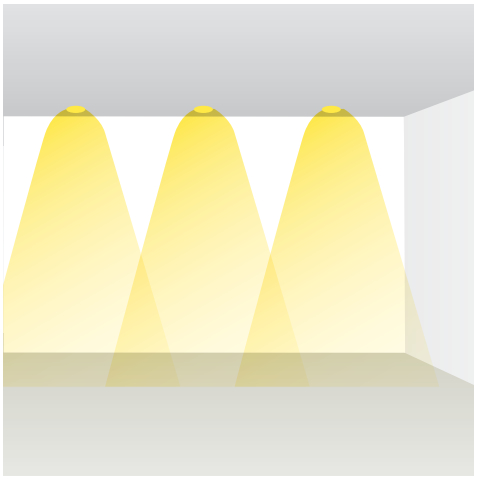
Methods for Illuminating Architectural Planes

The way light is distributed across an architectural plane determines how the surface—and ultimately the space—is perceived. Three fundamental lighting effects form the basis for illuminating architectural planes:

Wallwash
Creates **smooth, uniform illumination** across a wall or ceiling. Luminaires are positioned away from the surface to provide broad, even coverage while minimizing shadows and variations in brightness.

Perimeter and Wallgraze
Positions light **close to the surface at a steep angle**, illuminates the vertical surface, revealing texture, depth, and material character. Perimeter light contributes a substantial amount of lighting to the space while grazing restricts the majority of light to the feature wall.

Scallop
Creates a **deliberate pattern of overlapping or individual arcs of light** on a wall or surface. Rather than uniform illumination, scalloping uses light and shadow rhythmically to add visual interest and reinforce architectural form.

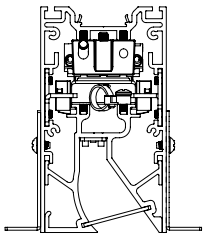


1. Wallwash

1.1 Definition:

Wallwashing is a lighting technique that distributes light broadly and evenly across a vertical surface. The objective is to create a consistent field of illumination from the upper portion of the wall toward the floor while minimizing hotspots, scalloping, shadows, and noticeable variations in brightness, most often concentrating light along a visual zone centered 5.5’ above the floor.

Unlike wallgrazing, which intentionally emphasizes surface texture, wallwashing visually **softens and unifies the wall plane**, allowing the illuminated surface to become an important component of the overall ambient lighting composition.



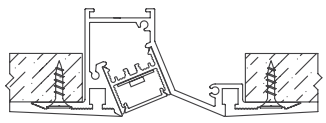
1.2 Why Wallwash?

Walls occupy a significant portion of the visual field within an interior. Illuminating them can have a substantial effect on both the architecture and the perception of the space.

Effective wallwashing can:

- **Increase perceived brightness** by placing light on highly visible vertical surfaces.
- **Create a sense of openness and spaciousness** by visually expanding the boundaries of a room.
- **Reveal architectural form** while maintaining a clean, uniform appearance.
- **Provide a balanced background** for artwork, graphics, displays, and architectural features.
- **Reduce visual contrast** between the wall and surrounding space, contributing to visual comfort.
- **Support ambient illumination** by using reflected light from the wall to contribute to the overall luminous environment.

Wallwashing is particularly effective in galleries, offices, hospitality environments, retail spaces, corridors, residential interiors, and other applications where vertical surfaces are an important part of the architecture.



1.3 Methods of Wallwashing

The desired wallwash effect can be achieved using several luminaire types. Selection depends on the architecture, ceiling conditions, wall height, required uniformity, and the desired level of integration.

1.3.1 Linear Wallwash

Linear wallwashing uses a continuous linear source positioned parallel to the wall to produce a broad and consistent distribution of light.

Because the illumination originates from a continuous source rather than individual points, linear wallwashing can provide excellent horizontal continuity and minimize visible scalloping between luminaires. It is particularly effective for long walls, corridors, galleries, feature walls, and applications where uninterrupted illumination is desired.

Applications:

Long or continuous walls, corridors, galleries, feature walls, large architectural surfaces, and spaces requiring highly uniform illumination with minimal scalloping.

Product Examples:

20 Linear Wash Light — Recessed

A miniature, shallow semi-recessed linear wash light designed for even illumination of walls, ceilings, and floors. Its trimless and bezel-trim options allow it to integrate into drywall, wood, and metal surfaces, while continuous runs can be produced to specified lengths.

ProTools 60 Linear Wall Wash — Recessed

A 2.4-inch aperture architectural wallwasher designed to evenly illuminate walls from top to bottom with smooth gradation. The system accommodates standard and tailored run lengths, including corners, and can wash walls up to 30 feet high while providing controlled brightness and reduced glare.

