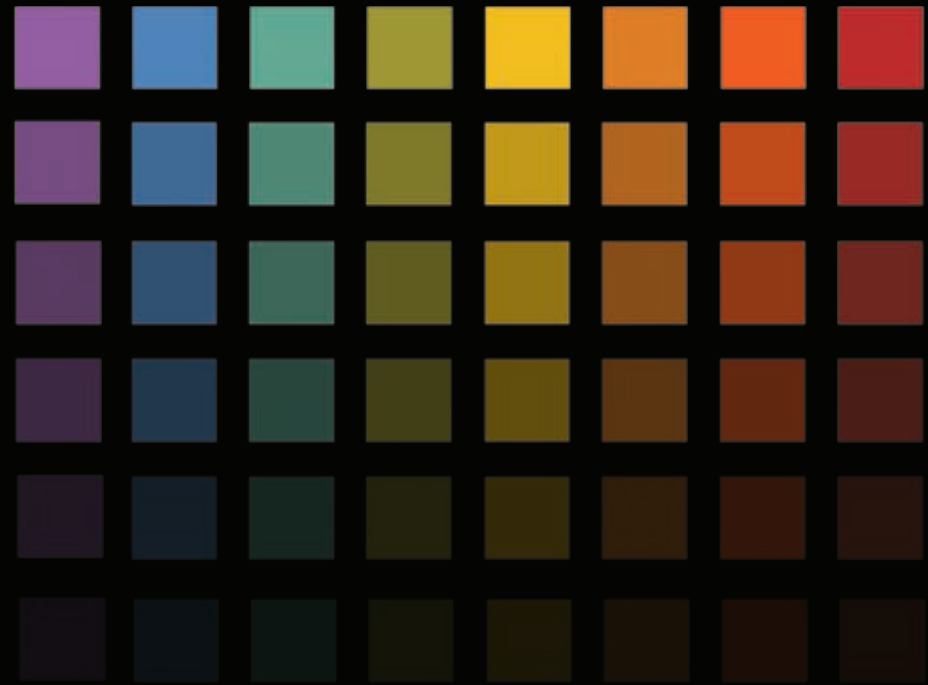


Designing  
*with* **LIGHT**

LIGHTOLIER®



Everything we see... Most of what we do...  
and much of what we feel is touched by light.









Managing the effects and cost of light is  
what great lighting is all about.

# Designing *with* **LIGHT**



DESIGNING WITH LIGHT

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# Designing *with* LIGHT

Light is a creative medium . . . perhaps the most powerful of all.

Writing for Lightolier in 1962, seminal lighting designer Richard Kelly divided lighting composition into three elements: focal glow, ambient luminescence, and the play of brilliants.

*Focal glow* draws attention. A space accented by focal lighting, such as a store or gallery, moves

the eye to the brightest areas. Pools of glowing downlight on tables, as in a fine restaurant, dining, or conversation area, create a comfortable intimacy that embraces people.

*Ambient luminescence* reveals the architectural environment and promotes concentration. A social environment suffused in light feels spacious, comfortable, and welcoming. A task-oriented space that is filled with brightness from the ceiling or wall, such as an office or classroom, facilitates attentive work, as well as easy passage.



*The play of brilliants*—sparkle and glitter—impart charm and a sense of well being. A space rich in the play of brilliants from small sources of reflected or refracted light, such as living and reception areas, welcomes people.

Every space needs a mix of all of these defining lighting effects. Manipulating them determines the overall lighting composition.

Adding focal lighting to a space increases the *contrast* between the highlighted objects and the surround. High contrast environments—such as luxury stores and restaurants—command attention and can be a relaxing diversion from everyday care. Occupants in the space can be focused outward. Low contrast spaces, more oriented to ambient lighting, are less distracting and support productivity. Here, occupants can be more inwardly focused.

What was true more than forty years ago is still valid. However, today's *luminaires*—the combination of light source and fixture—offer many more options. The range of light sources includes many more energy-efficient lamps, with better light distribution and color rendering. Functional lighting fixtures are more efficient, precise, and elegantly compact.

This catalog presents a useful selection of these tools, together with some guidelines for their effective application.

*Designing with Light* is supported by a dedicated website: [www.designingwithlight.com](http://www.designingwithlight.com), which offers detailed technical specifications, lead times, and budget pricing information.



# The Magic and Impact of Great Lighting



Designing with light begins by considering the *desired lighting result* – the mix of lighting effects that best addresses the needs of the occupants of the space, the activities they perform and the aesthetic intentions of the architecture.

First, identify the key task areas, important surfaces, and objects of visual interest. This suggests which should be highlighted, which need more or less light, and the character of that light. Consider the organization of the space, as this influences the placement, type, and scale of the luminaires. Recognize that most light is reflected, so the color and texture of room surfaces significantly affects lighting and our perception of it.



Compose the lighting itself in *layers*.

*Accent* lighting to focus attention and create visual interest;

*Wall* lighting to reveal surface texture and increase spaciousness;

*Ambient* lighting to fill in shadows and provide orientation;

*Task* lighting to support visual performance.

Accent lighting directs concentrated beams of light on objects, focusing attention and revealing form and texture. Track lighting offers the most flexibility to cope with object size and architectural constraints; adjustable downlights are less conspicuous. You can add color filters to the luminaires, which adds to the visual interest.

Wall lighting is essential in all spaces and should be designed for the nature of the surface. Textured surfaces, such as brick, stone, and nubby fabric, should be *grazed* by concentrated beams of

light, located 6" to 12" from the surface and an equal distance apart. A grazing technique also minimizes reflections in specular surfaces, such as polished stone, wood, or metal. Use small aperture downlights or track lighting hidden behind a fascia.

For a matte-finished surface, such as gypsum wallboard, a bookshelf, or a display wall, *wash* the surface with an evenly diffused spread of light. Uniformity from side-to-side is most important. Some gradient from top to bottom is generally acceptable, although shadows or "scallops" at the ceiling line are distracting.

Install recessed or track-mounted wall washers several feet from the wall and an equal distance apart. Fluorescent strip lights in a perimeter trough or wall pocket can produce a pleasing glow at the ceiling line, but they do not wash the entire wall effectively.



# Lighting that Makes a Difference



*Ambient lighting* should be evenly distributed and free from direct glare. Spread indirect lighting across the ceiling to avoid the “hot patches” that can wash out computer screen visibility.

Coordinate fixture placement with the architecture and furniture to avoid a sense of clutter. Adapting to extreme variations in brightness can be fatiguing. For comfort, keep the level of ambient lighting around task areas at least one third of the task

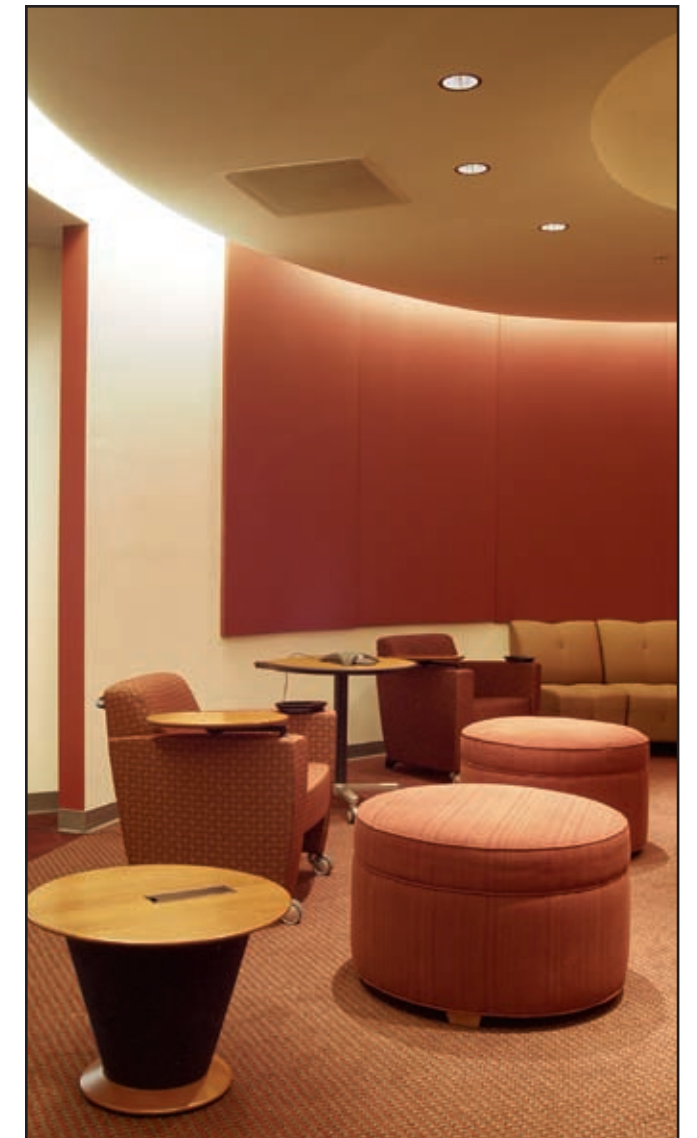
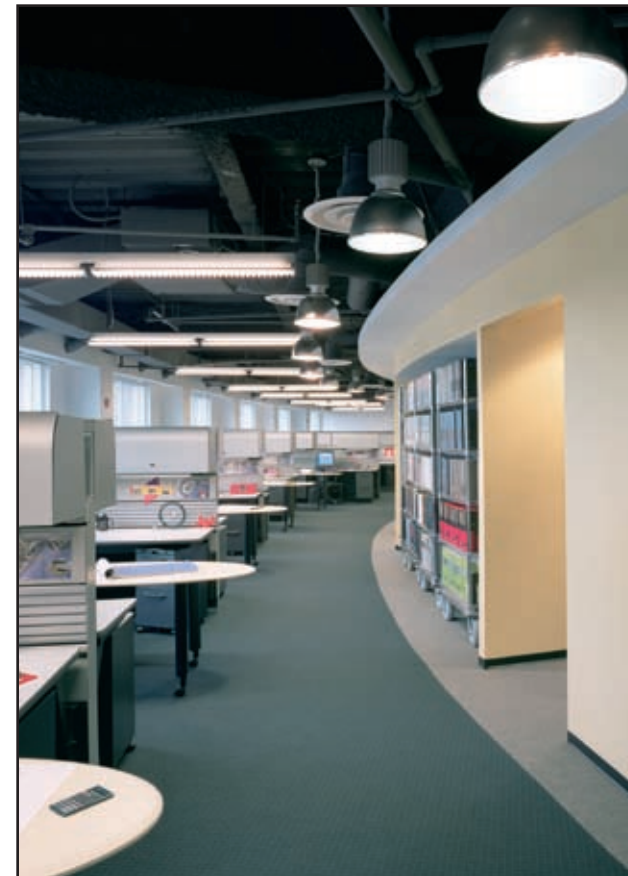
illumination. The brightness of distant surfaces – walls and windows – should be within a range of 10:1. Most circulation areas require relatively little illumination; lighting walls and objects of interest is often an effective approach and an opportunity to diversify the lighting palette with decorative sparkle and glow.

*Task lighting* is most effective when it is located close by, diffused, and uniformly distributed over

the task. Arrange well shielded luminaires so they throw light from the side to avoid shadows, veiling reflections and direct glare. This applies to horizontal tasks, such as paper work, and vertical tasks, such as grooming. Self-luminous computer screens require little direct light, but the paper tasks around them do.

The amount of task illumination (measured in footcandles) needed depends on the size and contrast of the task and – importantly – the age of the worker. Older workers require substantially more light to see as well as younger ones. From age 25 to age 55, the eye loses 50% of its light transmission and so requires *twice* as much illumination to compensate. Seniors need still more. As important, aging eyes are also more sensitive to glare.

Well controlled pendant and recessed lighting systems can provide adequate general illumination for many tasks. However, partitioned work areas, particularly those with overhead storage, typically need *local* task lights to overcome shadows. Face-to-face tasks, such as conversation and conferences, need some direct lighting to provide vertical illumination for facial recognition. This is also important in classrooms, so instructors can “read” students and students can read displayed materials.



# Take Control with Dynamic Lighting



Daylight is dynamic, changing all the time. Electric lighting is static . . . until you add controls. Microprocessor-based controls enable a designer to achieve a wide range of dynamic effects: adjusting the light intensity of individual fixtures, composing and changing lighting scenes, reducing energy consumption, and even moving fixtures to change aiming or attract attention.

As a rule, every incandescent and halogen luminaire should be controlled by a dimmer (or occupancy sensor), which reduces power consumption and extends lamp life. Fluorescent luminaires can also be dimmed – more easily and economically than ever before – and readily integrated into dynamic multi-scene environments. Low wattage ceramic metal halide sources are presently not dimmable.

Among fluorescent lamps, T8 and T5 types dim best, reaching as low as 1% of output with high-performance dimming ballasts and controls. This range is suitable for AV applications and the gentle fading of scenes in conference areas. For energy-oriented dimming applications, a low-end range of 10-20% may satisfy at lower cost. Compact fluorescent lamps also dim easily.

Virtually all Lightolier linear fluorescent fixtures, most compact fluorescent downlights, and many decorative pendants and wall brackets can be specified with a variety of dimming ballasts. Track lighting can be dimmed in several ways. You can dim all the lighting elements on a track circuit together. Or, you control the track fixtures individually with ATOM modules or Director fixtures.

Although circuiting is typically the responsibility of an electrical engineer, determining the control channels should be an integral part of the lighting design. Dimming design begins by arranging the different layers of light into control channels or *zones*, each of which is independently controlled by a compatible dimmer or switch. In large spaces, a single layer of lighting (downlights for example) may need to be divided into multiple channels. Luminaires with different light sources should always be controlled on separate channels.

By code, every enclosed space must be separately controlled, with the control conveniently located, typically by the entry. In spaces with multiple entries, additional points of control are advantageous. Large areas, particularly those with daylight, should be divided into smaller zones to facilitate daylight-based control. Individual task lights that permit workers personal control improve morale and productivity.

Spaces with multiple activities benefit from the use of multi-scene controls, where a push-button master controller can *recall* the lighting effects, or scenes, for each activity. Multi-scene control is particularly useful in such spaces as conference areas, restaurant and residential dining rooms, and the 'living spaces' in homes and hospitality spaces.



# Energy Smart Lighting and Sustainable Design



Sustainable design encompasses many aspects of lighting, but none has more impact than the practice of Energy Smart lighting.

Energy Smart lighting is a comprehensive design approach that achieves lighting objectives with the least energy consumption. Energy Smart design includes high reflectance finishes, which contribute as much as twice the light to a space than dark ones. The lighting itself follows a *layered design* that focuses illumination where it is needed most and minimizes it where it is not.

Using *smaller luminaires*, with lower wattage and light output, retains the flexibility to locate the lighting where it is most appropriate. Larger fixtures, on the other hand, must be spaced further apart, which often leads to shadowy, glary and uneven illumination.

Energy Smart luminaires – those with the most efficient lamps, ballasts, and optics – consume the least energy for the light they produce.

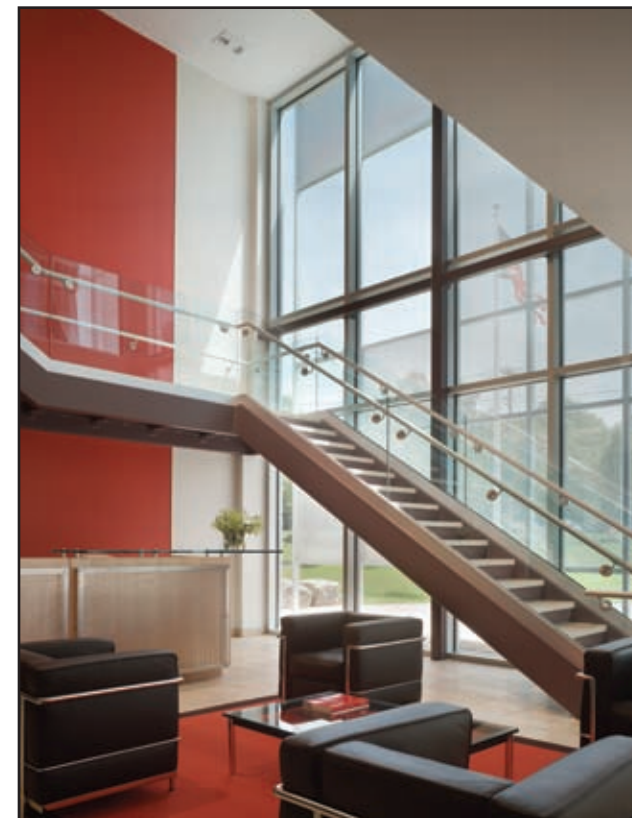
For task, ambient, and wall lighting, fluorescent luminaires are the logical choice. For accent lighting, halogen sources can be Energy Smart because they concentrate precisely and can be targeted effectively. New *ceramic metal halide* luminaires, with luminous efficacy significantly higher than incandescent ones, are an Energy Smart choice for ambient, wall, and accent lighting.

Efficiency alone should not be paramount; it is *effectiveness* – particularly human effectiveness – that counts. Poorly designed luminaires can achieve high efficiency simply by reducing cut-off and increasing glare. Choose luminaires that direct light efficiently into well controlled and shielded beams.

Lighting *controls*, dimmers and occupancy sensors, play a critical role in Energy Smart lighting. They reduce energy use when full lighting intensity is not needed, or turn lights off completely when a space is no longer occupied. Proper design of the control channels is essential to assure that the lighting can be adjusted as occupants' needs dictate. Individual control over task lighting not only conserves energy, it also improves performance.