1.3.2 Downlight Wallwash

Downlight wallwashing uses individual recessed luminaires with **asymmetric optical distributions** engineered to direct light toward the vertical plane.

Unlike a standard downlight, which primarily directs light toward the floor, a wallwash optic redirects and spreads illumination across the wall. Proper fixture setback and spacing are important for achieving uniform vertical illumination and minimizing visible scalloping between fixtures.

Point-source wallwashers are particularly useful when the lighting design calls for a quiet ceiling with small apertures or when wallwashing needs to be coordinated with a family of matching architectural downlights.

Applications:

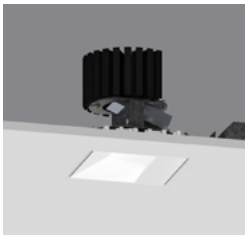
Offices, hospitality, residential interiors, retail, galleries, corridors, and spaces where wallwashing needs to integrate with a coordinated family of recessed downlights.

Product Examples:

3” ProTools Wall Wash Round Recessed

A compact 3-inch aperture wallwasher with a flush aperture and room-side cutoff. Its shallow construction and below-ceiling installation make it suitable for both new and retrofit applications while maintaining visual consistency with the broader PTD3 downlight family.

4” ProTools Wall Wash Square Recessed



A 4-inch recessed wallwasher with a regressed half-moon light aperture and flush kick reflector. It is part of the matching 4-inch ProTools downlight family and provides high color rendering with controlled wall illumination.

1.3.3 Surface-Mounted Wallwash

Surface-mounted wallwashing applies the same principles as recessed linear wallwashing but allows the luminaire to be mounted directly to the ceiling or another architectural surface.

This approach is particularly useful where recessed installation is impractical because of limited plenum depth, exposed ceilings, concrete construction, or other architectural constraints. Surface-mounted systems can also become an intentional architectural element rather than disappearing completely into the ceiling.

Applications:

Exposed or concrete ceilings, renovation projects, limited-plenum conditions, retail and hospitality environments, and applications where recessed installation is impractical or the luminaire is intended to become part of the architectural expression.

Product Examples:

20 Linear Wash Light — Surface

A miniature surface-mounted linear wash light designed for even illumination of walls, ceilings, and floors. The minimal housing can be installed in continuous runs and mounts using concealed clips, providing a clean solution where recessed installation is not required or possible.

ProTools 60 Linear Wall Wash — Surface Mount

A surface-mounted version of the ProTools 60 linear wallwash concept, combining the architectural presence of a surface luminaire with controlled linear wall illumination. The 2.4-inch aperture system is designed to integrate with multiple ceiling conditions while maintaining the modularity and brightness control of the ProTools 60 family.

4” ProTools Wall Wash Round Cylinder

A 4-inch round ceiling-mounted cylinder wallwasher designed to provide controlled vertical illumination where recessed installation is not practical or desired. Its low-brightness design combines a regressed half-moon aperture with a flush kick reflector to provide wallwash distribution while controlling room-side brightness. Available for surface or suspended mounting, it provides a point-source alternative to linear surface-mounted wallwash systems.

1.3.4 Cove Wallwash

Cove wallwashing uses a **concealed, indirect linear light source in the ceiling** directing light to the ceiling that is then redirected to the wall, to distribute light smoothly down the vertical surface. By hiding the luminaire within the architectural detail, the technique creates the impression that the light originates from the architecture itself rather than from a visible fixture.

Cove wallwashing is particularly effective when the design calls for **continuous illumination with minimal visual impact**. The integrated perimeter detail can emphasize the intersection of wall and ceiling while creating a clean, uninterrupted luminous plane.

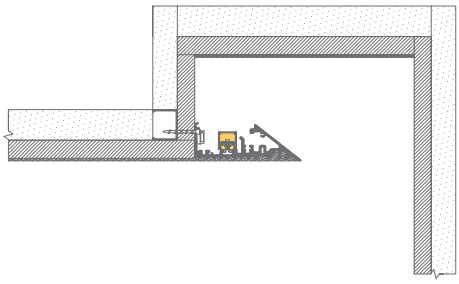
Applications:

Hospitality, residential, retail, galleries, corridors, reception areas, and other architectural interiors where continuous wall illumination and a seamlessly integrated perimeter detail are desired.

Product Examples:

20 Linear Mini Edgeless Cove

A miniature continuous perimeter cove system using 20 Linear as the light source. The plaster-in knife-edge detail integrates directly into the ceiling and conceals the luminaire while delivering light smoothly down the wall. The system accommodates 1/2-inch or 5/8-inch drywall and can be factory cut to specified lengths and angles, including standard and custom corners.



1.4 Design Considerations

Regardless of the wallwashing method selected, successful results depend on the relationship between the **luminaire, wall, and architecture**.

Key considerations include:

- **Setback from the wall** — The distance between the luminaire and wall affects beam coverage, uniformity, and the transition of light down the vertical surface.
- **Fixture spacing** — Point-source wallwashers must be spaced appropriately to blend adjacent distributions and avoid pronounced scalloping.
- **Wall height** — Taller walls require optics and lumen packages capable of maintaining useful illumination over greater distances.
- **Surface reflectance** — Light-colored and matte surfaces generally produce a softer, brighter appearance, while darker finishes absorb more light and may require greater output.
- **Surface texture** — Wallwashing tends to minimize texture. Where revealing texture is the design objective, wallgrazing may be the more appropriate technique.
- **Brightness control** — Optics, shielding, aperture design, and fixture placement should control direct view of the source and minimize glare.
- **Uniformity** — Evaluate both vertical and horizontal uniformity rather than considering illuminance at a single point.
- **Coordination with architecture** — Fixture location should be established early enough to coordinate ceiling systems, wall locations, structure, mechanical systems, and architectural details.

1.5 Results

A successful wallwash creates the impression of an **evenly illuminated vertical plane rather than a series of individual light sources**. The result is a visually quiet ceiling, smooth and consistent illumination, reduced shadows and hotspots, and a luminous surface that strengthens the architecture while contributing to the overall perception of brightness and space.

2. Perimeter and Wallgraze

2.1 Definition:

Perimeter and wallgraze lighting place the light source at or near the intersection of the wall and ceiling, using light to emphasize the vertical plane and define the architectural boundary of a space.

Unlike wallwashing, where the objective is generally smooth and uniform illumination, these techniques can create greater contrast, reveal surface texture, establish a strong perimeter, or intentionally produce patterns of light and shadow.

2.2 Why Perimeter and Wallgraze Lighting?

Lighting the perimeter can fundamentally change how an interior is perceived.

Effective Perimeter and Wallgraze lighting can:

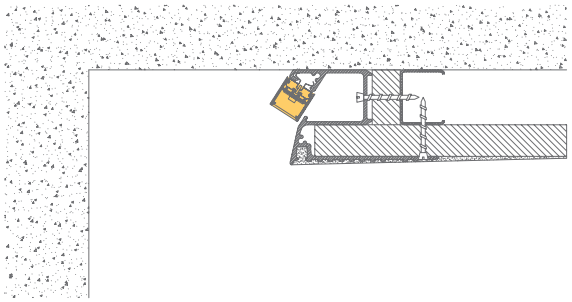
- **Emphasize texture and materiality** through highlights and shadows.
- **Define the edges and geometry of a space** with light.
- **Create visual depth and dimensionality** on vertical surfaces.
- **Draw attention** to architectural materials and feature walls.
- **Increase the perception of height** by visually connecting the wall and ceiling.
- **Integrate lighting into the architecture,** minimizing the visual presence of the luminaire.

2.3 Methods of Perimeter and Wallgraze Lighting

While both lighting techniques involve a continuous perimeter lighting system, the light distribution is very different. **Perimeter** lighting uses a wider beam of light that softly grazes the wall and directs light into the adjacent space. **Grazing** utilizes a narrow, elliptical beam that delivers a 'sheet' of light down the wall.

While linear sources are used continuously graze the wall, narrow point source downlights can be used to graze the wall with accent and pattern results.

Selection depends on the desired visual effect, surface characteristics, ceiling conditions, wall height, and functional requirements of the space.



2.3.1 Perimeter Lighting

Linear perimeter lighting places a continuous source at the junction between the wall and ceiling to illuminate the vertical surface while visually defining the edge of the space.

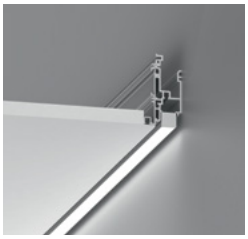
Depending on fixture geometry and optics, perimeter lighting can produce anything from a soft transition of light to a more concentrated grazing effect. Continuous systems are particularly effective for reinforcing architectural geometry and creating uninterrupted illumination around a room and contributing to the light levels of the space.

Applications:

Offices, hospitality, residential interiors, retail, galleries, corridors, reception areas, conference rooms, and other spaces where the ceiling-to-wall transition should be emphasized or where continuous perimeter illumination is desired.

Product Examples:

20 Linear Perimeter – Flush



A miniature recessed perimeter system with the light source positioned flush with the ceiling plane. Designed for continuous mounting, the system creates uninterrupted illumination of adjacent surfaces while integrating closely with the architecture. A Soft Graze option increases the setback for a less dramatic grazing effect.

ProTools 60 Linear Perimeter

A continuous 2.4-inch aperture linear perimeter system designed to provide even illumination to the wall from above the finished ceiling. Available in standard and tailored run lengths, including corners, the system incorporates recessed optics for brightness control and offers a Soft Graze option to adjust the center of light away from the wall.