Integrating daylight and electric lighting is increasingly important today. But it involves much more than providing windows, skylights, and daylight-linked controls. Daylight is so powerful that it can overwhelm lighting in adjacent areas. Vertical surfaces and work areas at the interior of the daylighted zone are often left in shadow and need *additional* electric lighting to feel properly lit.

Similar concerns apply to entries and transitional spaces, which need *high* levels of electric illumination to help building occupants adapt from the much higher levels of exterior daylighting. Yet, controls can reduce illumination and energy consumption as the day fades to evening.







## Track Lighting

Lytespan® track lighting systems provide the most flexible solution for accent lighting and wall washing. Adjustable Lytespot™ luminaires with a wide range of light distributions can be located anywhere on the track, aimed in any direction, and moved and refocused as required. Lytespan most commonly provides accent and wall wash lighting effects, but the inherent flexibility of the track also supports task, ambient and decorative lighting.

Lytespan track offers multiple circuits for control flexibility or a slim profile for single-circuit application. You can mount Lytespan to the ceiling or wall, recess it, suspend it, conceal it with a valance, cornice, fascia, or pocket, configure patterns, or reduce the track to a monopoint. Power use can be limited to comply with local energy codes by using our new current limiting accessory.

To design a Lytespan system, determine where to locate the Lytespots for the optimal aiming angle; typically 30° from vertical. Next, lay out the track with the appropriate power feed connections. Each of the two circuits on Advent track can be separately dimmed, provided the total load does not exceed a single circuit capacity.

Select Lytespots according to the lighting effect, desired source, and style. Accent lights create a focal pool of light; flood lights and wall washers deliver a broad spread of light.

For warm, easily dimmed lighting, use line or low voltage halogen sources. For Energy Smart accent lighting, ceramic metal halide lamps deliver outstanding color rendering and are available in a wide range of options. Where a broad wash of light is desired, fluorescent often makes the most sense.

Lytespots can take minimal form – like Par-Tech or our new Alcyon. They can be slender like Powerwash T5. Or they can be componentized like Power Arc Modular. Use accessory lenses, louvers, snoots, and filters to shape, smooth, and color the light.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).



New Alcyon Lytespot is less than 5" long.



**Alcyon™**

Alcyon features an ultra-compact electronic transformer, die-cast construction, and concealed wiring. Lamp-forward design permits easy relamping without an exposed lamp. Available in Aluminum, Black, and White finishes.

**Cylinder  
22MC6**

MR16 50W Max.  
Add AL, BK, WH for finish.  
L 4 7/8", W 2 11/16", H 5 5/16"



**Step Spot  
22SS6**

MR16 50W Max.  
Add AL, BK, WH for finish.  
L 5", W 2 11/16", H 4 3/4"



**Open Ring  
22OR6**

MR16 50W Max.  
Add AL, BK, WH for finish.  
L 5 3/16", W 2 11/16", H 4 7/8"



**Wall Washer  
22MW6**

MR16 50W Max.  
Add AL, BK, WH for finish.  
L 5", W 2 11/16", H 4 3/4"



**Glass Ring  
22GR6**

MR16 50W Max.  
Add AL, BK, WH for finish.  
L 5 3/16", W 2 11/16", H 4 7/8"



**Micro Flood  
22MW4**

T4 Bi-pin 50W Max.  
Add AL, BK, WH for finish.  
L 4 15/16", W 2 7/8", H 4 5/8"



**Glass Cylinder  
22GC6**

MR16 50W Max.  
Add AL, BK, WH for finish.  
L 4 7/8", W 2 11/16", H 5 5/16"



**Beam Control  
Snoots  
22SN6**

Add AL, BK, WH for finish.



Matte black interior finish and 45° cut-off.  
Recommended for use with narrow spot lamps only.

Alcyon 22MC6, 22OS6, and 22SS6 Lytespots accept two accessories:  
One AF2 or ADF2 series lens, plus either one 22HC6BK Louver or 22SN6 Snoot.  
See page 27.



**Alcyon**

Alcyon features die-cast construction and concealed wiring. Side cartridge in wall washer permits easy relamping.

**Open Ring**

PAR20	50W Max.	<b>22OR2</b>	L 4 15/16", W 3 5/8", H 6 11/16"
PAR30	75W Max.	<b>22OR3</b>	L 5 1/4", W 4 13/16", H 7 7/16"
PAR38	250W Max.*	<b>22OR8</b>	L 6 7/8", W 5 13/16", H 8 1/4"

\* (150W Max w/Accessories)  
Add AL, BK, WH for finish.  
Accessories on page 27



**Step Spot**

PAR20	50W Max.	<b>22SS2</b>	L 4 7/8", W 3 11/16", H 6 7/8"
PAR30	75W Max.	<b>22SS3</b>	L 5 1/4", W 4 15/16", H 7 9/16"
PAR38	150W Max.	<b>22SS8</b>	L 6 7/8", W 5 13/16", H 8 1/2"

Accessories on page 27



**Wall Washer**

T4 120V	150W Max.	<b>22WW4</b>	L 5 3/8", W 4 5/16", H 7 7/16"
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Accessories: One 22VZ4WH, BK, AL Visor.



Shown with optional Visor



**Metallics™**

Metallics is a family of Lytespots for halogen PAR, MR16, and ceramic metal halide lamps. Combinations of Adapters and interchangeable Shades offer a range of options.

Adapters are available in Dark Titanium and White finishes. Dome shades are available in Natural Metal, Dark Titanium, and White Finishes.

Metallics accept beam shaping and color media with the appropriate accessory holders. See page 27.

**Metallics Bare**



**8701** PAR20 50W Max.  
PAR30 75W Max.  
PAR38 250W Max.  
Add TM, WH for finish.  
L 4 3/4", W 2 1/4", H 7 1/8"

**Metallics Dome**



**8701/8727** PAR20 50W Max.  
**8701/8737** PAR30 75W Max.  
**8701/8747** PAR38 250W Max.\*  
\*150W Max. w/Accessories  
Add TM, WH for Adapter finish.  
Add NM, TM, WH for Dome finish.  
L 7 13/16", W 4 15/16", H 10 1/4"

**Metallics MR16**



**8702/8727M16** MR16 50W Max.  
Add TM, WH for Adapter finish.  
Add NM, TM, WH for Dome finish.  
L 7 3/8", W 4 3/16", H 9 5/16"

**Metallics Metal Halide**



**8704E** PAR20MH 39W Max.  
PAR30LMH 39W Max.  
**8705E** PAR30MH 70W Max.  
**8706E** PAR38MH 70W Max.  
**8707E** PAR38MH 100W Max.  
Add TM, WH for Adapter finish.  
L 5 5/16", W 4 7/8", H 7 13/16  
Also accepts 8727, 8737, 8747 shades.  
Add NM, TM, WH for finish.



**Sof-Tech®**

Sof-Tech is a family of Lytespots for halogen PAR and MR16 lamps, using a soft rubber design element in a vertical configuration.

Available in Aluminum, Black, and White finishes.

Sof-Tech accepts beam shaping and color media with the appropriate accessory holders.

See page 27 for accessories.

**Sof-Tech Low Voltage**



**6273B** MR16 50W Max.  
**6275B** MR16 75W Max.  
 Add BK, WH for finish.  
 L 4 5/8", W 2 5/8", H 4"

**Sof-Tech Line Voltage**



**8320** PAR20 50W Max.  
 Add BK, WH for finish.  
 L 4 1/4", W 3 1/4", H 5 1/2"



**8330** PAR30 75W Max.  
 Add BK, WH for finish.  
 L 4 3/4", W 4 1/2", H 6 3/8"



**8338** PAR38 250W Max.\*  
 \*150W Max. w/Accessories  
 Add BK, WH for finish.  
 L 6 1/2", W 5 3/4", H 8 5/8"

**Par-Tech®**

Par-Tech is a family of low profile Lytespots for halogen PAR lamps. The compact adapter is ideal for concealing lighting behind a beam or fascia. The Bezel shade hides the bright edge of the lamp and produces a cleaner beam.

Available in Black and White finishes.

**Par-Tech Low Profile Adapter**



**8201** PAR16 75W Max.  
 PAR20 50W Max.  
 PAR30 75W Max.  
 PAR38 150W Max.  
 Add BK, WH for finish.  
 W 1 7/8", H 3 3/16"

**Par-Tech Bezel Shade**



**8201/8217** PAR16 60W Max.  
 L 3 11/16", W 2 15/16", H 4 9/16"  
**8201/8227** PAR20 50W Max.  
 L 4", W 3 1/2", H 5"  
**8201/8237** PAR30 75W Max.  
 L 4 3/8", W 4 5/8", H 5 9/16"  
**8201/8247** PAR38 150W Max.  
 L 6", W 5 11/16", H 7 1/4"  
 Add BK, WH for finish.



**PowerArc™ Modular**

The PowerArc Modular family uses state-of-the-art, Energy Smart ceramic metal halide lamps and electronic ballasts.




Modular design affords great flexibility in choosing the lighting effect and arranging the fixture form.

The T4 or T6 models use specially designed reflectors for the smallest fixtures and the widest choice of lighting effects. They also combine well with new Calculte ceramic metal halide downlights and decorative cylinders. The PAR models are a less costly option.

Both T4/T6 and PAR models accept beam shaping and color media with the appropriate accessory holders. See page 27 for accessories. Aluminum, Black and White finishes.



T4 Spot mounted directly to track.

	Lamp Type	Adapter/Finish	Reflector	Ballast/Finish	Watts
	T4	<b>8314</b> L 4 5/8", W 4 5/8", H 6 3/4"	<b>MHT4RS</b> – 10°	<b>83B20E</b> L 7 3/4", W 2 3/8", H 2 1/16"	20W
			<b>MHT4RNF</b> – 25°	<b>83B39E</b> L 7 3/4", W 2 3/8", H 2 1/16"	39W
			<b>MHT4RF</b> – 40°		
	T6	<b>8316</b> L 5 3/16", W 5 5/8", H 7 9/16"	<b>MHT6RS</b> – 10°	<b>83B39LE</b> L 9 1/8", W 2 3/8", H 2 1/16"	39W
			<b>MHT6RNF</b> – 25°	<b>83B70E</b> L 9 1/8", W 2 3/8", H 2 1/16"	70W
			<b>MHT6RF</b> – 40°		
	PAR30LMH	<b>8313</b> L 6 1/2", W 5 5/8", H 7 9/16"		<b>83B39LE</b> L 9 1/8", W 2 3/8", H 2 1/16"	39W
				<b>83B70E</b> L 9 1/8", W 2 3/8", H 2 1/16"	70W
	PAR38MH	<b>8318</b> L 7", W 6 1/2", H 8 3/4"		<b>83B70E</b> L 9 1/8", W 2 3/8", H 2 1/16"	70W
				<b>83B10E</b> L 7 1/8", W 4 1/4", H 2 1/16"	100W
	T4	<b>83W4</b> L 5 3/8", W 3 3/4", H 5 1/16"		<b>83B20E</b> L 7 3/4", W 2 3/8", H 2 1/16"	20W
					<b>83B39E</b> L 7 3/4", W 2 3/8", H 2 1/16"
	T6	<b>83W6</b> L 6 3/8", W 3 3/4", H 5 1/16"		<b>83B39LE</b> L 9 1/8", W 2 3/8", H 2 1/16"	39W
					<b>83B70E</b> L 9 1/8", W 2 3/8", H 2 1/16"

Add AL, BK WH, for finish on Adpater and Ballast





**PowerWash Track Mounted**



- 9277** 1 x 24WT5HO L 25 3/8", W 3 3/4", H 3 3/4"
  - 9377** 1 x 39WT5HO L 38 3/8", W 3 3/4", H 3 3/4"
  - 9477** 1 x 54WT5HO L 50 3/8", W 3 3/4", H 3 3/4"
- Add AL, BK, WH for finish.

**PowerWash Cable Suspended**



- 9280** 1 x 24WT5HO L 25 3/8", W 3 3/4", H 3 3/4"
  - 9380** 1 x 39WT5HO L 38 3/8", W 3 3/4", H 3 3/4"
  - 9480** 1 x 54WT5HO L 50 3/8", W 3 3/4", H 3 3/4"
- Add AL, TM, WH for finish.

**Lyteflood Triple Tube Scoop™**



- 8285** 32W CFL L 12 1/2", W 7 1/4", H 6 3/8"
  - 8284** 42W CFL L 12 1/2", W 7 1/4", H 6 3/8"
  - 82LVR** Louver Accessory
- Add BK, WH for finish.

**PowerWash™ and Lyteflood™**

PowerWash and Lyteflood Lytespots combine Energy Smart® fluorescent sources with the flexibility of Lytespan track.

PowerWash uses slim T5HO lamps and electronic ballasts. Cable-mounted models rotate 360° and suspend up to 6' from the track. The integral louver provides lateral cutoff. Two-lamp models (not shown) are available where higher illumination is needed.

Lyteflood Scoop uses triple tube compact lamps and electronic ballasts. The Scoop rotates in two planes to provide soft flood light. Add the optional louver if additional cutoff is required.

Aluminum, Black and White finishes, as indicated.





**Lytejacks®**

Lytejacks are a modular, low voltage lighting system that minimizes the size of the lighting elements and permits them to be lowered on slim stems.

Every Lytejack Spotlight comes with a built-in 3" stem; extender stems are available.

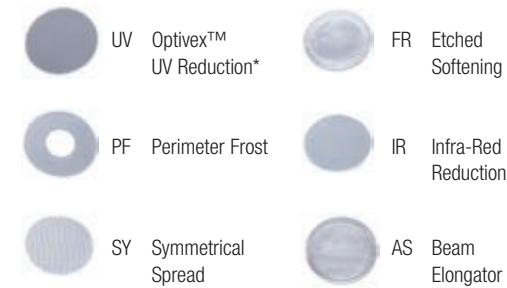
Lytejack Spotlights plug into Power Jack magnetic transformers that can be either track mounted or surface mounted.

**Accessories**

A complete accessory consists of a size and series suffix. For example, AF3 + UV = AF3UV (3 3/4" UV Filter).

**Diffusion/Special Filters**

Series: **AF2** = 2" dia., **AF25** = 2 1/2" dia., **AF3** = 3 3/4" dia., **AF4** = 4 3/4" dia., **AF7** = 6 1/4" dia.

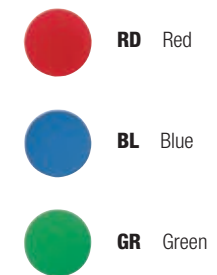


\*Optivex® UV filters by Bausch & Lomb®

**Color Filters**

Series: **ADF2** = 2" dia., **ADF25** = 2 1/2" dia., **ADF3** = 3 3/4" dia., **ADF4** = 4 3/4" dia., **ADF7** = 6 1/4" dia.

**Primary Colors:**



**Secondary Colors:**



**Metallics Accessory Holders**



**8782** PAR20 Black  
Accepts 2 - AL25 or AF25 or ADF25 (2 1/2" dia.) series accessories.  
**8783** PAR30 Black  
Accepts 2 - AL3 or AF3 or ADF3 (3 3/4" dia.) series accessories.  
**8784** PAR38 Black  
Accepts 2 - AL4 or AF4 or ADF4 (4 3/4" dia.) series accessories.

**Sof-Tech Low Voltage Accessory Holders**



**7662** MR16 (for use with 6273B, 6275B, 8675B, 8273B)  
**7661** AR70 (for use with 6272, 6274, 8272, 8274)  
**7660** PAR36/AR111 (for use with 6289, 6279, 6277, 6287)  
Holds a maximum of one accessory.

**Hex Cell Louvers**

Series: AL



**AL2HC** = 2" dia. Hex Cell Louver  
**AL25HC** = 2 1/2" dia. Hex Cell Louver  
**AL3HC** = 3 3/4" dia. Hex Cell Louver  
**AL4HC** = 4 3/4" dia. Hex Cell Louver  
**7472** = 2" dia. Hex Cell Louver (Bare Edge)  
**22HC6BK** = 2" dia. Hex Cell Louver (Alcyon)

**Mixing Colors:\***

\*Filters shown together mix to white light.



**Par-Tech Bezel Shade Accessory Holders**



**8591** PAR16 (for use with 8217)  
**8592** PAR20 (for use with 8227)  
**8593** PAR30 (for use with 8237)  
Holds a maximum of one accessory.  
**8595** PAR38 (for use with 8247)  
Holds a maximum of two accessories.

**GeoStar**

**8672**  
50W MR16 Max.  
Add BK, WH for finish.  
L 3 1/4", W 2 5/8", H 4 1/4"

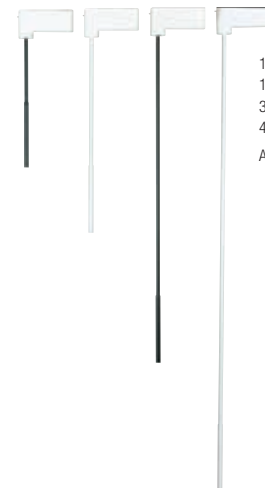


**Track Power Jack**



**8600**  
Add BK, WH for finish.  
W 5 1/8", H 2 5/8"

**Optional Stems**



12" Stem **8620**  
18" Stem **8621**  
30" Stem **8622**  
42" Stem **8623**  
Add BK, WH for finish.

**Sof-Tech Ring**

**8675B**  
50W MR16 Max.  
Add BK, WH for finish.  
L 2 5/8", W 2 1/2", H 4 7/8"



**Surface Power Jack**



**8601**  
Add BK, WH for finish.  
W 4 3/4", H 2 1/2"



**Lytespan Track**

All of the Lytespots shown here can install on any Lytespan track, including existing installations since 1960.