20 Linear Mini Z Cove

A compact continuous perimeter luminaire with a plaster-in knife-edge detail that conceals the light source while delivering light smoothly down the wall. Using 20 Linear as the light source, the system creates a precise architectural transition between the ceiling and illuminated vertical plane.

2.3.2 Linear Wallgraze

Linear wall grazing uses a continuous linear source positioned close to and parallel with the wall. The narrow distribution directs a sheet of light down the vertical surface, emphasizing texture while maintaining continuity along the length of the architecture.

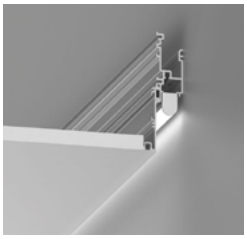
Compared with point-source grazing, a continuous linear system minimizes individual pools of light and provides a more consistent grazing effect across long surfaces.

Applications:

Textured stone, brick, concrete, wood and tile walls, dimensional surfaces, feature walls, hospitality environments, galleries, corridors, reception areas, and other spaces where material texture and architectural detail should be emphasized.

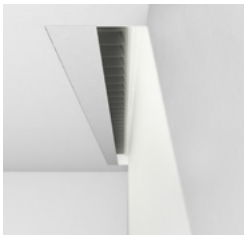
Product Examples:

20 Linear Perimeter Regressed and Wallgraze



A miniature recessed perimeter system with a regressed light source designed for continuous illumination of adjacent vertical surfaces. Multiple optical options allow the system to transition from perimeter illumination to more concentrated wall grazing while maintaining the minimal scale of the 20 Linear family.

ProTools 60 Linear Wall Graze Recessed



A 2.4-inch aperture architectural wallgraze system that delivers a narrow sheet of light to a feature wall from above the finished ceiling. Standard and tailored runs, including corners, allow the system to integrate continuously with the architecture, with options capable of grazing walls up to 50 feet high.

2.3.3 Scallop Lighting

Scallop lighting uses individual point-source luminaires positioned in a repeated pattern to create distinct arcs of light across a vertical surface. Unlike wallwashing, where adjacent distributions are blended to achieve uniformity, scalloping intentionally allows the shape and transition of each beam to remain visible.

Fixture spacing, setback, beam distribution, and wall height determine the size, shape, overlap, and rhythm of the scallops. The resulting pattern introduces contrast, repetition, and visual movement, allowing the light itself to become an architectural feature.

Applications:

Corridors, hospitality spaces, restaurants, retail environments, feature walls, circulation areas, and other interiors where a deliberate rhythm of light and shadow is desired rather than continuous, uniform wall illumination.

Product Examples:

1.5” ProTools Downlight Round Recessed

A compact, low-brightness recessed downlight with a 1.5-inch aperture family, designed for general and accent illumination. When specified with the **35° beam** and positioned **within approximately 6 inches of the wall**, the luminaire can create a defined scallop of light on the vertical surface. Repeating the fixtures at controlled intervals establishes a consistent rhythm of light and shadow, while spacing and setback can be adjusted to influence the size and overlap of the scallops.

2.4 Design Considerations

Successful wall grazing and perimeter lighting depend heavily on the relationship between the luminaire and the surface being illuminated.

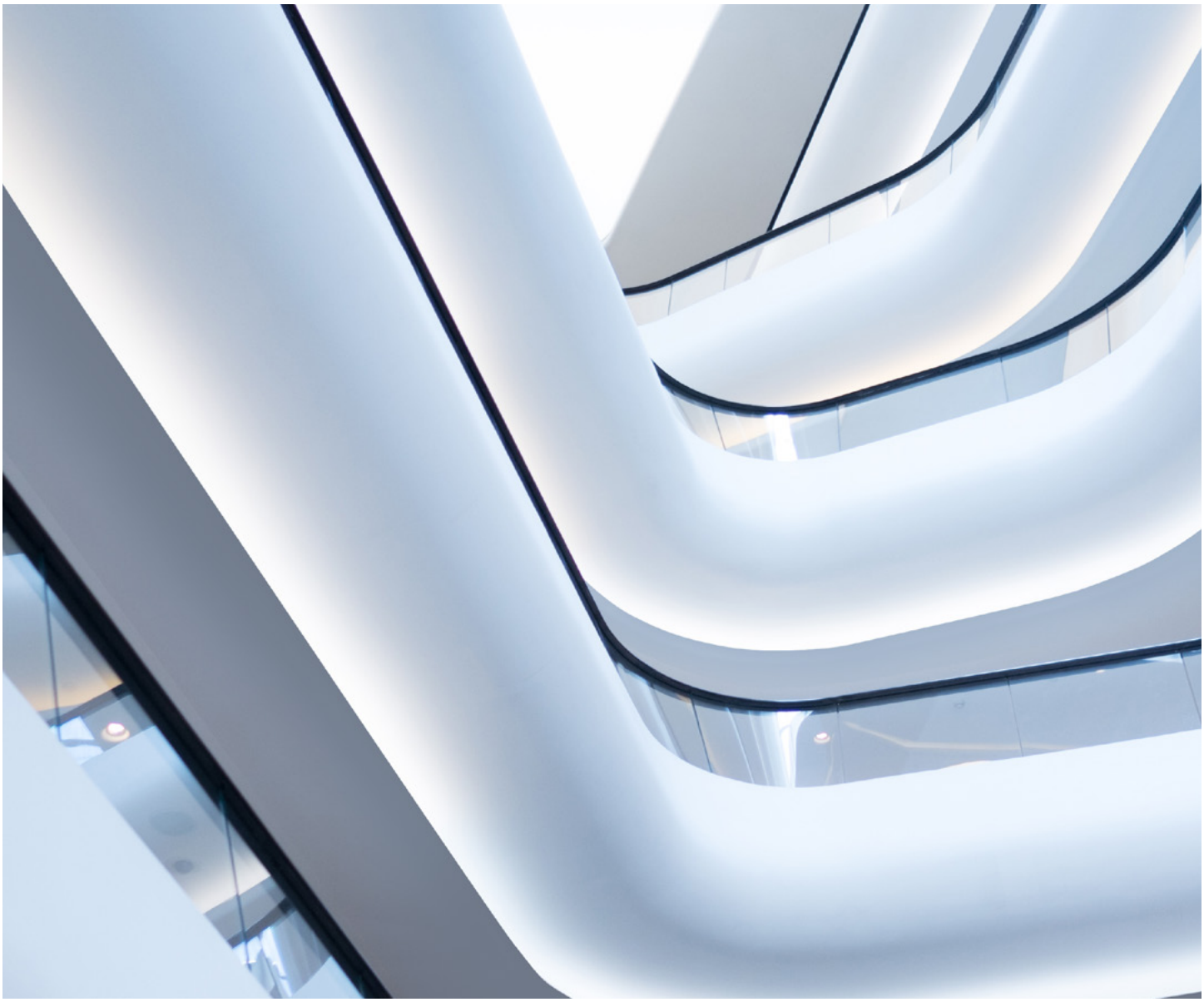
Key considerations include:

- **Distance from the wall** — Small changes in setback can significantly affect texture, shadow, uniformity, and overall visual impact.
- **Surface texture** — Grazing exaggerates surface irregularities. This is desirable for intentionally textured materials but can reveal imperfections in drywall or other smooth surfaces.
- **Wall height** — Fixture output and optical distribution should be selected to maintain the intended effect over the full height of the surface.
- **Optical distribution** — Narrow grazing distributions create stronger texture and contrast, while softer distributions provide a more subtle transition.
- **Continuity** — Linear systems should maintain consistent output through runs and corners to avoid interruptions in the illuminated plane.
- **Brightness control** — The source should be shielded or integrated so that the luminous element does not become a distracting source of glare.
- **Architectural coordination** — Perimeter systems often require close coordination between lighting, ceiling, wall, framing, and drywall details.
- **Surface quality** — Installation tolerances and finish quality become particularly important because grazing light can reveal even minor surface variations.

2.5 Results

Successful wall grazing creates a **controlled interplay of highlight and shadow that reveals the character of the architectural surface,** while perimeter lighting establishes a continuous luminous boundary that defines the geometry of the space.

In both cases, the lighting becomes closely integrated with the architecture—using the vertical plane not simply as a surface to illuminate, but as an active element in the overall lighting composition.



3. Specification & Design Best Practices

Successful plane illumination depends on more than selecting the appropriate luminaire. Surface characteristics, fixture placement, optics, light quality, controls, and architectural integration all contribute to the final result. These considerations should be evaluated early in the design process to ensure the lighting supports both the visual intent and the architecture.

3.1 Surface & Architectural Conditions

The surface being illuminated is an active part of the lighting system and should be considered when selecting the lighting technique.

- **Wall or ceiling dimensions** influence the required lumen output, optical distribution, fixture spacing, and setback.
- **Surface texture** should help determine the technique. Smooth surfaces generally benefit from washing, while stone, brick, wood, and dimensional materials can be enhanced through grazing.
- **Surface reflectance** affects perceived brightness. Light-colored surfaces reflect more light, while darker finishes absorb more light and may require increased output.
- **Finish quality** is particularly important with grazing light, which can reveal seams, irregularities, and imperfections that may otherwise go unnoticed.
- **Ceiling and architectural conditions** influence whether recessed, surface-mounted, perimeter, or integrated cove solutions are most appropriate.