Lytespan track can be mounted on ceilings or walls, recessed (Basic and Advent only), suspended, configured into patterns, and cut to length. Indicate the desired mounting in the specification.

To satisfy energy code limitations when using large amounts of track, add Lightolier's new PowerTrip current limiting device.

For Lightolier's PowerTrip current limiting device, visit [www.designingwithlight.com](http://www.designingwithlight.com).

Available in Raw Aluminum, Matte Black and Matte White finishes.



(actual size)

**Radius® – 9100 Series**

Radius is sleek and streamlined, with a soft, rounded style that blends easily into any decor. Its slim and compact dimensions allow it to virtually disappear into the space. Economical, versatile and elegant, Radius truly sets a new standard in track lighting. Radius is a single circuit track with a capacity of 20 amps at 120V per branch circuit. It can be either surface or stem mounted and used in continuous runs or patterns. Radius can also be field cut. Includes one Dead End Cover and mounting hardware.

2' **9102**  
4' **9104**  
6' **9106**  
8' **9108**

Add RA, BK, WH for finish.  
W 1 3/8", H 1/2"



(actual size)

**Basic® – 6000 Series**

Basic is Lightolier's original single circuit track with a capacity of 20 amps at 120V per branch circuit and offers the widest variety of track options, connectors, and accessories. Basic Lytespan track can be mounted in a variety of surface or stem patterns, installed vertically or horizontally on walls and can be cut in the field. Includes one Dead End Cover and mounting hardware.

4' **6004**  
8' **6008**  
12' **6012**

Add RA, BK, WH for finish.  
W 1 5/32", H 3/4"



(actual size)

**Advent® – 6100 Series**

Advent is two circuit track with a capacity of 40 amps when supplied by a 120/240V three-wire branch circuit. Advent can be mounted in a variety of surface or stem patterns, installed vertically or horizontally on walls and can be cut in the field.

4' **6104**  
8' **6108**  
12' **6112**

Add RA, BK, WH for finish.  
W 1 5/32", H 1 3/32"



**Director® and ATOM®**

Director is a remote-controlled Lytespot that can be aimed and dimmed through the use of a hand-held controller. Developed for applications where there is a need to redirect spotlights frequently, it is ideal for restaurants, stores, banquet halls, galleries and museums. Director can also be programmed for dynamic lighting effects incorporating motion and dimming.

ATOM provides individual dimming control of Lightolier's Lytespan Track luminaires on the same circuit.

Created to work with Lytespan Radius, Basic and Advent Track and all Lytespan track heads, ATOM is easily installed and requires no special wiring. A simple handheld Laser Remote Control allows the user to first activate the system with a laser, and then program individual or multiple track heads using infrared signals.



Director enables quick but precise spotlighting of tables for a dramatic effect.



**ProSpec® Track Systems**

ProSpec is a dedicated track lighting system designed for the special requirements of museums, galleries, and other demanding display applications.

ProSpec track offers two 20A circuits that are fully dimmable. The track can be installed in surface, pendant, or recessed applications and configured in patterns. ProSpec recessed track can also be customized to incorporate fluorescent T5 fixtures and/or venting for HVAC air return systems.

ProSpec luminaires featured aiming guides, easy locking, and a louvered media cartridge.





## Specification Downlighting

Well designed downlighting brings a space to life, revealing form and texture without calling attention to the lighting equipment itself. Calculite offers superior lighting performance and visual comfort in a family of architecturally integrated specification-grade downlights.

The essence of each Calculite is an individually designed optic that delivers precise light distribution and maximum output from a specific light source: aperture sizes from 2 7/8" to 8 3/4", a wide range of finishes, and minimal trim details all coordinate for a clean and unobtrusive ceiling appearance.

Well shielded downlights, in a choice of wide or narrow beamspreads, create soft-edged pools of light. Wall washers, with either open or lensed apertures, distribute light smoothly up and down vertical surfaces. Accent lights provide for convenient aiming, locking, and relamping, with generous adjustment and excellent cut off.

With their high performance optics, small aperture Calculites can now be used for many different ceiling heights. Larger 7" apertures look best in ceilings of at least 10 feet. Downlighting should be arranged in regular patterns to minimize ceiling clutter. Observe the maximum spacing criteria to assure even coverage.

Locate small aperture wall washers 18" to 24" from the wall and an equal distance apart; larger models can be spaced 36" from the wall and up to 48" apart. Place accent lights so the beam aims at 30° from vertical to achieve the best effect. See pages 162-173 for application guidelines.

For warm, easily dimmed lighting, use line or low voltage halogen sources. The Evolution family is designed for both residential and commercial use. For Energy Smart downlighting in low to medium ceiling heights, compact fluorescent provides a cost-effective and flexible range of options, including models with dimmable ballasts. For higher ceilings and smaller aperture sizes, look to the latest in ceramic metal halide.

Choose Comfort Clear Diffuse reflector finishes for a softly luminous aperture; specular clear or black finishes offer the least ceiling brightness from most viewing angles. Fully enclosed downlights, including those with elegant glass apertures, provide the best source concealment and serve in damp or wet locations.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).



Evolution 3" establishes a new scale for downlights

**Calculite Evolution**

Designed for both residential and commercial applications, Evolution is a family of precision, high performance downlights using incandescent sources, both line and low voltage.

Evolution offers three aperture sizes and more than a dozen finish and trim options. Fixed downlights, adjustable accent lights, and wall washers of various types are available in each aperture size.

Evolution fixtures are furnished in two parts: housings and interchangeable reflector trim units. Each fixture uses unitized optics, which assure that the light source is correctly positioned in the reflector and properly aligned to the ceiling.

Adjustable accent lights can be aimed up to 45° from vertical and rotated 362° while they are on ("hot" aiming) and then locked in position. They can be relamped without disturbing the adjustment. Aperture cones are keyed to install in the correct orientation to the lamp holder. MR16 units are furnished with beam smoothing lenses.

Evolution downlights will install in 1" thick ceilings (up to 2" thick with ceiling adaptor). Residential IC and non-IC housings are engineered for installation in wood-joint ceilings. The IC housings are suitable for burial in thermal insulation; maximum wattage is lower than non-IC. To prevent condensation on ceiling members, Air Seal construction limits the flow of heated room air into the colder plenum. Commercial non-IC housings are engineered for both tile and plasterboard ceilings. A special flangeless trim is available with the Evolution 3" series.

Magnetic transformers are standard, except on the 4 1/2" Remodeler, which uses an electronic transformer.



IC Housing



Non-IC Housing



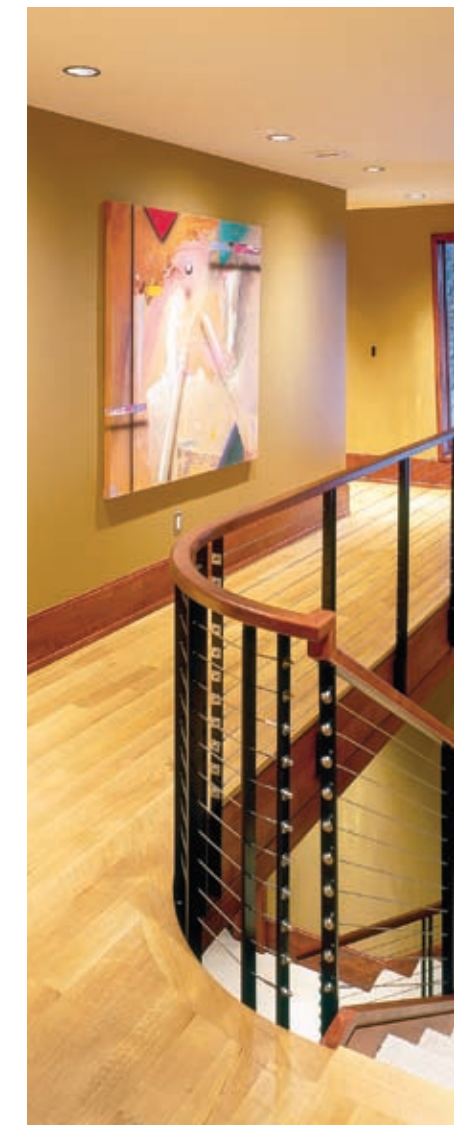
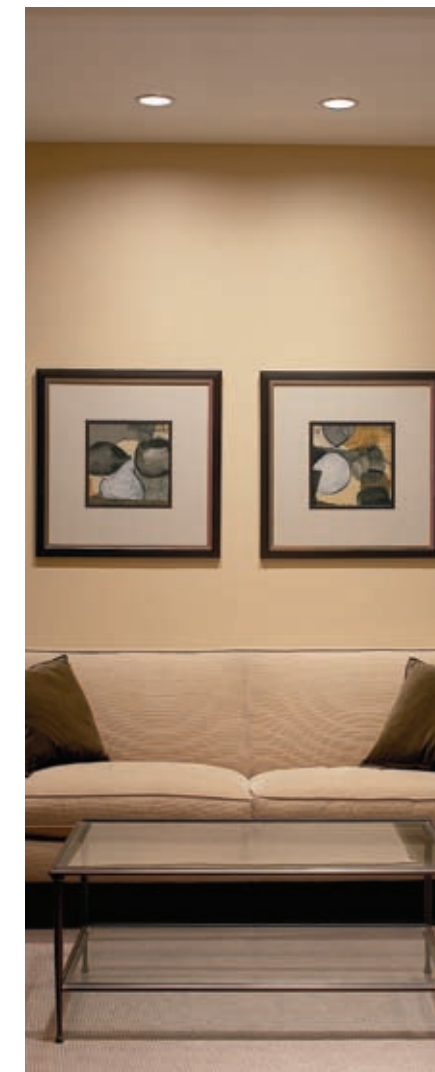
A-Lamp Open Downlight



MR16 Lensed Wall Wash



MR16 Open Adjustable



**Reflector Finish Options**



Clear CL



Comfort Clear™ Diffuse CCD



White WH



Gold GD



Champagne Bronze CCZ



Black BK



Pewter PW

**Flange Options**



White Flange W



Polished Flange P



**Calculite Evolution 3"**

Evolution 3" offers the smallest high performance MR16 downlights for use in residential and commercial applications.

Apertures are just 2 7/8" in diameter. Carefully contoured, deep reflector cones provide 50° visual cut-off in downlights and adjustable accent lights. EZ-Aim™ gear-driven adjustment provides for hot aiming and locks the focus. A Teflon® ring allows for smooth rotation.

Despite the small size, Evolution 3" transformers can be replaced through the aperture. The optional flangeless trim, with precision plaster ring, gives Evolution 3" the least conspicuous installed appearance.



Open Adjustable

Pinhole Adjustable

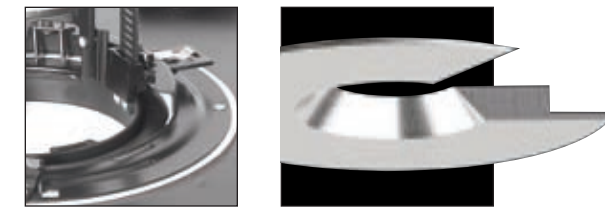
Downlight



Lensed Wall Wash

Glasslite Adjustable

Glasslite Downlight



**How to Specify:**

Evolution 3" Low Voltage			Non-IC	Non-IC AirSeal	IC AirSeal
Frame-In Kits			C3LV	C3ALV	C3AICLV
Dimensions (L x W x H)			14 3/8" x 12 11/16" x 5"	14 3/8" x 9 9/16" x 5"	22 3/8" x 10 1/8" x 9"
Reflector Trim	Cat No.*	Lamp			
Open Downlight	C3MRD	MR16	65W	65W	50W
Lensed Wall Wash	C3MRL	MR16	65W	65W	50W
Open Adjustable	C3MRA	MR16	65W	65W	50W
Wet Location Adjustable	C3MRW	MR16	65W	65W	50W
Pinhole Downlight	C3MRPD	MR16	65W	65W	50W
Pinhole Adjustable	C3MRPA	MR16	65W	65W	50W
Glasslite Downlight	C3MRGD	MR16	65W	65W	50W
Glasslite Adjustable	C3MRGA	MR16	65W	65W	50W

\* Add finish suffix: CLW, CCDW, CCZW, CPWW, GDW, WHW, BKW, all with a painted white flange. For polished flange, replace W with P. For a flangeless trim, replace W with FT. Glasslites do not need a finish suffix. For pinholes, available finishes are WH or BK, with a white flange, or SA for polished flange. A machined pinhole faceplate is available to provide the sharpest possible edge and minimal flange thickness.



**Calculite Evolution 4 1/2"**

Evolution 4 1/2" provides the broadest range of small aperture downlights, using MR16, PAR20, and A19 lamps. MR16 fixtures are interchangeable in low voltage housings; PAR20 and A19 fixtures are interchangeable in line voltage housings.

Carefully contoured, deep reflector cones provide 50° visual cut-off in downlights and adjustable accent lights. Adjustment provides for hot aiming and locks the focus. A-lamp open downlights and open wall washers deliver soft-edged widespread illumination.

A non-IC Remodel housing serves effectively where plenum space is limited.



Open Adjustable



Pinhole Adjustable



Open Downlight



Glasslite Adjustable

**How to Specify:**

Evolution 4 1/2" Low Voltage			Non-IC RM	Non-IC	Non-IC AirSeal	IC AirSeal
Frame-In Kits			C4LVE1RM	C4LV	C4ALV	C4AICLV
Dimensions (L x W x H)			11 5/8" x 7" x 5 1/2"	15 3/4" x 9 1/2" x 5 1/4"	15 3/4" x 9 1/2" x 5 1/4"	19" x 10" x 9 1/4"
Reflector Trim	Cat No.*	Lamp				
Open Downlight	C4MRD	MR16	50W	75W	75W	50W
Lensed Wall Wash	C4MRL	MR16	50W	75W	75W	50W
Open Adjustable	C4MRA	MR16	50W	75W	75W	50W
Wet Location Adjustable	C4MRW	MR16	50W	75W	75W	50W
Pinhole Adjustable	C4MR2	MR16	50W	75W	75W	42W
Glasslite Downlight	C4MRGD	MR16	50W	75W	75W	50W
Glasslite Adjustable	C4MRGA	MR16	50W	75W	75W	50W

Evolution 4 1/2" Line Voltage			Non-IC RM	Non-IC	Non-IC AirSeal	IC AirSeal
Frame-In Kits			C4120RM	C4120	C4A120	C4AIC
Dimensions (L x W x H)			11 3/4" x 5 3/4" x 7 1/4"	12" x 9 1/2" x 7"	12" x 9 1/2" x 7"	19" x 10" x 9 1/4"
Reflector Trim	Cat No.*	Lamp				
Open Downlight	C4P20D	PAR20	50W	50W	50W	50W
Lensed Wall Wash	C4P20L	PAR20		50W	50W	50W
Open Adjustable	C4P20A	PAR20		50W	50W	50W
Open Downlight	C4AD	A19	100W	100W	100W	75W
Open Wall Wash	C4AW	A19	100W	100W	100W	75W

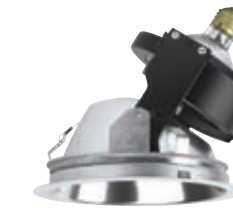
\* Add finish suffix: CLW, CCDW, CCZW, CPWW, GDW, WHW, BKW, all with a painted white flange. For polished flange, replace W with P. Glasslites do not need a finish suffix. For pinholes, available finishes are WH or BK, with a white flange, or SA for polished flange. A machined pinhole faceplate is available to provide the sharpest possible edge and minimal flange thickness.



**Calculite Evolution 6"**

Evolution 6" provides the larger size and higher wattage needed for tall ceilings in residences, hotels and retail applications. The range of light sources includes A19 and A21, PAR30 and PAR38, and low voltage PAR36/AR111. The PAR30, PAR38 and A19 fixtures are interchangeable in line voltage housings.

Carefully contoured, deep reflector cones provide 50° visual cut-off in downlights and adjustable accent lights. A-lamp open downlights and open wall washers deliver soft-edged widespread illumination. PAR lamps provide a range of beamspreads for directional illumination. Low voltage PAR36 lamps create the most precise and dramatic effects.



Open Adjustable



Open Wall Wash



Open Downlight



Lensed Wall Wash

**How to Specify:**

Evolution 6" Low Voltage			Non-IC*	Deep Non-IC	IC AirSeal	Deep IC AirSeal
Frame-In Kits			C6LV		C6AICLV	
Dimensions (L x W x H)			15 3/4" x 9 1/2" x 6"		15 3/4" x 9 1/2" x 6"	
Reflector Trim	Cat No.**	Lamp				
Open Adjustable	C6P36A	PAR36	75W		50W	

Evolution 6" Line Voltage			Non-IC*	Deep Non-IC*	IC AirSeal	Deep IC AirSeal
Frame-In Kits			C6120	C6D120	C6AIC	C6DAIC
Dimensions (L x W x H)			12 3/8" x 12 1/2" x 8"	15 3/8" x 15 3/4" x 10 3/8"	19" x 10" x 9 1/4"	22 3/8" x 13 1/2" x 11 1/4"
Reflector Trim	Cat No.**	Lamp				
Open Downlight	C6P30D	PAR30	75W		75W	
Lensed Wall Wash	C6P30L	PAR30	75W		75W	
Open Adjustable	C6P30A	PAR30	75W		75W	
Open Downlight	C6P38D	PAR38		250W		120W
Lensed Wall Wash	C6P38L	PAR38		120W		90W
Open Adjustable	C6P38A	PAR38		120W		90W
Open Downlight	C6AD	A19, A21	100W	200W	100W	150W
Open Wall Wash	C6AW	A19, A21	100W	200W	100W	150W

\* For Non-IC AirSeal, use C6ALV, C6A120, or C6DA120

\*\*Add finish suffix: CLW, CCDW, CCZW, CPWW, GDW, WHW, BKW, all with a painted white flange. For polished flange, replace W with P.

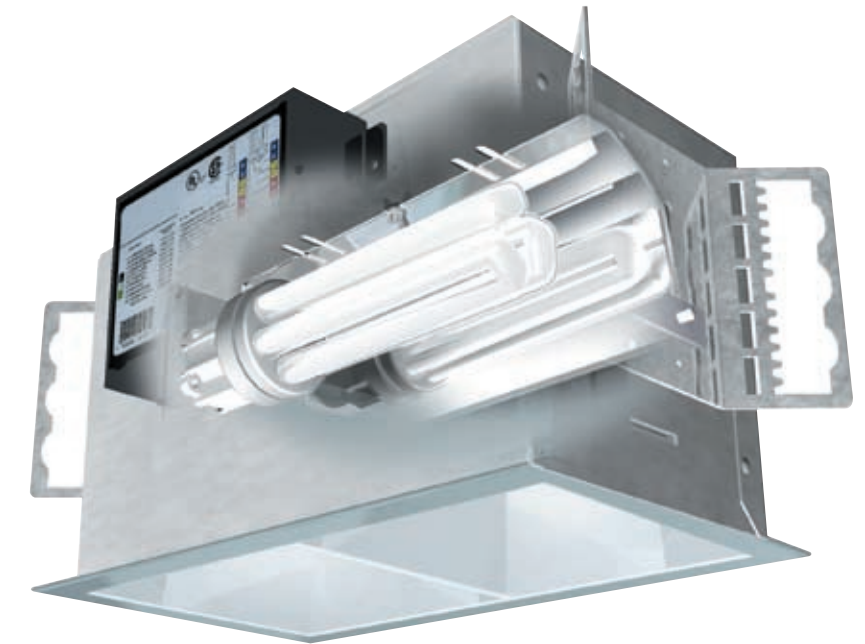


**Calculite Matrix**

Matrix is a family of rectangular and square compact fluorescent downlights and wall washers. The different sizes are designed to work together – or they can be used individually. Matrix uses 26, 32, or 42W triple tube lamps; the 32W lamp can be used in all sizes.

Reflectors and louvers are fabricated of anodized aluminum and tightly assembled with a crisp flange and mitered corner. An internal reflector of high-purity specular aluminum provides high efficiency. Visual cut-off to lamp and lamp image is 55°.

Matrix is furnished in two components: a housing and interchangeable reflector trims. Housings fit tile and plasterboard non-insulated ceilings up to 1 1/2" thick. Markings on the housing help to align fixtures for a precise-looking installation.



A variety of finishes is available. The Specular Clear finish provides the highest fixture efficiency, but the mirror-like surfaces can look busy. Comfort Clear and Comfort Clear Diffuse finishes provide a softer appearance with more even fixture luminosity.



**How to Specify:**

Matrix 4x4		Matrix 4x9		Matrix 9x9				
Frame-In Kits	4X4132HU	Frame-In Kits	4X9142HU**	Frame-In Kits	9X9242HU**			
Dimensions (L x W x H)	10" x 9 5/8" x 5 1/2"	Dimensions (L x W x H)	12 3/8" x 9 5/8" x 5 1/2"	Dimensions (L x W x H)	12 3/8" x 14 1/8" x 5 1/2"			
Reflect. Trim	Cat No.*	TTT Lamp	Reflect. Trim	Cat No.*	TTT Lamp	Reflect. Trim	Cat No.*	TTT Lamp
Open	4X4	26/32W	2-Cell Louver	4X9	32/42W	4-Cell Louver	9X9	2 x 32/42W
Wall Wash	4X4LW	26/32W	Wall Wash	4X9LW	32/42W			

\* Add finish suffix: CLP, CCLP, CCDP, CCGP, WHW, all with a matching flange finish. For painted white flange instead of polished, replace P with W.

\*\*Also available for 57W Triple Tube, use 4X9157HU.





**Calculite Compact Fluorescent**

Calculite Compact Fluorescent downlights provide a broad assortment of light distributions in coordinated apertures, nominally 4", 6", 7", and 8". All use triple tube lamps, from 18W to 42W, for soft-edged, Energy Smart illumination. The 4" and 6" families shown here integrate with the 4" and 6" Evolution and Ceramic Metal Halide downlights shown elsewhere in this section.

Reflectors are spun of high-purity aluminum, buffed, polished and anodized. Visual cut-off to lamp and lamp image is 50°.

Calculite Compact Fluorescent is furnished in two components: a housing and interchangeable reflector trims. Housings fit tile and plasterboard non-insulated ceilings up to 1 1/2" thick (1 1/8" thick for wall washers). Dimming and emergency battery packs are available.



A variety of finishes is available. The Specular Clear finish provides the highest fixture efficiency, but the mirror-like surfaces can look busy. Comfort Clear and Comfort Clear Diffuse finishes provide a softer appearance with more even fixture luminosity.

**Reflector Finish Options**



**Clear CL**



**Comfort Clear™ Diffuse CCD**



**White WH**



**Champagne Bronze CCZ**

**Flange Options**



**White Flange W**



**Polished Flange P**



6" Vertical Downlight



6" Horizontal Downlight



7 3/8" Triple Tube		
Frame-In Kits		7132BU**
Dimensions (L x W)		15" x 11 3/8"
Lamping		26/32W TTT Lamp**
Reflect. Trim	Cat No.*	Depth
Vertical Downlight	8022	11"
Vertical Wall Wash	8022WW	11 1/8"
Horizontal Downlight	8037	7 3/4"
Horizontal Wall Wash	8087	7 3/4"
Crossblade Downlight	8097CBW	6 1/2"
Lensed Downlight	8097FCLW	6 1/2"

7" Horizontal Downlight



8 3/4" Triple Tube		
Frame-In Kits		8142VU
Dimensions (L x W)		15 1/2" x 12 1/2"
Lamping		42W TTT Lamp
Reflect. Trim	Cat No.*	Depth
Vertical Downlight	8023	11 3/4"

Frame-In Kits		
Frame-In Kits		8242HU
Dimensions (L x W)		15 5/8" x 12 3/4"
Lamping		2x26/32 TTT Lamp
Reflect. Trim	Cat No.*	Depth
Horizontal Downlight	8039	9"
Horizontal Wall Wash	8089	9"

8" Horizontal Downlight



How to Specify:

4 1/2" Triple Tube			6" Triple Tube		
Frame-In Kits		4118VU	Frame-In Kits		S6132BU
Dimensions (L x W)		10 1/2" x 8 1/16"	Dimensions (L x W)		12 3/4" x 10"
Lamping		18W TTT Lamp	Lamping		26/32 TTT Lamp
Reflect. Trim	Cat No.*	Depth	Reflect. Trim	Cat No.*	Depth
Vertical Downlight	8011	8 1/8"	Vertical Downlight	8021	9 7/8"
Vertical Wall Wash	8011WW	8 1/8"	Vertical Wall Wash	8021WW	9 7/8"
			Horizontal Downlight	8031	6 7/8"
			Horizontal Wall Wash	8081	7 1/8"
			Crossblade Downlight	8091CBW	6"
			Lensed Downlight	8091FCLW	6"

\* Add finish suffix: CLW, CCLW, CCDW, CCZW, WHW, all with a painted white flange for vertical and horizontal downlights and wall washers. For polished flange, replace W with P. Crossblade and Lens downlights do not need a finish suffix.

\* Add finish suffix: CLW, CCLW, CCDW, CCZW, WHW, all with a painted white flange for vertical and horizontal downlights and wall washers. For polished flange, replace W with P. Crossblade and Lens downlights do not need a finish suffix.  
\*\* For 42W Triple Tube, use 7142BU.



**Calculite  
Ceramic Metal  
Halide**

Calculite Ceramic Metal Halide (CMH) downlights use new compact T4.5 and T6 lamps that provide outstanding color rendering and high luminous efficiency. Using specially designed optics, the downlights offer a broad assortment of light distributions in coordinated 4" and 6" apertures. The compact scale and precisely concentrated beams offer an Energy Smart alternative to small aperture incandescent downlights.

Reflectors are spun of high-purity aluminum, buffed, polished and anodized. Visual cut-off to lamp and lamp image is 50°. Textured mandrills create the precise optical patterns.

A variety of finishes is available. The Specular Clear finish provides the highest fixture efficiency, but the mirror-like surfaces can look busy. Comfort Clear Diffuse finishes provide a softer appearance with more even fixture luminosity.

Calculite CMH downlights are furnished in two components: a housing and interchangeable reflector trims, each with a specific beam spread: Narrow, Medium, and Wide.

Accent lights are furnished in three components: housing, lampholder and upper reflector. The upper reflector provides the desired beam spread: Spot, Narrow Flood, and Flood. They are interchangeable and may be replaced after installation. Accent lights adjust up to 45°, rotate 360° and lock in place.

Housings fit tile and plasterboard non-insulated ceilings up to 2" thick.



**Upper Reflector**



**MHT4RF** 40° Beam Flood Optic



**MHT4RNF** 25° Beam Narrow Flood Optic



**MHT4RS** 10° Beam Spot Optic

**Reflector Finish Options**



**Clear CL**



**Comfort Clear™ Diffuse CCD**



**Champagne Bronze CCZ**

**Flange Options**



**White Flange W**



**Polished Flange P**



**Glasslite**



**How to Specify:**

4 1/2" Ceramic Metal Halide			4 1/2" Ceramic Metal Halide		
Frame-In Kits	C439T4E1**		Frame-In Kits	C4A39T4E1**	
Dimensions (L x W)	11 3/4" x 9 3/16"		Dimensions (L x W)	15" x 13 7/8"	
Lamping	39W T4.5 Lamp		Lamping	39W T4.5 Lamp	
Reflect. Trim	Cat No.*	Depth	Reflect. Trim	Cat No.*+ Reflector	Depth
Downlight - Narrow Beam	C4T4VN	7 1/2"	Adjustable - Spot	C4T4A + MHT4RS	8"
Downlight - Medium Beam	C4T4VM	7 1/2"	Adjustable - Narrow Flood	C4T4A + MHT4RNF	8"
Downlight - Wide Beam	C4T4VW	7 1/2"	Adjustable - Flood	C4T4A + MHT4RF	8"
Downlight - Wide Beam	C4T4HW	5 5/8"	Glasslite Adjustable - Spot	C4T4GA + MHT4RS	8"
Wall Wash	C4T4W	7 1/2"	Glasslite Adjustable - Narrow Flood	C4T4GA + MHT4RNF	8"
			Glasslite Adjustable - Flood	C4T4GA + MHT4RF	8"
			Glasslite Downlight - Spot	C4T4GD + MHT4RS	8"
			Glasslite Downlight - Flood	C4T4GD + MHT4RF	8"

\* Add finish suffix: CLW, CCDW, CCZW, all with a painted white flange for all models, except the Glasslites. For polished flange, replace W with P. Glasslites do not need a finish suffix.  
 \*\* For 20W T4, use C420T4E1 or C4A20T4E1; for 70W, use C470T4E1 or C4A70T4E1. For 277V replace 1 with 2.



**How to Specify:**

6" Ceramic Metal Halide			6" Ceramic Metal Halide		
Frame-In Kits	C670T6E1**		Frame-In Kits	C4A39T4E1**	
Dimensions (L x W)	13 3/4" x 10 7/8"		Dimensions (L x W)	20 1/4" x 19 1/8"	
Lamping	70W T6		Lamping	70W T6	
Reflect. Trim	Cat No.*	Depth	Reflect. Trim	Cat No.*+ Reflector	Depth
Downlight - Narrow Beam	C6T6VN	9 3/8"	Adjustable - Spot	C6T6A + MHT4RS	10 7/8"
Downlight - Medium Beam	C6T6VM	9 3/8"	Adjustable - Narrow Flood	C6T6A + MHT4RNF	10 7/8"
Downlight - Wide Beam	C6T6VW	9 3/8"	Adjustable - Flood	C6T6A + MHT4RF	10 7/8"
Wall Wash	C6T6W	9 3/8"			

\* Add finish suffix: CLW, CCDW, CCZW, all with a painted white flange for all models, except the Glasslites. For polished flange, replace W with P. Glasslites do not need a finish suffix.  
 \*\* For 39W T6, use C639T6E1 or C6A39T6E1; for 150W, use C615T6E1 or C615T6E1. For 277V replace 1 with 2.



**Calculite  
ProSpec Linear**

ProSpec Linear combines multiple adjustable accent lights in a single rectangular recessed housing, creating a particularly clean ceiling where a large number of lighting elements are required. ProSpec Linear is available in a range of sizes, lamp options and finishes.

For the most compact fixtures, choose MR16 units. For the most Energy Smart installation, choose PAR30 ceramic metal halide.

Series S offers the smallest aperture. Series E provides for up to 70° vertical adjustment. Series A provides the most source concealment and includes a louvered media cartridge that holds up to two color filters or spread lenses.

The ProSpec Linear housing and multi-lampholder insert are furnished together, with a single catalog number. The housing, which is several inches larger than the aperture, installs before the ceiling is completed. The insert is offered with either a white or black aperture, and flanged or trimless detail.

ProSpec Linear is suitable for non-insulated ceilings and 120 volt supply. Consult factory for 277 volt applications.



**How to Specify:**

Cat No.*	Lamp (Max)	Aperture	Housing (L x W x H)	Adjustment**
PS4M1650	4 x 50MR16	16" x 3 1/2"	18 9/16" x 6 1/6" x 8 3/4"	30° x 30°
PE4M1675	4 x 75MR16	20" x 5"	31 3/8" x 10" x 8 3/4"	70° x 70°
PA4M1675	4 x 75MR16	20" x 5"	31 3/8" x 10" x 8 3/4"	35° x 45°
PA4P3075	4 x 75PAR30	24" x 6"	39 1/2" x 10" x 8 3/4"	30° x 45°
PA4H3070	4 x 70PAR30 CMH	24" x 6"	39 1/2" x 10" x 8 3/4"	30° x 45°

\* Add aperture finish suffix: BL (Black, white flange), WL (White, white flange), BTL (Black, trimless), and WTL (White trimless)

\*\* Only four-lamp modules are shown here. For one, two, and three lamp modules, other lamp options, and additional adjustments available.



**Calculite  
Floating Paper**

Floating Paper is a polished and specially treated acrylic disk that extends 1 1/8" below a compact fluorescent downlight. Light is intriguingly reflected and diffused by the finish, creating the floating paper effect. Floating Paper downlights are furnished in two components: a reflector/disk assembly and a frame-in kit.



**Calculite  
Cylinders**

Cylinders are available utilizing metal halide, compact fluorescent and incandescent sources in a variety of aperture sizes and wattages.

The Metal Halide T4 cylinder is powerful yet remarkably small with a miniature 5 3/4" diameter and 8 5/8" overall depth.



**4" Metal Halide**  
C4CS39T4E1  
H 8 5/8" D 5 3/4"  
CMH 39W T4.5



**6" Metal Halide**  
C6CS39T6E1  
H 12 1/2" D 6 5/8"  
CMH 39W T6



**6" Compact Fluorescent**  
CS6132VUCCL  
H 10 1/4" D 6 1/2"  
26/32W TTT



**6" Incandescent**  
7065AZ  
H 10 3/4" D 5 5/8"  
150W PAR38



**4" Floating Paper - Round**  
SL205AT/SL205AFTU **4"**  
18 TTT D 4 5/8", H 8 5/8"  
SL205BT/SL205BFTEU **6"**  
26/32 TTT D 6 1/8", H 6 7/8"  
SL205CT/SL205CFTEU **7"**  
26/32/42 TTT D 7 1/2", H 7 3/4"



**4" Floating Paper - Square**  
SL207AT/SL207AFTCU **4x4**  
26/32 TTT L 4 1/2", W 4 1/2", H 5 1/2"  
SL207BT/SL207BFTEU **4x9**  
26/32/42 TTT L 4 1/2", W 9 1/4", H 5 1/2"  
SL205CT/SL205CFTEU **9x9**  
2 x 26/32/42 TTT L 9 1/4", W 9 1/4", H 5 1/2"



## General Purpose Downlighting

In living, hospitality, and display environments, downlighting adds both visual interest and functional illumination. Lytecaster downlights are designed for the construction, performance, and cost requirements of residential and light commercial applications. The product line comprises a wide range of frame-in kits and interchangeable reflectors, which together provide numerous lighting effects. Simple installation in diverse conditions, combined with self-trimmed optics and regressed lamps, produces a clean-looking ceiling without glare or light leaks.

A choice of deep specular reflectors or shallow cones offers performance and price options in both downlights and wall washers. These can be matched with frame-in kits of different depths to achieve the desired lighting effect. The Lytepoints collection represents the widest range of small aperture accent lights. Larger Lytecaster accent lights provide higher wattage and greater adjustment.

In typical residences, 1000 Series 5" aperture downlights deliver appropriate illumination with the most pleasing ceiling appearance. For higher and cathedral ceilings, use the 1100 Series 6 3/4" size, where special sloped ceiling reflectors are available. The smallest apertures create dramatic effects in homes, restaurants, and stores. The 2000 Series offers a wide range of lamp options and light distributions in a 3 3/4" aperture. For the most extensive selection of small aperture MR16 downlights, use the Lytepoints family.