3.2 Luminaire Position & Setback

The relationship between the luminaire and the illuminated plane is one of the most important factors in determining the final lighting effect.

Increasing the distance from the surface generally produces a broader, softer distribution suitable for wallwashing. Moving the source closer to the surface creates a steeper angle of incidence, increasing highlights and shadows and producing a more pronounced grazing effect.

Position the light source close to the surface or object being illuminated. Reducing the distance allows light to be delivered more precisely where it is needed, reducing energy use, excess light, and glare while improving overall optical control.

3.3 Spacing & Uniformity

Fixture spacing determines whether individual distributions visually blend together or remain intentionally distinct.

Continuous linear systems provide uninterrupted illumination along the length of a surface and are particularly effective where consistent horizontal uniformity is required.

Point-source wallwashers rely on the relationship between fixture spacing, setback, wall height, and optical distribution. Appropriate spacing allows adjacent beams to overlap and create a smooth field of illumination. Excessive spacing can produce unwanted dark areas or scalloping.

When scalloping is the desired effect, the opposite principle applies: spacing is deliberately established so individual light patterns remain visible and create a controlled architectural rhythm.

Uniformity should be evaluated across both the horizontal and vertical planes, not simply by measuring illuminance at a single location.

3.4 Optics & Distribution

Optical selection determines how efficiently and precisely light reaches the architectural surface.

- **Asymmetric wallwash optics** distribute light across the vertical plane while helping balance illumination from the top of the wall toward the floor.
- **Graze optics** concentrate light close to the surface to increase contrast and reveal texture.
- **Beam control** helps place light where it is needed while limiting spill onto adjacent surfaces.
- **Cutoff and shielding** reduce direct view of the light source and help control glare.
- **Optical distribution** should be selected in conjunction with fixture setback, spacing, wall height, and the desired visual effect.

The objective is not simply to deliver sufficient light, but to deliver it **precisely and consistently to the intended architectural plane**.

3.5 Light Quality

Because illuminated walls and ceilings occupy a large portion of the visual field, the quality of the light is particularly important.

- **Color temperature (CCT)** should complement the architecture, materials, finishes, and overall character of the space.
- **Color rendering (CRI)** is especially important where artwork, wood, stone, fabrics, merchandise, or other materials need to appear natural and accurate.
- **Color consistency** across luminaires is critical in continuous runs and repeated installations, where differences between sources can become readily apparent.
- **Lumen output** should be selected according to surface dimensions, reflectance, ambient light levels, and the desired brightness relationship within the space.
- **Dimming** allows the illuminated plane to be balanced with other lighting layers and adjusted for different conditions or uses.

3.6 Architectural Integration

Plane illumination is most successful when the lighting system and architecture are designed together.

Recessed and trimless luminaires can minimize visible hardware, while surface-mounted solutions provide flexibility where ceiling construction prevents recessed installation. Perimeter and cove systems can integrate the light source directly into the transition between architectural planes.

Continuous linear installations require careful consideration of runs, corners, intersections, terminations, and transitions to maintain visual continuity.

For integrated systems, coordination between the lighting designer, architect, contractor, framing, ceiling, and drywall trades should occur early in the project. Fixture dimensions, mounting details, driver locations, access requirements, and architectural tolerances should be resolved before construction.

The objective is to allow the light and architecture to read as a single composition, rather than treating the luminaire as an element added after the architecture has been established.

3.7 Controls & Electrical

Controls allow plane illumination to respond to changing conditions while maintaining the intended relationship between lighting layers.

- Select the appropriate **dimming and control** protocol, such as 0–10V or DALI, based on project requirements.
- Coordinate **drivers, power supplies, and wiring** so they remain concealed while accessible for service.
- Consider zoning continuous runs and perimeter systems where different areas may require independent control.
- Coordinate control ranges and dimming performance with other luminaires within the space.
- Maintain access to electrical components and replaceable elements to support long-term serviceability and maintenance.

Controls should be considered part of the lighting design rather than simply an electrical requirement.

4. Typical Applications & Case Scenarios

The appropriate method of plane illumination depends on the architecture, surface material, visual objective, and desired relationship between the light source and the space. The following examples illustrate how different techniques can be applied to common architectural environments.