For warm, easily dimmed lighting, use halogen sources. Low voltage MR16's deliver the most sparkle and visual impact. Use compact fluorescent fixtures for downlighting to conserve energy and reduce maintenance cost. Application guidelines are on pages 162-174.

Select the frame-in kit according to the light source, size and ceiling condition. IC rated frames can be buried in ceiling insulation and are required by most building codes for residential plenum spaces next to the roof. Airseal IC units provide additional energy conservation by limiting the flow of warm air into attic spaces. Shallow units work in reduced plenum conditions. Remodelers install best in existing ceilings. Once the frame-in kit is determined, select from the compatible reflectors for the desired lighting effect.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).



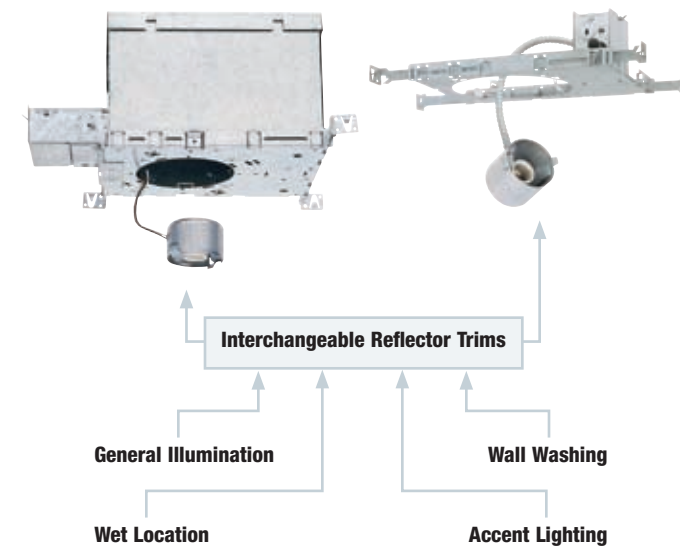
LytePoints Elbow  
accent aims up to 70°



**Lytecaster Systems**

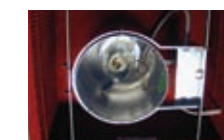
**Lytecaster Insulated Frames**  
 IC frames are designed to fit into residential construction and are UL listed for direct contact with insulation. Products labeled AirSeal® restrict airflow through the fixture to prevent dust marks, drafts and energy loss.

**Lytecaster Non-Insulated Frames**  
 Non-IC frames are designed for commercial applications and residential applications where insulation is not present. These frames will be smaller in size and provide higher wattages. Insulation must be kept 3" away and must not be placed above the fixture.



**Finish Options**  
 Finishes enhance the overall space and provide superior aesthetics and performance.

-  Clear
-  Pinhole
-  Natural Metal
-  Baffle
-  White Baffle



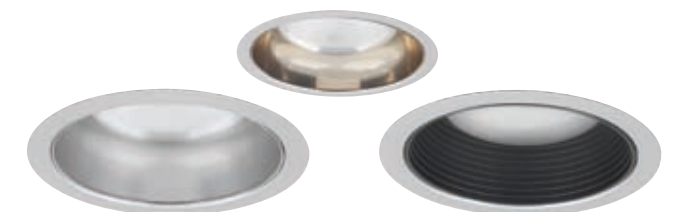
**Fire-Rated Ceilings**  
 FireLine® fire-rated enclosures fit over complete standard Lytecaster downlights of all sizes to provide a one-hour UL® classification for L500 series floor/ceiling assemblies.



**Existing Ceilings**  
 Remodelers are designed to install in existing ceilings (mostly Non-IC) by passing through the cutout. Remodelers are fastened to the ceiling material.



Lytecaster is a flexible system of Frame-In Kits and interchangeable Reflector Trims. Select the Frame-In Kit for the size, light source and ceiling conditions; select the Reflector Trim for the desired lighting effect. Lytepoints is a related family dedicated to small aperture light sources, primarily low voltage MR16.



**Natural Metal™**  
 Unique Natural Metal trims accentuate some of the hottest design styles. A carefully controlled anodizing process provides a distinctive metallic flange that celebrates the metal's natural grain.

This finish complements many environments that integrate today's stylish use of metallic appliances, fixtures and finishes.





**Lytepoints 300X 3 3/4"**

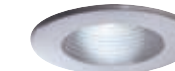
**Glass Cylinder**



**Cone**



**Baffle**



**Pinhole**



**Slot**



**Gimbal**



**Elbow**



**Wall Washer/Shield**



**Residence Disk**



**Frosted Dome**



**Rounded Glass/WL**



**Contour/WL**



**Lytepoints**

Lytepoints combine small apertures, distinctive and reflective materials, and low voltage MR16 lamps to create ceiling sparkle, as well as downlight.

For maximum 40° vertical aiming adjustment with fully recessed Lytepoints, use the Slot Aperture; Cone models and other adjustables provide 35° aiming. The Elbow pulls out from the housing to aim at 70°.

The Pinhole and Baffle feature crisp, one-piece die-cast apertures. Models designated WL are suitable for use in wet locations; all others are listed for damp locations.

**To Specify**

Select the Frame-In Kit according to the ceiling condition. Select the Reflector Trim according to the desired lighting effect. Add the appropriate finish suffix and letter X to the catalog number (i.e., 304 BAX).

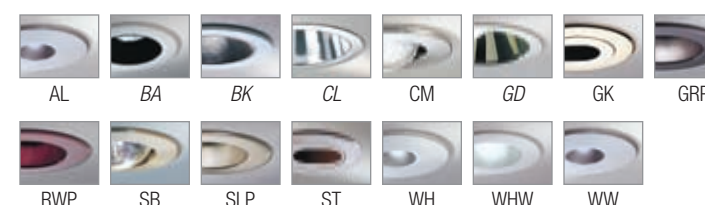
**Installation**

The Lytepoints 300X Series requires a ceiling cutout of 3 3/4". Including the trim flange, the overall diameter is 4 1/2". Lytepoints will install in ceiling material from 1/8" to 1" thick.

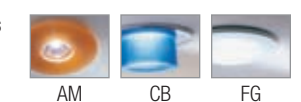
*Italics* = White Flange  
 WL = Wet Location  
<sup>1</sup> Magnetic transformer  
<sup>2</sup> Electronic transformer  
<sup>3</sup> UL listed for wall installation

Reflector Trim	Series	Frame-In Kits	Depth	Remodeler	Remodeler	Non-IC	AirSeal IC	Deep IC	Shallow
				3401MREX <sup>2</sup>	300MRX <sup>1</sup>	302MRX <sup>1</sup> / 302MREX <sup>2</sup>	302MRAICX <sup>1</sup>	302MRIC9X <sup>1</sup>	303MRE <sup>2</sup>
				4 5/8"	5 7/8"	6 1/4"	7 7/8"	9 1/4"	3 1/4"
Adjustable Cone	304	<i>BA, CL, GD, GRP, RWP, SLP</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	
Adjustable Baffle	305	<i>ALP, BK, WHW</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	
Adjustable Pinhole	308	<i>AL, BK, WW</i>		42W MR16	50W MR16	50W MR16	50W MR16	50W MR16	
Adjustable Slot	309	<i>AB, BK, CM, GK, SB, ST</i>		42W MR16	50W MR16	50W MR16	50W MR16	50W MR16	
Gimbal	313	<i>AB, AL, BK, CM, GK, SB, ST</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	37W MR16
Elbow <sup>3</sup>	378	<i>BK, GK, ST, WH</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	37W MR16
Wall Wash	315	<i>ST, WH</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	37W MR16
Glass Cylinder	373	<i>FGCM, FGWH, CBCM, CBWH</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	37W MR16
Residence Disk	317	<i>FGAL</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	37W MR16
Frosted Dome/WL	376	<i>WH</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	
Rounded Glass	322	<i>AM, CB, FG</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	
Contour/WL	316	<i>AL, CM, GK, WH</i>		50W MR16	50W MR16	50W MR16	50W MR16	50W MR16	37W MR16

**Finish Options**



**Glass Options**





**Lytecaster 2000**

Lytecaster 2000 offers both low voltage and line voltage options in a clean and coordinated aperture treatment.

Open Deep Reflector, Cone, and Baffle downlights provide general downlight, using a variety of lamps. All MR16 models provide aiming adjustment. For maximum 45° vertical aiming, use the Eyeball; Slot and the open models provide 35° aiming.

Models designated WL are suitable for use in wet locations; all others are listed for damp locations.

**To Specify**

Select the Frame-In Kit according to the ceiling condition. Select the Reflector Trim according to the desired lighting effect.

**Installation**

The Lytecaster 2000 Series requires a ceiling cutout of 3 11/16". Including the trim flange, the overall diameter is typically 4 9/16". Lytecaster 2000 will install in new ceilings up to 1" thick, 2" with accessory adaptor. Remodeler will handle up to 2".

<sup>1</sup> Magnetic transformer  
<sup>2</sup> For precise depth, visit [www.designingwithlight.com](http://www.designingwithlight.com)  
<sup>3</sup> Use Sylvania outdoor-rated PAR lamps only  
<sup>4</sup> Sylvania TRU-AIM® IR MRX  
<sup>5</sup> Available with Natural Metal™ flange

**Lytecaster 2000 3 3/4" Recessed**

Clear Diffuse with optional Natural Metal™ flange



Specular Gold



Baffle



Pinhole



Wet Location



Open Wet Location



Slot



Eyeball



Mini-Swivel



Reflector Trim	Series	Depth	Remodeler	Non-IC	AirSeal IC	Rem-LV	LV	AirSeal IC-LV
			2003R	2002P1	2000AIC	2000LVR <sup>1</sup>	2000LV <sup>1</sup>	2004ICV <sup>1</sup>
Deep Reflector	2045 2046	Specular Gold Specular Clear	60W BT15	60W BT15				
Cone <sup>2</sup>	2012 2013 2013CD	Specular Gold <sup>5</sup> Specular Clear <sup>5</sup> Clear Diffuse <sup>5</sup>	60W A19 75W R20, PAR16 50W PAR20	40W A19 75W R20, PAR16 50W PAR20	50W R20, PAR20 45W PAR16	50W MR16	50W MR16	50W MR16
Step Baffle	2005 2005WH	Matte Black Matte White	60W A19 75W R20, PAR16 50W PAR20	40W A19 75W R20, PAR16 50W PAR20	50W R20, PAR20 45W PAR16	50W MR16	50W MR16	50W MR16
Pinhole	2011	Matte White	40W A19 50W R20, PAR20 60W PAR16	40W A19 50W R20, PAR20 45W PAR16		50W MR16	50W MR16	35W MR16
PAR Adjustable <sup>2</sup>	2027 2027WH	Black Baffle <sup>5</sup> White Baffle			50W R20, PAR20 45W PAR16			
Open Wall Wash	2095 2096	Specular Gold Specular Clear	60W BT15	60W BT15				
Open Wet Location	2084WH 2084CD	Gloss White Clear Diffuse	50W PAR20 <sup>3</sup>	50W PAR20 <sup>3</sup>	50W PAR20 <sup>3</sup>			
MR Slot Aperture	2006	Matte White				50W MR16	50W MR16	37W MR16
MR Eyeball	2022LV	White				50W MR16	50W MR16	35W MR16 <sup>4</sup>
MR Mini Swivel	2025WH	White				37W MR16	50W MR16	50W MR16
MR Shower	2026WH	White				37W MR16	50W MR16	50W MR16



**Lytecaster 1000**

Lytecaster 1000 offers low voltage, line voltage incandescent and compact fluorescent options in a clean and coordinated aperture treatment that is well suited to ceilings up to 9' 6".

Open Deep Reflector, Cone, and Baffle downlights provide general downlight, using a variety of lamps. The Eyelid Wall Wash directs all light toward the wall.

The Open Wall Wash also provides downlight. All MR16 models provide aiming adjustment. For maximum 70° vertical aiming, use the Elbow; Pinhole and open models provide 35° aiming.

All diffusers are of glass with retaining bales. Models designated WL are suitable for use in wet locations; all others are listed for damp locations.

**To Specify**

Select the Frame-In Kit according to the ceiling condition. Select the Reflector Trim according to the desired lighting effect.

**Installation**

The Lytecaster 1000 Series requires a ceiling cutout of 5 1/8" (Remodeler is 5 3/8"). Including the trim flange, the overall diameter is 5 7/8". Lytecaster 1000 will install in new ceilings up to 1" thick, 2" with accessory adapter. Remodeler will handle up to 2".

- <sup>1</sup> Magnetic transformer
- <sup>2</sup> For precise depth, visit [www.designingwithlight.com](http://www.designingwithlight.com)
- <sup>3</sup> Magnetic ballast and 2-Pin lamp
- <sup>4</sup> Use Sylvania outdoor-rated PAR lamps only
- <sup>5</sup> Minimum lamping 42W MR16
- <sup>6</sup> Available with Natural Metal™ flange

**Lytecaster 1000 5" Recessed**



Reflector Trim	Series	Depth	Remodeler	Non-IC	AirSeal IC	Rem-LV	LV	AirSeal IC-LV	Non-IC CFL
			1003R	1002P1	1004ICX	1000LVR <sup>1</sup>	1000LV <sup>1</sup>	1004ICV <sup>1</sup>	1002F <sup>3</sup>
Deep Reflector	1045 1046	Specular Gold Specular Clear	7 3/16" Max. <sup>2</sup> 100A19	7 3/16" Max. <sup>2</sup> 100A19	5 1/2" 60W A19				13W Quad Tube
Cone <sup>2</sup>	1012 1013 1013CD	Specular Gold <sup>6</sup> Specular Clear <sup>6</sup> Clear Diffuse <sup>6</sup>	75W A19 85W BR30 75W PAR30L	75W A19 85W BR30 75W PAR30L	50W				13W Quad Tube
Step Baffle	1005 1005WH	Matte Black <sup>6</sup> Matte White	75W A19 85W BR30 75W PAR30L	75W A19 85W BR30 75W PAR30L	50W				13W Quad Tube
Open Wall Wash	1095 1096	Specular Gold Specular Clear		75W A19 85W BR30 75W PAR30L	50W				13W Quad Tube
Eyelid Wall Wash	1035 1035WH	Matte Black Matte White		75W A19	60W A19				13W Quad Tube
Cratere Dome/WL	1024	Etched Glass	75W A19	75W A19	40W A19				13W Quad Tube
Opal Disk/WL	1021	Cased Glass	75W A19	75W A19	40W A19				13W Quad Tube
Open Wet Location	1084WH 1084CD	Gloss White Clear Diffuse	75W PAR30 <sup>4</sup>	75W PAR30 <sup>4</sup>					
MR16 Cone	1056LV 1063LV 1064LV	Specular Black Specular Gold Specular Clear				75W MR16 <sup>5</sup>	75W MR16 <sup>5</sup>	50MR16	
MR16 Baffle	1055LV 1055WHLV	Matte Black Matte White				75W MR16 <sup>5</sup>	75W MR16 <sup>5</sup>	50W MR16	
MR16 Pinhole	1052LV	Matte White				65W MR16 <sup>5</sup>	65W MR16 <sup>5</sup>	37W MR16	
MR16 Elbow	1062LV	Matte White				65W MR16 <sup>5</sup>	65W MR16 <sup>5</sup>	50W MR16	



**Lytecaster 1100 6 3/4" Recessed**



**Lytecaster 1100**

Lytecaster 1100 offers line voltage incandescent and compact fluorescent options in a clean and coordinated aperture treatment that is well suited to ceilings up to 20'.

Open Deep Reflector, Cone, and Baffle downlights provide general downlight, using a variety of lamps. The Eyelid Wall Wash directs all light toward the wall. The Open Wall Wash also provides downlight. Compact fluorescent triple tube lamps with electronic ballast provide Energy Smart lighting.

All diffusers are of glass with retaining bales. Models designated WL are suitable for use in wet locations; all others are listed for damp locations.

**To Specify**

Select the Frame-In Kit according to the ceiling condition. Select the Reflector Trim according to the desired lighting effect.

**Installation**

The Lytecaster 1100 Series requires a ceiling cutout of 6 13/16" (Remodeler is 7"). Including the trim flange, the overall diameter is 7 9/16". Lytecaster 1100 will install in new ceilings up to 1" thick, 2" with accessory adapter. Remodeler will handle up to 2".