Application	Design Objective	Recommended Approach
Luxury residential	Create a warm, comfortable environment while reinforcing architectural form.	Use cove **wallwash or perimeter lighting** to integrate light into the architecture. Wallwash can be used to illuminate artwork and feature walls, while grazing can emphasize stone, wood, or other textured materials.
Hotel lobby	Create a strong sense of arrival, increase perceived brightness, and emphasize architectural finishes.	Use **linear wallwash** for large vertical surfaces, **wallgraze** to reveal textured materials, and **perimeter lighting** to define architectural boundaries.
Corporate Lobby / Reception	Create a bright, visually comfortable environment with minimal visible lighting hardware.	Use **continuous wallwash or integrated perimeter** lighting to illuminate major vertical planes and reinforce the geometry of the space.
Corporate boardroom	Provide a calm, refined environment while minimizing visible luminaires.	Use **wallwash or perimeter lighting** to increase perceived brightness and create a balanced luminous environment without relying solely on overhead illumination.

Gallery / Museum	Provide controlled illumination of artwork and vertical display surfaces.	Use **linear or point-source wallwash** for uniform vertical illumination. Select high color-rendering sources and coordinate wall illumination with accent lighting.
Retail	Draw attention to merchandise and architectural features while creating visual hierarchy.	Combine **wallwash** for general vertical illumination with **graze** for textured surfaces and **scallop** lighting where a more expressive or rhythmic effect is desired.
Restaurant / Hospitality	Establish atmosphere and visual interest while emphasizing materials and architectural details.	Use **wallgraze** to reveal texture, **scalloping** to create rhythm, and concealed **perimeter** or cove lighting to provide integrated ambient illumination.
Corridor	Provide visual orientation, increase perceived width or height, and create rhythm along the path of travel.	Use **wallwash** to visually expand the corridor, **perimeter lighting** to reinforce its geometry, or **scalloping** to establish a repeated visual rhythm.
Feature Wall	Make material, texture, artwork, or architectural form a focal point.	Select **wallwash** when uniformity is desired or **wallgraze** when texture and dimensionality should be emphasized.
Textured Stone / Brick / Wood	Reveal surface relief, depth, and material character.	Position **wallgraze lighting close to the surface** to create controlled highlights and shadows that accentuate texture.

4.1 Selecting the Appropriate Method

While several techniques may be appropriate within the same space, the primary design objective provides a useful starting point:

WASH — Uniformity and perceived brightness
GRAZE — Texture and dimensionality
PERIMETER — Architectural definition
SCALLOP — Rhythm and visual interest
COVE — Concealment and architectural integration

The most successful interiors often combine multiple methods, allowing illuminated planes to work together with task and accent lighting as part of a complete lighting composition.

5. Specifying Plane Illumination: Core Checklist

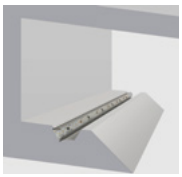
When specifying plane illumination, consider the following to ensure the desired visual effect, performance, and architectural integration.

1. **Define the Design Intent** — Determine the objective: uniform wallwash, texture-enhancing wallgraze, perimeter definition, rhythmic scalloping, or concealed cove illumination.
2. **Evaluate the Surface** — Consider dimensions, material, texture, color, reflectance, and finish quality. These characteristics directly influence the lighting effect.
3. **Select the Luminaire Type** — Determine linear or point source, and recessed, surface-mounted, perimeter-integrated, or concealed installation.
4. **Establish Position & Spacing** — Coordinate setback and fixture spacing to achieve the desired coverage, uniformity, texture, or scalloping. For linear systems, consider continuous runs and corners.
5. **Select Optics & Light Output** — Specify the appropriate distribution, beam control, lumen output, cutoff, and shielding for the surface, wall height, and desired effect.
6. **Specify Light Quality** — Establish CCT, CRI, color consistency, and dimming appropriate to the architecture, materials, and application.
7. **Define Controls & Electrical** — Determine control protocol, zoning, driver locations, wiring, and service access.
8. **Coordinate Architectural Integration** — Resolve mounting, trim, framing, drywall, ceiling conditions, corners, intersections, and terminations early in the design process.
9. **Coordinate Lighting Layers** — Balance illuminated planes with ambient, task, decorative, and accent lighting to create a cohesive composition.
10. **Plan for Service & Documentation** — Maintain access to serviceable components and provide drawings documenting fixture locations, setbacks, spacing, corners, driver locations, and construction details.

6. Whitegoods Tools for Illuminating Planes

Whitegoods offers a comprehensive range of architectural lighting tools designed to illuminate vertical and horizontal planes while minimizing the visual impact of the luminaire.

From wallwash and wallgraze to perimeter, scallop, and integrated cove solutions, Whitegoods systems provide designers with multiple approaches for controlling the relationship between light and architecture.