<sup>1</sup> Electronic ballast 4-Pin lamp  
<sup>2</sup> For precise depth, visit [www.designingwithlight.com](http://www.designingwithlight.com)  
<sup>3</sup> Use Sylvania or GE outdoor-rated PAR lamps only  
<sup>4</sup> Available with Natural Metal™ flange

Reflector Trim	Series	Depth	Remodeler	Non-IC	IC	Deep AirSeal IC	Non-IC CFL	AirSeal IC CFL
			1103R	1102P1	1104ICX	1100AICM	1100FTU <sup>1</sup>	1100AICMFT <sup>1</sup>
			9 1/4" Max. <sup>2</sup>	9 1/4" Max. <sup>2</sup>	7 1/4"	9 1/4"	9 1/4" Max. <sup>2</sup>	6 7/8"
Deep Reflector	1145	Specular Gold	100W A19	100W A19		100W A19		
	1146	Specular Clear	150W A21 85W BR30	150W A21 85W BR30		150W A21 85W BR30	26/32W Triple Tube	
Cone <sup>2</sup>	1112	Specular Gold <sup>4</sup>	100W A19	100W A19	60W A19	75W A19		
	1113	Specular Clear <sup>4</sup>	150W A21	150W A21	120W BR40	100W BR40	26/32W Triple Tube	26/32W Triple Tube
	1113CD	Clear Diffuse <sup>4</sup>	150W BR40 PAR38	150W BR40 PAR38	100W PAR38	90W PAR38		
Baffle	1105	Matte Black <sup>4</sup>	60W A19	100W A19	60W A19	75W A19	26/32W Triple Tube	26/32W Triple Tube
	1105WH	Matte White	120W BR40 100W PAR38	150W A21 150W BR40 PAR38	120W BR40 100W PAR38	100W BR40 90W PAR38		
Cross Blade	1132	Matte White	100W A19 150W PAR38	100W A19 150W PAR38	52W A19 75W PAR33	60W A19 90W PAR38	26/32W Triple Tube	
Complete Slope <sup>2</sup>	1154 1154WH	Matte Black <sup>4</sup> Matte White			90W PAR38			
Eyelid Wall Wash	1135	Black Baffle	100W A19	100W A19		60W A19	26/32W Triple Tube	
	1135WH	White Baffle	150W A21 150W BR40	150W A21 90W BR40		60W PAR30		
Open Wall Wash	1195	Specular Gold		100W A19		75W A19	26/32W Triple Tube	
	1196	Specular Clear		135W A21				
Cratere Dome	1124	Etched Glass	100W A19		60W A19		26/32W Triple Tube	26/32W Triple Tube
Open Wet Location	1184WH	Gloss White						
	1184CD	Clear Diffuse	100W PAR38 <sup>3</sup>					
Opal Disk	1121	Matte White	100W A19		52W A19	60W A19	26/32W Triple Tube	26/32W Triple Tube
Regressed Diffuser	1128	Matte White	100W A19		52W A19	60W A19	26/32W Triple Tube	26/32W Triple Tube

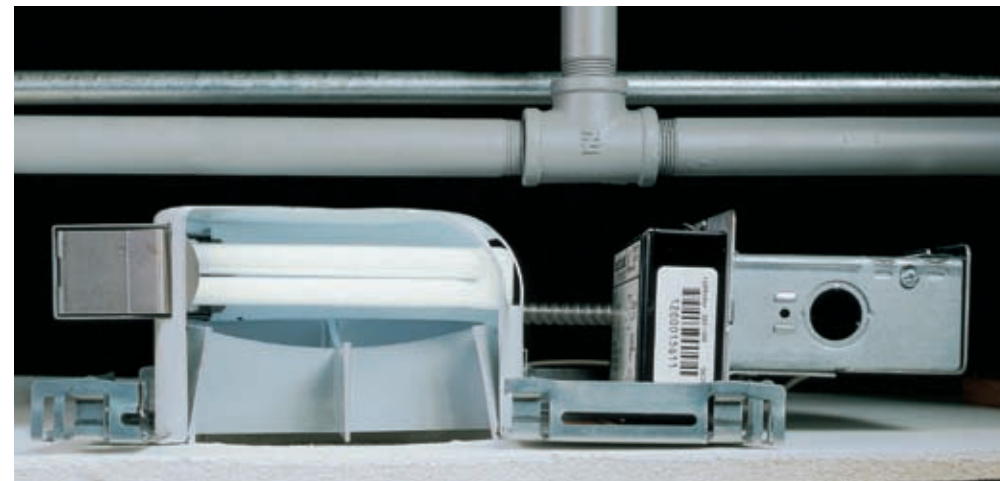
**Low Profile**

Lytecaster Low Profile uses compact fluorescent lamps to provide Energy Smart lighting in an ultra-shallow fixture, just 3 7/8" deep.

All models except Opalex can be installed in the wall when using 13W twin tube lamps. Models designated WL are suitable for use in wet locations; all others are listed for damp locations. The Regressed Lens and Diffuser feature a one-piece splay and flange with captive acrylic shield.

The Lytecaster Low Profile Series requires a ceiling cutout of 6 13/16" (Remodeler is 7"). Including the trim flange, the overall diameter is 7 9/16". Lytecaster Low Profile will install in new ceilings up to 1" thick, 2" with accessory adapter. Remodeler will handle up to 2".

To specify, select the Frame-In Kit according to the ceiling condition. Select the Reflector Trim according to the desired lighting effect.



Reflector Trim	Series	Frame-In Kits	Remodeler	Non-IC	Non-IC	Non-IC	Non-IC
			1102T1R <sup>1</sup>	1102T1R <sup>1</sup>	1102T13U <sup>2</sup>	1102T18U <sup>2</sup>	1102T26U <sup>2</sup>
		Depth	3 7/8"	3 7/8"	3 7/8"	3 7/8"	3 7/8"
Cone	1113TCL	Specular Clear	2 13W TT	2 13W TT	2 13W QT	2 18W QT	2 26W QT
Baffle <sup>1</sup>	1105T	Matte Black	2 13W TT	2 13W TT	2 13W QT	2 18W QT	2 26W QT
Cross Blade	1132T	Matte White	2 13W TT	2 13W TT	2 13W QT	2 18W QT	2 26W QT
Eyelid Wall Wash	1135T	Matte White	2 13W TT	2 13W TT	2 13W QT	2 18W QT	2 26W QT
Regressed Lens	1126T	White	2 13W TT	2 13W TT	2 13W QT	2 18W QT	2 26W QT
Regressed Diffuser	1128T	White	2 13W TT	2 13W TT	2 13W QT	2 18W QT	2 26W QT
Opalex	1178T	White	2 13W TT	2 13W TT	2 13W QT	2 18W QT	2 26W QT

<sup>1</sup> 2-Pin Twin Tube lamp and Magnetic ballast  
<sup>2</sup> 4-Pin Quad Tube lamp and Electronic ballast

**Lytegems**

Lytegems are decorative glass rings that attach to any Lytecaster 2000 or 1000 Series Cone or Baffle downlight. Lytegems can be used with MR16, incandescent, or compact fluorescent lamps.

Specify all three components: Frame-In Kit + Reflector Trim + Lytegem.



**Beveled Glass**



<b>1304 Etched</b>	<b>1404 Etched</b>
<b>1305 Etched</b>	<b>1405 Etched</b>
Depth 7 5/16"	Depth 8 5/8"
Height 1 7/8"	Height 1 7/8"
2000 Series	1000 Series

**Glass Collar**



<b>1302 Etched</b>	<b>1402 Etched</b>
Depth 5 15/16"	Depth 6 11/16"
Height 1 1/2"	Height 1 1/2"
2000 Series	1000 Series



## Architectural Decorative

Decorative lighting provides the luminous forms that distribute pleasing sparkle and glow around a space and enhance occupants' sense of well being. This discrete brightness adds the visual interest needed to offset otherwise uniform illumination.

Architectural Decorative fixtures (pendant, ceiling and wall-mounted) are constructed and scaled for commercial applications. Simple lines, restrained ornament, careful detailing, durable construction, and Energy Smart lamping characterize the designs.

Medium scaled Pendalytes use incandescent, compact fluorescent or metal halide sources to create well shielded, soft-edged downlight for ambient or task illumination. Plain metal reflectors direct all light downwards. Glass reflectors, acrylic refractors, and suspended decorative disks add a glowing luminosity to the composition.

Large-scaled Pandalux fixtures distribute most light indirectly, using multiple compact fluorescent sources. Their high efficiency and the wide range of size and wattage options support flexible layouts for ambient illumination in libraries, reception and lobby areas and office spaces.

Fixture size determines electrical options in the Architectural Decorative product line. Most of the pendants and ceiling-mounted fixtures, as well as a selection of the wall brackets, can be fitted with battery units for emergency lighting. All compact fluorescent ballasts are electronic for quiet, flicker free operation, and all are available for 120 and 277 volt operation.

Because decorative fixtures are generally less efficient than other purely functional types, energy codes that follow ASHRAE/IES 90.1-1999 allow an additional 1.0 watt per square foot for spaces with decorative lighting.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).

New Expo Cylinder  
5 7/8" dimension.





**48023ALU/40876**  
Glass diffuser  
F 28W T5  
L 46 7/16", W 6 1/2", E 3 5/8"

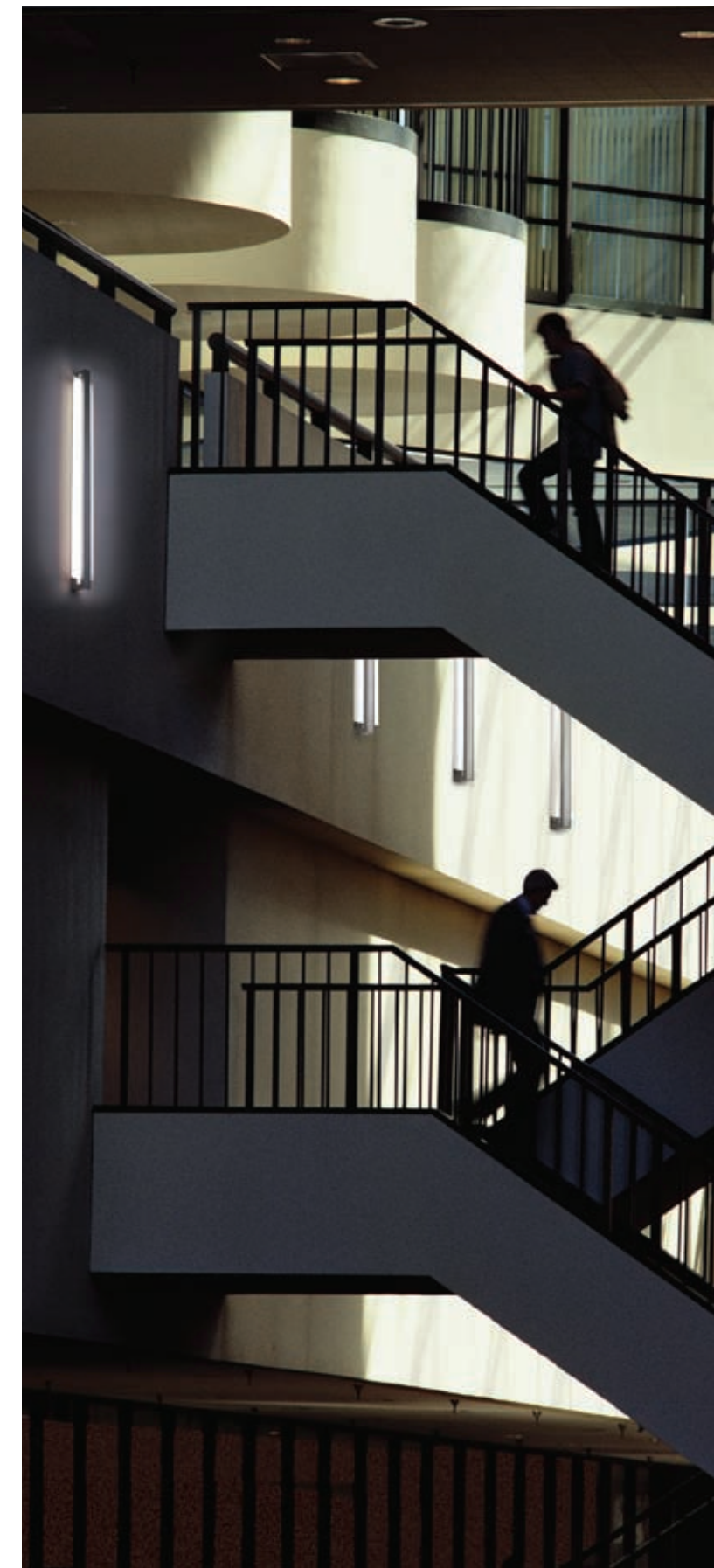


**48020ALU/40873**  
Glass diffuser  
26/32/42W TTT  
L 14", W 9 1/2", E 4"

**Soli**

Soli completely shields a slim T5 lamp in front of a glass or acrylic diffuser to create a multi-layered luminous composition. The housing is extruded aluminum with a metallic aluminum powder coat finish. The optional cambered diffusers are soda-lime glass or virgin acrylic with an acid-etched finish and pencil polished edges.

Soli can be mounted vertically or horizontally on the wall and on the ceiling. Soli can be wired directly from conduit (without an outlet box) as shown left. Cast covers for outlet box mounting are also provided. Soli is ADA compliant.





**Soli Zontio**

The top and bottom aluminum channels each hold T5 lamps, creating a dual uplight distribution. The ballast is contained in an elongated 1 1/4" wide mounting canopy and wired to the lamps through two 3/8" stems. An optional flat or curved etched glass diffuser captures uplight from the lower lamp chamber. All metal parts are finished with metallic aluminum powder coat.



**48228ALU/40800**  
Flat Glass Diffuser  
2 x F 28W T5  
L 47 1/2", W 9", OAH 32 3/4"



**48228ALU/40810**  
Curved Glass Diffuser  
2 x F 28W T5  
L 47 1/2", W 8 1/4", OAH 32 3/4"



Detail



**48228ALU**  
Line  
2 x F 28W T5  
L 47 1/2", W 1 3/4", OAH 32 3/4"



**Soli Scence**



**Line**

**Glass**

**Acrylic**



	Line	Glass Diffuser	Acrylic Diffuser
2' F 14W T5	48021ALU	48021ALU/40874	48021ALU/40914
	L 23", W 1 3/4", E 3 5/8"	L 23", W 6 1/2", E 3 5/8"	L 23", W 6 1/2", E 3 5/8"
3' F 21W T5	48022ALU	48022ALU/40875	48022ALU/40915
	L 34 5/8", W 1 3/4", E 3 5/8"	L 34 5/8", W 6 1/2", E 3 5/8"	L 34 5/8", W 6 1/2", E 3 5/8"
4' F 28W T5	48023ALU	48023ALU/40876	48023ALU/40916
	L 46 7/16", W 1 3/4", E 3 3/4"	L 46 7/16", W 6 1/2", E 3 3/4"	L 46 7/16", W 6 1/2", E 3 3/4"
8' 2 x F 28W T5 (Continuum)	48024ALU	48024ALU/(2X)40876	48024ALU/(2X)40916
	L 92 7/8", W 1 3/4", E 3 3/4"	L 92 5/8", W 6 1/2", E 3 3/4"	L 92 5/8", W 6 1/2", E 3 3/4"

**Soli Continuum**



**Soli Atria**

Soli Atria consists of three Soli channels attached to a center stem and hub, with acrylic or glass diffusers. The channels can be tilted up to 15° from vertical and locked in place. The Atria uses T5HO lamps.



**48339ALU/40915**  
Acrylic Diffuser  
3 x F 39W T5HO  
Dia (max) 12", OAH 54"

**48354ALU/40916**  
Acrylic Diffuser  
3 x F 54W T5HO  
Dia (max) 15", OAH 69"







### Pendalytes

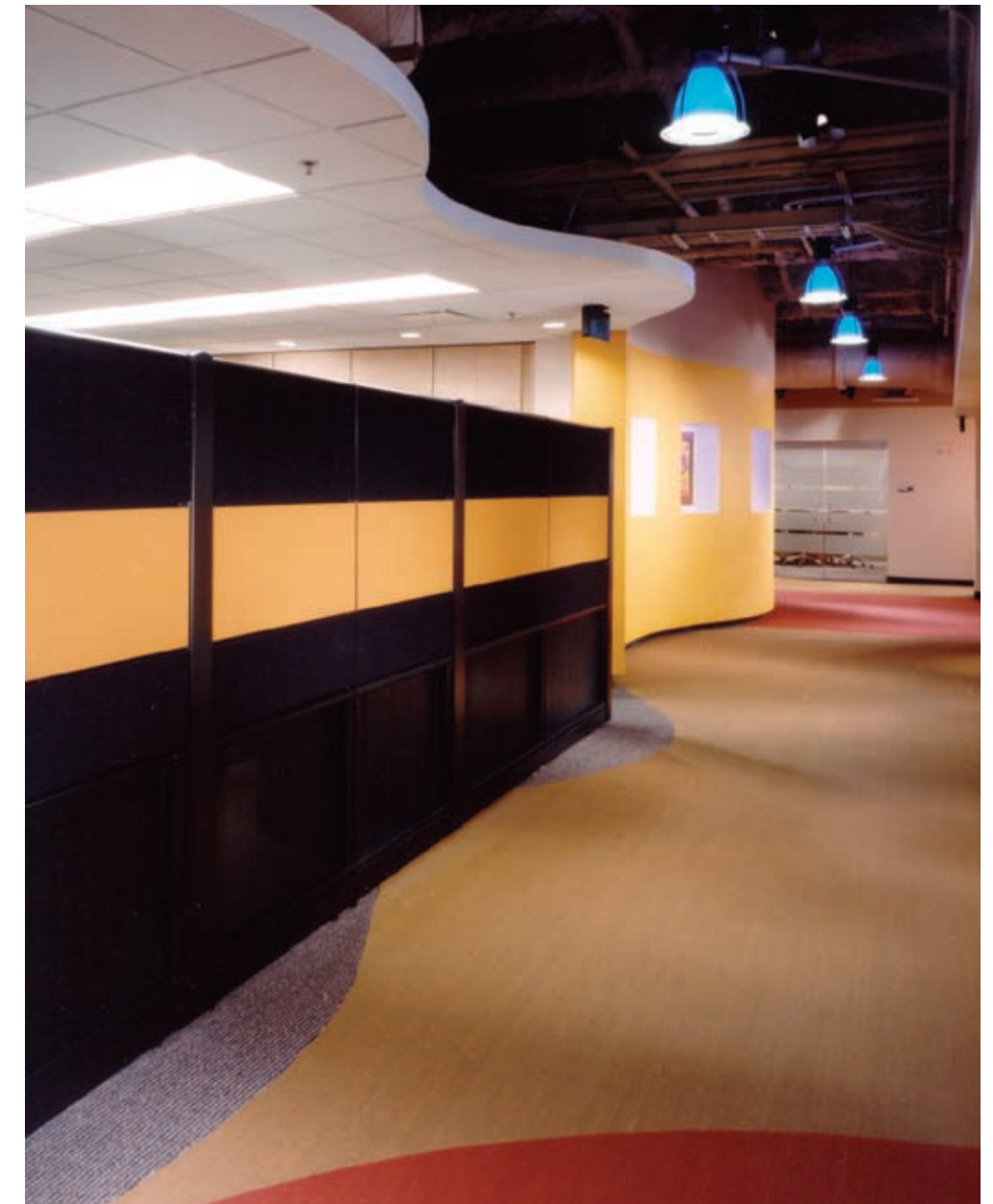
Pendalytes is a family of pendant downlights using glass, aluminum, and acrylic reflectors with a remarkably wide range of sizes and light sources.