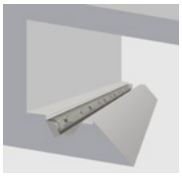

Edgeless Cove


Mini Box Cove


WedgeCove Indoor


Mini Edgeless Cove Soft Corner 180°


20 Linear Wash Light Suspended


Mini Edgeless Cove


Mini Box Cove (Plaster Trim)


WedgeCove Outdoor


Mini Edgeless Cove Soft Circle 360°


20 Linear Wash Light Semi-Recessed

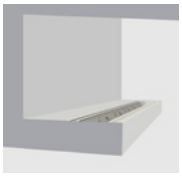

Mini Edgeless Cove + 20 Linear Direct


Mini Cove


Edgeless P Nose Cove


Mini Edgeless Cove Soft Shapes


1.5" ProTools Downlight Round Recessed


Box Cove


Box Cove 2


Edgeless Nose Cove


20 Linear Wash Light Recessed


3" ProTools Wall Wash Round Recessed


Box Cove (Plaster Trim)


20 Linear Mini Edgeless Cove


Mini Edgeless Cove Soft Corner 90°


20 Linear Wash Light Surface


4" ProTools Wall Wash Square Recessed

7. Conclusion

Illuminating architectural planes transforms walls and ceilings from passive surfaces into active elements of the lighting composition. Whether the objective is to create a uniformly illuminated wall, reveal the texture of a material, define the perimeter of a space, establish a rhythm of light and shadow, or integrate illumination invisibly into the architecture, the appropriate technique can fundamentally influence how a space is perceived and experienced.

Successful plane illumination begins with understanding the desired visual result. Wallwashing provides uniformity and perceived brightness. Perimeter lighting defines architectural boundaries. Wallgrazing reveals texture and dimensionality. Scalloping introduces rhythm and visual interest. Cove systems integrate light directly into the architecture.

Achieving these effects requires careful consideration of surface characteristics, luminaire position, spacing, optics, light quality, controls, and architectural details. When these elements are coordinated early in the design process, the luminaire becomes secondary to the effect it creates.

Whitegoods approaches plane illumination as a collection of architectural lighting tools rather than isolated fixtures. Through minimal form factors, controlled optics, modular systems, and integrated architectural details, the range gives designers the flexibility to select the appropriate method while maintaining a consistent design language.

The result is light that supports the architecture without competing with it—reducing detail, simplifying integration, and allowing the illuminated plane to become an integral part of the spatial experience.

Illuminating planes in interior architecture

page 1

project: **3141 Fairview Park Ave**
location: **Falls Church, VA**
specifier: **Sarah Richter Design**
architect: **OTJ Architects**
photography: **James Oesch Photography**

page 2

project: **WETA HQ Addition**
location: **Arlington, VA**
specifier: **Studios Architecture**
photography: **©Judy Davis, Architectural Photographer**

page 6

project: **Axinn Veltrop & Harkrider**
location: **Washington, DC**
architect: **OTJ Architects**
photography: **Eric Laignel**

page 10

project: **Venable LLP**
location: **Washington, DC**
architect: **Alliance Architecture**
lighting design: **MCLA**
photography: **Robert Benson and Eric Laignel**

page 12

project: **1111 Brickell Lobby**
location: **Miami, FL**
architect: **IA Interior Architects Miami**
photography: **Andrea Calo**

page 13

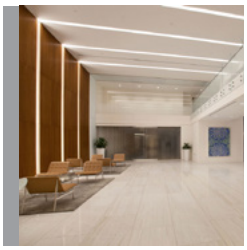
project: **Four Seasons New Orleans Luxury Hotel & Residences**
location: **New Orleans, Louisiana**
lighting design: **HLB**
photography: **Andy Caulfield**

page 14

project: **Zuckerman Spaeder**
location: **Washington, DC**
lighting design: **Sarah Richter Design**
photography: **Halkin Mason**

page 15

project: **Palmgren House**
location: **Stockholm, Sweden**
architect: **John Pawson**
photography: **Gilbert McCarragher**



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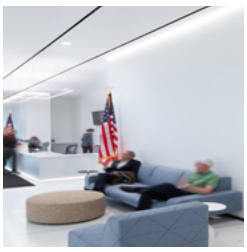
project: **2300 N St. NW**
location: **Washington, DC**
architect: **Fox Architects**
photography: **James Oesch Photography**



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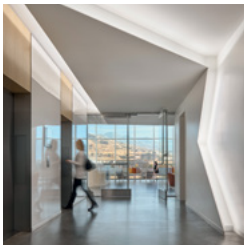
project: **IDA Headquarters**
location: **Washington, DC**
architect: **KGD Architecture**
lighting design: **CM Kling + Associates**
photography: **Kristopher Ilich**



back cover

project: **Corporate HQ**
location: **Lehi, Utah**
architect: **Gensler**
photography: **Ryan Gobuty**

Whitegoods has developed a comprehensive range of architectural lighting tools for illuminating planes. From wallwash and wallgraze to perimeter and integrated cove systems, each solution is designed to deliver precise lighting effects while minimizing the visual impact of the luminaire.

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

This is Whitegoods