Pendalytes are both elegant and practical. Glass reflectors are etched externally and fritted internally; they glow gently while directing most light downwards. Anodized aluminum reflectors are available in semi specular or a more diffuse satin finish; both distribute all light downward in a well controlled beam. The clear acrylic reflectors have prismatic ribs; they deliver about 75% downlight in a wide beam. Optional decorative disks of glass, acrylic, or perforated metal add a glowing element below the reflector.

Ballasts for compact fluorescent and metal halide lamps are enclosed in an extruded

aluminum power husk mounted to the top of the reflector.

Pendalytes are shown here with cord and cable suspension (120"). Stem mounting is also available. The reflector, power husk and suspension all ship in separate cartons.





**Pendalytes**

To specify use both a Reflector and compatible Power Husk/Suspension

**6" Power Husk & Cable Suspension**  
406151  
406U2

**Lamping**  
150W A21  
26/32W TTT



**6" Performance Pendalytes**

**416SR**  
D 6 7/8", H 11 1/4"

**416AB**  
D 7 1/8", H 11 1/4"

**416WH**  
D 7 1/8", H 11 1/4"

**416BL**  
D 7 1/8", H 11 1/4"

**9" Power Husk & Cable Suspension**  
4046151TM/404SKB  
40471U3TM/404SKB

**Lamping**  
150W A21  
26/32/42W TTT



**9" Pendalytes**

**40413**  
D 9", H 15 1/16"

**409AB**  
D 9", H 15 1/16"

**409WH**  
D 9", H 15 1/16"

**409BL**  
D 9", H 15 1/16"

**40411**  
D 9", H 15 1/16"

**9" Power Husk & Cable Suspension**  
4046151TM/409DKTM  
40471U3TM/409DKTM

**Lamping**  
150W A21  
26/32/42W TTT



**9" Deco Pendalytes**

**40413/409DG**  
D 12", H 16 3/4"

**409AB/409DG**  
D 12", H 16 3/4"

**409WH/409DG**  
D 12", H 16 3/4"

**409BL/409DG**  
D 12", H 16 3/4"

**40411/409DG**  
D 12", H 16 3/4"

**12" Power Husk & Cable Suspension**  
412U3/404SKB  
41257U/404SKB  
412H70/404SKB

**Lamping**  
26/32/42W TTT  
57W TTT  
70W ED17 MH



**12" Performance Pendalytes**

**42SR**  
D 12 3/8", H 19"

**42AB**  
D 12 1/4", H 19"

**42WH**  
D 12 1/4", H 19"

**42BL**  
D 12 1/4", H 19"

For decorative disks in acrylic or perforated metal, replace DG with DA or PM. For 9" Pendalytes in Gray finish, visit [www.designingwithlight.com](http://www.designingwithlight.com).



**Pendalytes**

To specify use both a Reflector and compatible Power Husk/Suspension

**12" Power Husk & Cable Suspension**  
4046261/404SKG  
40472U3/404SKG  
404722XU3/404SKG

**Lamping**  
150W A21  
26/32/42W TTT  
2 26/32/42W TTT

**12" Power Husk & Cable Suspension**  
4046261/412DK  
40472U3/412DK  
404722XU3/412DK

**Lamping**  
150W A21  
26/32/42W TTT  
2 26/32/42W TTT

**16" Power Husk & Cable Suspension**  
406371/404SKG  
4073U3/404SKG  
40734XU3/404SKG  
408363/404SKG

**Lamping**  
150W A21  
26/32/42W TTT  
4 26/32/42W TTT  
100W ED17 MH

**16" Power Husk & Cable Suspension**  
406371/416DK  
4073U3/416DK  
40734XU3/416DK  
408363/416DK

**Lamping**  
150W A21  
26/32/42W TTT  
4 26/32/42W TTT  
100W ED17 MH

For decorative disks in acrylic or perforated metal, replace DG with DA or PM.



**12" Pendalytes**  
40422  
D 12 3/8", H 15 3/8"



**40421**  
D 12 3/8", H 15 3/8"



**12" Deco Pendalytes**  
40422/412DG  
D 15 5/8", H 17"



**40421/412DG**  
D 15 5/8", H 17"



**16" Pendalytes**  
40432  
D 16 1/4", H 22"



**40431**  
D 16 1/4", H 22"



**16" Deco Pendalytes**  
40432/416DG  
D 20", H 23 1/2"



**40431/416DG**  
D 20", H 23 1/2"



**Inno & Expo**

Inno and Expo cylinders use compact ceramic metal halide lamps with high efficiency, long life, and excellent color rendering. The result is an elegant and effective downlight.

Fixture housing is die-cast aluminum with a silver powder coat finish. A specular aluminum reflector creates a well controlled beam. The inner and outer enclosures of borosilicate glass sparkle when illuminated.

Inno and Expo can be mounted to the ceiling or wall, or suspended by a single stem (45° swivel) or three aircraft cables, which can be shortened in the field. Suspension canopies are finished to match the housing and are 5 1/2" and 6 1/2" diameter, respectively.

Suspensions and housings ship in separate cartons. Ceiling and wall mount versions are UL Listed for use in wet locations.



**Expo Ceiling**  
C4CEX39T4EU  
39W T4.5 MH  
D 5 7/8", H 9"



**Expo Wall**  
C4CEX39T4EU\*+CA4CWBS  
39W T4.5 MH  
D 5 7/8", H 10 5/8", E 9 5/8", OAH 12"



**Expo Stem**  
C4CEX39T4EU\*+CACSS  
39W T4.5 MH  
D 5 7/8", H 10 5/8", OAH 48 3/8"



**Expo Cable**  
C4CEX39T4EU\*+CACPS  
39W T4.5 MH  
D 5 7/8", H 10 5/8", OAH 130 5/8"

\* Shown with optional rod and trim kit: Add CAEXPT to catalog number



**Inno Ceiling**  
C4CIN39T4EU  
39W T4.5 MH  
D 5 7/8", H 9"



**Inno Wall**  
C4CIN39T4EU+CA4CWBS  
39W T4.5 MH  
D 5 7/8", H 9", E 9 3/4", OAH 10 1/2"



**Inno Stem**  
C4CIN39T4EU+CACSS  
39W T4.5 MH  
D 5 7/8", H 9", OAH 46 3/4"



**Inno Cable**  
C4CIN39T4EU+CACPS  
39W T4.5 MH  
D 5 7/8", H 9", OAH 129"

**Spectral Architectural Lighting** SPECTRAL 

Spectral luminaires and Floating Paper downlights, including those on the following pages, are international award-winning designs from Spectral Architectural Lighting of Germany. They are intended as distinctive lighting for high-profile environments.



**Zylinder Glas**

Zylinder Glas delivers indirect and direct illumination using a 150W ceramic metal halide lamp with long life, efficiency, and good color rendering. The high output suits Zylinder Glas to high ceiling applications.

Zylinder Glas is made of high quality stainless steel with a brushed finish. The lamp is housed in the lower cylinder and emits widespread uplight and well controlled downlight using internal alzak reflectors. The floating glass disk redirects light downward and adds a pleasant glow. The ballast is enclosed in the cylindrical ceiling canopy and wired to the lamp through the suspension stems. Zylinder Glas is a product of Spectral.



**SL402AH1**  
D 7 1/8", OAD 26 3/4", OAH 39 5/8"  
150W T7 CMH 120V

**SL402BH1**  
D 7 1/8", OAD 26 3/4", OAH 135"  
150W T7 CMH 120V

**Circle in Square**

Circle in Square uses four circular 40W T5 lamps, creating both indirect illumination and an articulated super graphic.

The lamps shine through etched glass diffusers that are held at the corner by the steel ballast enclosure. A circular perforated metal shroud shields the view from the side. Electronic ballasts are mounted at the interior corner of each quadrant. Exposed metal parts are finished in textured black paint. Circle in Square is suspended by four adjustable aircraft cables and powered by a black cord.

The ultra-thin companion surface model can be mounted on the ceiling or on the wall (the circular shroud shields any direct view of the lamp) and is ADA compliant.



**Pendant**  
**SL200APZU**  
L 33 5/8", W 33 5/8", H 2 5/8", OAH 78"  
4 x FC 40W T5

**Surface**  
**SL201APZU**  
L 16 1/2", W 16 1/2", E 2"  
FC 40W T5

**Spectral Linear Pendants**

Spectral linear pendants are award-winning designs based on the compact architecture of the T5 lamp. Glas Spiral and Ultra Flat 1 install individually, not in continuous rows or patterns. Kubik Light System, on the other hand, can be flexibly configured into patterns and arrays.



**Glas Spiral**

Spiral aluminum louvers and hazed glass diffusers create a rich luminous composition. The central electrical channel is textured gray. Power feeds through a stem at one end, while twin aircraft cables support the other.

**SL101GPIU**  
2 x F 28W T5  
**SL101HPIU**  
2 x F 54W T5HO  
L 54 1/4", W 11 3/4", H 4 5/8" OAH 19 5/8"



**Ultra Flat 1**

Ultra Flat 1 is a complex optic: a 5/8" thick, specially treated acrylic tray is side-lighted to a gentle glow, while producing a 90% uplight distribution; soft downlight passes through a perforated aluminum shield. Ultra Flat 1 is suspended by twin aircraft cables. Painted finishes are light gray.

**SL103APIU**  
2 x F 28W T5  
**SL103BPIU**  
2 x F 54W T5HO  
L 57 1/4", W 16 3/8", H 2 1/4", OAH 19 5/8"



**Kubik Light System**

Kubik is a playful and luxuriously compact T5 fluorescent system using a 1" square ballast channel. Fixture lengths, connectors, suspension elements, and optional shielding media combine into a wide variety of three dimensional forms.

**SLA110 Series**

For specification details visit [www.designingwithlight.com](http://www.designingwithlight.com).





**Pendalux**

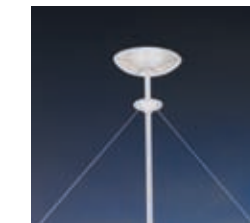
Pendalux indirect pendants provide comfortable and efficient lighting in a non-directional, luminous form. Pendalux optics are based on triple tube compact fluorescent lamps, which permits flexible scaling of the fixture design, light output, easy dimming, and coordination with recessed downlights and wall sconces.

Each Pendalux style is available in a range of sizes and with several of the suspension options shown. Fixture bodies and suspensions are specified and shipped separately. Suspension style and length shown on the following pages is coordinated with fixture scale and typical ceiling height, but other combinations are possible.

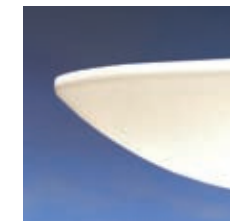
Pendalux fixtures are pre-wired for dual level switching; emergency and dimming are available.



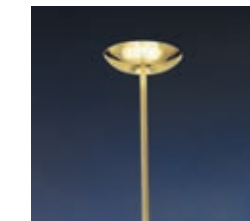
**Gemini**



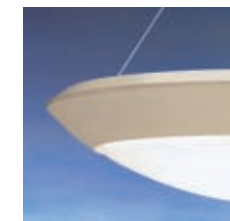
**Cables**



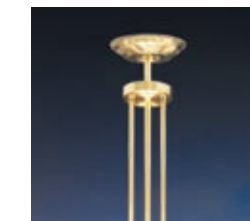
**Cirrus**



**Single stem**



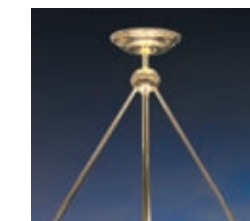
**Contemporary**



**Multiple stem**



**Traditional**



**3 Rod**



Gemini			
<b>Fixture</b>	4F23242A	4F28442A	4F35642A
	2 x 26/32/42W TTT	4 x 26/32/42W TTT	6 x 26/32/42W TTT
	D 23"	D 28"	D 35"
<b>Suspension</b>			
Single (close to clg.)	4SB115	4SB115	4SB115
	OAH 14 7/8"	OAH 15"	OAH 16 9/16"
Cable	4SB324	4SB328	4SB335
	OAH 23 7/8"	OAH 27 13/16"	OAH 35"

Add finish suffix to both fixture and suspension: PB (polished brass), SN (satin nickel), WH (white). Other suspension styles and lengths available.

Cirrus			
<b>Fixture</b>	4A23242A	4A28442A	4A35642A
	2 x 26/32/42W TTT	4 x 26/32/42W TTT	6 x 26/32/42W TTT
	D 23"	D 28"	D 35"
<b>Suspension</b>			
Single (close to clg.)	4SB115	4SB115	4SB115
	OAH 15"	OAH 15 3/16"	OAH 16 9/16"
Single	4SB124	4SB128	4SB135
	OAH 24"	OAH 28"	OAH 35"

Add finish suffix to both fixture and suspension: PB (polished brass), SN (satin nickel). Other suspension styles and lengths available.

Contemporary			
<b>Fixture</b>		4K28442A	4K35642A
		4 x 26/32/42W TTT	6 x 26/32/42W TTT
		D 28"	D 35"
<b>Suspension</b>			
Single (close to clg.)		4SB115	4SB115
		OAH 15 3/16"	OAH 16 9/16"
Triple stem		4SB228	4SB235
		OAH 28"	OAH 35"

Add finish suffix to both fixture and suspension: PB (polished brass), SN (satin nickel), WH (white). Other suspension styles and lengths available.

Traditional			
<b>Fixture</b>		4R28442A	4R35642A
		4 x 26/32/42W TTT	6 x 26/32/42W TTT
		D 28"	D 35"
<b>Suspension</b>			
Single (close to clg.)		4SB115	4SB115
		OAH 15 3/16"	OAH 16 9/16"
Three rods		4ST428	4ST435
		OAH 28"	OAH 35"

Add finish suffix to both fixture and suspension: PB (polished brass), SN (satin nickel). Other suspension styles and lengths available.



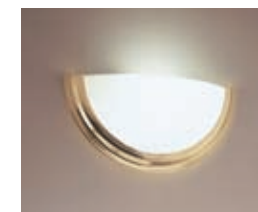
**Wall Bracket**  
4AWA142AU/4FWATRM  
1 x 26/32/42W TTT  
W 17", H 8 1/2", E 4"  
Add finish suffix as above to trim



**Wall Bracket**  
4AWA142AU  
1 x 26/32/42W TTT  
W 16", H 7 3/4", E 4"



**Wall Bracket**  
4AWA142AU/4KWATRM  
1 x 26/32/42W TTT  
W 18", H 8 1/2", E 4"  
Add finish suffix as above to trim



**Wall Bracket**  
4AWA142AU/4RWATRM  
1 x 26/32/42W TTT  
W 18", H 8 1/2", E 4"  
Add finish suffix as above to trim



**Pendants**

Mid-scale Alabaster and Etched Glass pendants create soft uplighting for circulation, reception, social, and conference areas. Triple tube compact fluorescent and incandescent lampings are available. Close-to-ceiling models use quad tube compact fluorescent. The natural veining of genuine alabaster means that no two diffusers are identical. Etched glass has a clear edge for definition. For polished brass finish, replace SN with PB in the catalog numbers below.



**40750SNUC**  
26/32/42W TTT  
**40750SNC**  
150W A21  
D 18 3/4", H 5", OAH 31 3/16"



**40751SNUC**  
2 x 26W QT  
D 18 3/4", H 8 3/4"



**40740SNUC**  
26/32/42W TTT  
**40740SNC**  
150W A21  
D 18 3/4", H 5", OAH 31"



**40741PBUC**  
2 x 26W QT  
D 18 3/4", H 8 3/4"

**Miniature Pendants**

These miniature fixtures shield compact halogen "burners" in an etched glass diffuser, concealed inside the pendant shade. The light is soft and wide spread. The electronic transformer sits in the ceiling canopy and is wired to the lamp using a slim coaxial suspension cable.



**Bell**  
**42232GR** Matte Green  
**42232RD** Matte Red  
**42232BL** Matte Blue  
**42232WH** Matte White  
**42242WH** White Starlyte  
D 5 7/8", H 5 7/8"



**Metal Reflector**  
**42230AL** Polished with baffle  
D 5 1/8" H 5 3/16"



**Cucumber**  
**42225BL** Satin Blue  
**42232WH** Satin White  
D 3 3/4" H 7 7/8"

**Suspension and Transformer**  
**86130AL** Satin Aluminum  
**86130WH** Satin White  
10' Coaxial cable  
20-35W T4 halogen, 12v.



**Spill Ring**

Shallow domed acrylic diffuser is secured between two retaining rings; fasteners blend into the design. Quad tube compact fluorescent lamping provides soft Energy Smart illumination. Emergency battery pack is available with the same profile; add E as suffix to catalog numbers. For satin nickel or polished brass finish, replace WH in catalog number with SN or PB.



**5543WH326U**  
3 x 26W QT  
D 21 3/4", H 4 1/2"

**5533WH226U**  
2 x 26W QT  
D 16 13/16", H 4 3/8"

**Surface Utility**

Shallow acrylic diffusers are secured by internal twist-lock mechanism with no visible fasteners. Quad tube compact fluorescent lamping provides soft Energy Smart illumination. Emergency battery pack is available with the same profile; add E as suffix to catalog numbers. Corrosion-resistant anodized satin nickel, anodized polished brass, or semi-gloss white finish available as shown only.



**5243SN326U**  
3 x 26W QT  
D 21 3/4", H 4 1/2"

**5233SN226U**  
2 x 26W QT  
D 17 3/8", H 5 1/2"



**5242PB326U**  
3 x 26W QT  
D 25 1/8", H 5 1/8"

**5232PB226U**  
2 x 26W QT  
D 19", H 5 13/16"



**5241WH326U**  
3 x 26W QT  
D 22 3/8", H 4 3/4"

**5231WH226U**  
2 x 26W QT  
D 15 3/16", H 5 5/16"



**5240WH326U**  
3 x 26W QT  
D 22 3/8", H 4 5/8"

**5230WH226U**  
2 x 26W QT  
D 16 1/4", H 4 5/8"

**Discus**

Discus features a double convex acrylic diffuser seated on a polycarbonate housing and secured with a twist-lock mechanism. There are no exposed fasteners. Energy Smart fluorescent lamp options produce soft illumination and a strong luminous element.

Discus is suitable for either ceiling or wall mounting, is ADA compliant and suitable for damp locations. Discus II adds a spun aluminum ring with a satin finish, creating a smooth contour to the mounting surface.

The FC22T5 model can accept an emergency battery pack, suitable for dry locations only; remove S and add EM to the catalog number.



**Discus**  
6700MS22U  
FC 22W T5  
D 13 15/16", E 4"

**6700MS213U**  
2 x 13W QT  
D 13 15/16", E 4"



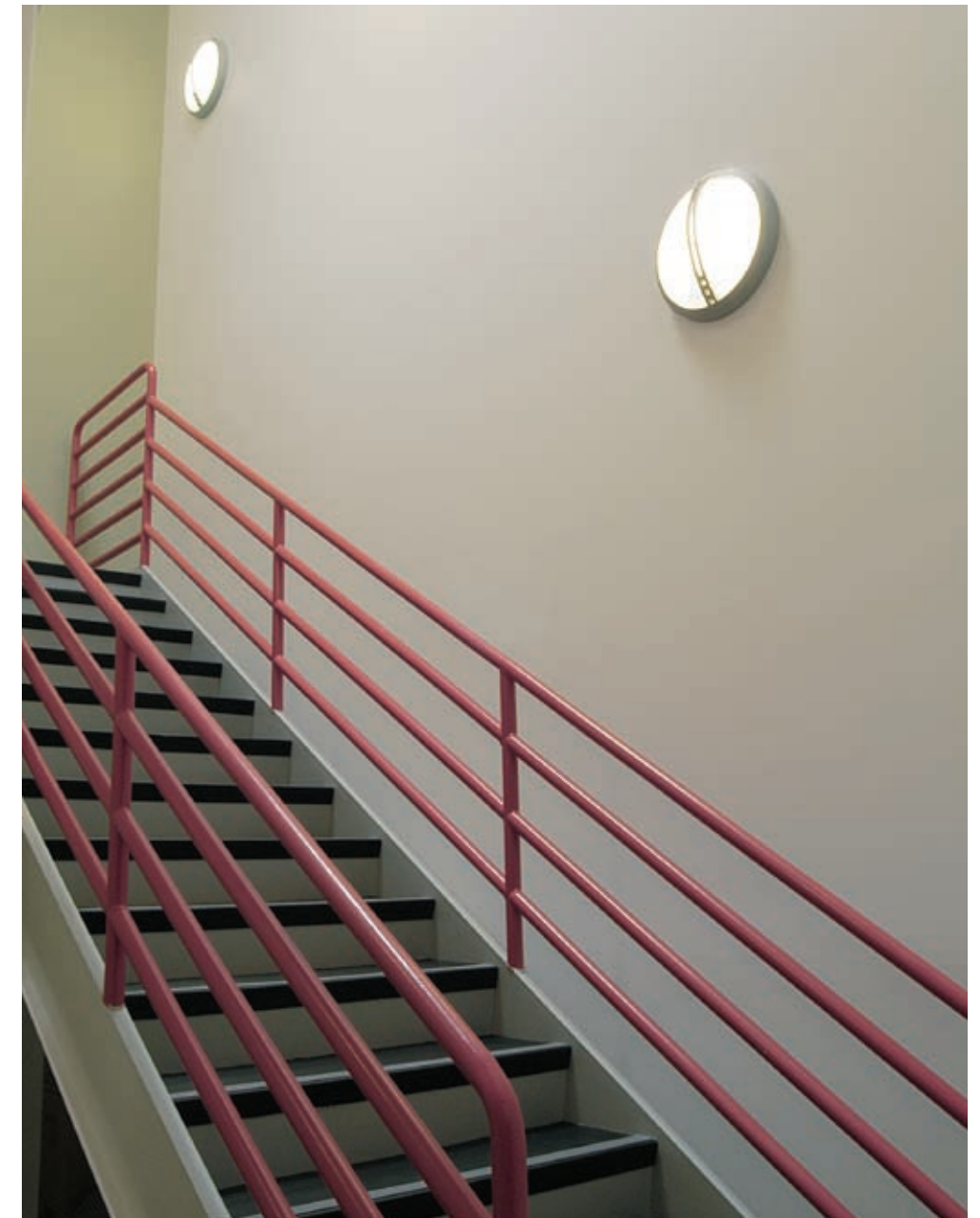
**Discus II**  
6706MS22U  
FC 22W T5  
D 18", E 4"

**6706MS213U**  
2 x 13W QT  
D 18", E 4"



**Durability**

Arco holds a heavy, ceramic coated glass diffuser in a die cast housing. Arco is fully gasketed and suitable for wet locations. Opalite has a twist-lock diffuser of rough-service polycarbonate and is listed for damp locations. Lumironde has a one-piece enclosure and diffuser sealed to the inner pan and is suitable for wet locations. Opalite can install on either ceiling or wall. All fixtures shown are ADA compliant. Unlike all of the other fluorescent fixtures in Designing with Light, several of these fixtures use 2-pin twin tube lamps and 120v magnetic ballasts.



**Visor**

Visor is louvered top and bottom to throw light up and down the wall. Acrylic diffusers fully shield the lamp from all viewing angles, making Visor suitable for use in stairwells. Quad tube compact fluorescent lamps produce low level Energy Smart illumination.

Visor is listed for damp locations.



**40618SBU** Satin Brass  
**40618SCU** Satin Chrome  
**40618WHU** White  
2 x 13W QT  
W 14 1/4", H 7 7/8", E 4"

**Quadro**

A shallow, gently arcing acrylic diffuser completely encloses quad tube lamps, secured by concealed clips. Quadro is ADA compliant, can be installed with its axis either horizontal or vertical, and is suitable for damp locations.



**40600U** White Acrylic  
2 x 13W QT  
W 11", H 11", E 3 1/4"



**Opalite**  
6789BK213U  
2 x 13W QT  
D 11", E 3 7/8"



**Lumironde**  
6731BK213N1  
2 x 13W TT (2-pin)  
D 11 1/8", E 3"



**Arco**  
4531BKN1  
2 x 7W or 9W TT (2-pin)  
D 11", E 4"



**Arco**  
4552BKN1  
1 x 26W QT (2-pin)  
D 13 9/16", E 4"

**BowShield**

Bowed and textured glass diffuser sits on thick metal frame. Rain pattern is rolled and silk screened. Ceramic white pattern is silk screened and sand blasted. Compact fluorescent lamps provide soft Energy Smart illumination. For incandescent options, visit [www.designingwithlight.com](http://www.designingwithlight.com). BowShield is ADA compliant and listed for damp locations. Emergency battery pack is available for square model and suitable for dry locations only; add EM as suffix. BowShield glass and frame ship in separate cartons.



**40872/40832U** Rain/Satin Nickel  
**40872/40831U** Rain/Satin Brass  
 24/27W TT  
 W 7 15/16", H 19 1/8", E 4"

**40863/40832U** Ceramic/Satin Nickel  
**40863/40831U** Ceramic/Satin Brass  
 24/27W TT  
 W 7 15/16", H 19 1/8", E 4"



**40871/40829U** Rain/Satin Nickel  
**40871/40828U** Rain/Satin Brass  
 2 x 18W QT  
 W 13 1/32", H 13 5/8", E 4"

**40862/40829U** Ceramic/Satin Nickel  
**40862/40828U** Ceramic/Satin Brass  
 2 x 18W QT  
 W 13 1/32", H 13 5/8", E 4"



**Luminosities**

Diffusing composites of translucent organic materials are sealed in thin-film polymers. They are color-fast, washable, and puncture-resistant and suitable for public spaces. The luminous Wood diffusers are laminated quarter-cut veneers of Japanese Cedar. They are supported by a common welded steel frame. Quad tube compact fluorescent lamps produce soft, Energy Smart illumination. Luminosities is ADA compliant.

Luminosities frames and diffusers ship in separate cartons.



**408879/40885U**  
 2 x 13W QT  
 W 9", H 14 15/16", E 4"



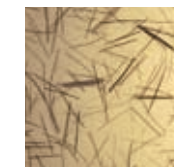
**408889/40885U**  
 2 x 13W QT  
 W 9", H 12 3/8", E 4"



**408869/40885U**  
 2 x 13W QT  
 W 15", H 10 1/2", E 4"



**Other Diffuser Options**



**Pick Up Sticks**  
 Informal pattern of laminated Japanese Mulberry



**Parchment**  
 Textured paper simulating parchment



## Pendant Fluorescent Systems

Pendant-mounted fluorescent systems deliver the indirect and bi-directional lighting that most people prefer for workplace illumination. When light reflects softly off the ceiling, it creates effective task illumination, excellent visual comfort, and a pleasing spatial brightness.

Lightolier Systems consist of highly tooled components that are field assembled to form large-scale luminaires in arrays and patterns. The wide range of optics, styles and electrical options permit great flexibility in configuring the lighting to meet the needs of the space and its occupants.

Indirect lighting provides the most comfortably diffuse illumination, particularly in work spaces with computers. Luminous housings add visual interest and offset the uniform effect of totally indirect illumination. Bi-directional lighting reveals more about faces and objects and is generally favored in classrooms, conference areas, circulation spaces and other applications with important face-to-face interaction.

Systems using small-diameter T5 lamps offer the smallest profile and the most elegant styling. Optics built around a single T5 lamp also deliver the best spread of light across the ceiling and are preferred where the fixtures are suspended at 24" or less from the ceiling.

Systems with T8 lamps can take advantage of a wider choice of lamp and ballast options and generally are a little more economical. Wall-mounted indirect units are useful where ceiling heights are too low for pendants or where the end row of pendants would be too close to the wall.

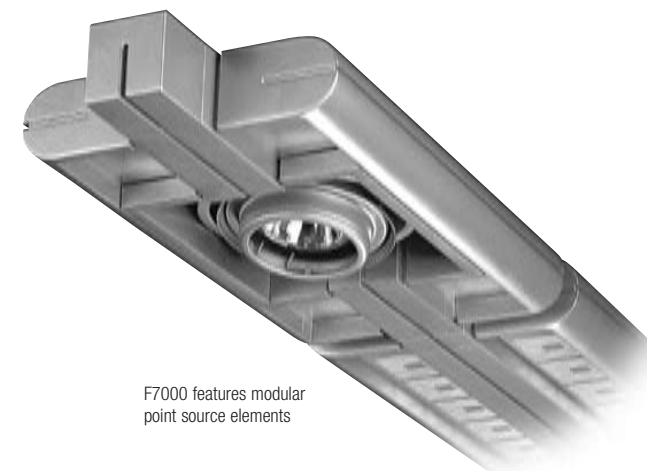
Systems perform best when suspended at least 24" from the ceiling. A longer suspension provides smoother ceiling illumination. In lower ceilings, pendants can be arranged over the tops of partitions, provided the fixtures are above eye level.

The row spacing of indirect luminaires depends on spread of the light and the distance to the ceiling. For uniform task illumination and comfortable ceiling brightness, systems in continuous rows should be spaced four-to-six times their distance from the ceiling. High performance 1-light T5HO systems can be spaced six-to-eight times their suspension distance.

All of the Lightolier Systems shown here can provide effective ambient illumination at a power density of less than one watt per square foot.

Since indirect and even bi-directional systems create a generally diffuse luminous environment, it helps to add some focal lighting for modeling and visual interest. Many Lightolier Systems can incorporate accent lights for this purpose.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).



F7000 features modular point source elements



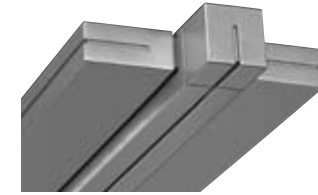
**F7000**

F7000 is a family of low profile luminaires based on small diameter T5 fluorescent lamps. These fixtures offer a variety of visual textures and light distributions, featuring modular accent lighting elements. Distinctive textures of light are created by acrylic lenses, floating louvers, square-in-square piercings and a unique tiger stripe pattern. These allow the distributions to range from completely indirect to 90% down light (see the next two pages). The indirect/direct distribution is shown by each series pierced and shielded by floating louvers or thin acrylic overlays. Fixture housings are assembled from aluminum extrusions.

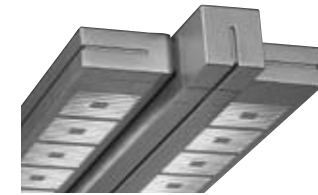
The 4' and 8' modules can be arrayed into continuous rows or patterns; aircraft cable suspension points are perfectly modular, 48" and 96" on center. Draw-tight connectors and reveal detailing minimize seams between modules. Die-cast end caps add 3" to the overall length of any run; corner elements add 6" per side. Since T5 lamps are only 46" long, the luminous elements of the F7000 system are not continuous, which contributes to a gently rhythmic design.

F7000 is available in F28T5 and F54T5HO lamping. We recommend 28W for two-light pendants and most wall applications; a single 54W works well for one-light pendants. Dimming and emergency options available.

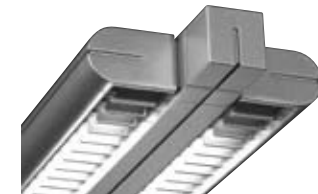
**To specify**  
Use the F7000 series shown, adding the lamp wattage desired (28 or 54) and the finish (WH or AL). Example: F7000-4-28-AL (shown in the adjacent photograph).



**F7000-1**  
1-light 100/0 ^/widespread  
**F7000-2**  
2-light 100/0 ^  
W 6 3/4", H 1 5/8"



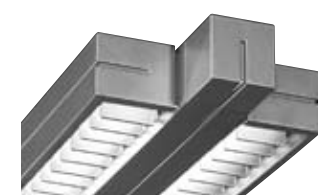
**F7000-4**  
2-light 90/10 ^  
W 6 3/4", H 1 5/8"



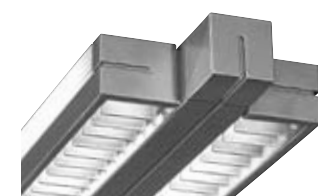
**F7000-7**  
2-light 68/32 ^  
**F7000-8**  
2-light 23/77 ^  
W 6 3/4", H 1 5/8"



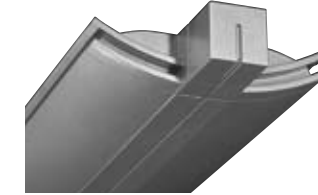
**F7000-10**  
2-light 90/10 ^  
W 6 3/4", H 1 5/8"



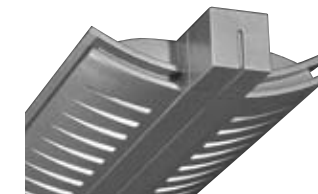
**F7000-13**  
2-light 69/31 ^  
W 5 3/4", H 1 5/8"  
**F7000-14**  
2-light 22/78 ^  
W 5 3/4", H 1 5/8"



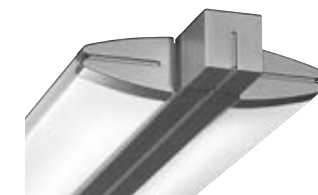
**F7000-17**  
2-light 67/33 ^  
W 5 3/4", H 1 5/8"



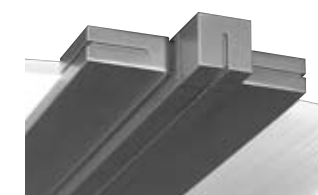
**F7000-19**  
1-Light 100/0 ^/widespread  
**F7000-20**  
2-Light 100/0 ^  
W 6 3/4", H 1 5/8"



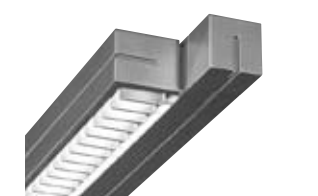
**F7000-22**  
2-Light 92/8 ^  
W 6 3/4", H 1 5/8"



**F7000-24**  
2-Light 69/31 ^  
**F7000-25**  
2-Light 24/76 ^  
W 6 7/8", H 1 5/8"



**F7000-27**  
2-Light 92/8 ^  
W 17", H 1 5/8"



**Wall Mount**  
Each style in the F7000 series is available for wall mounting. Some are ADA compliant (as shown).



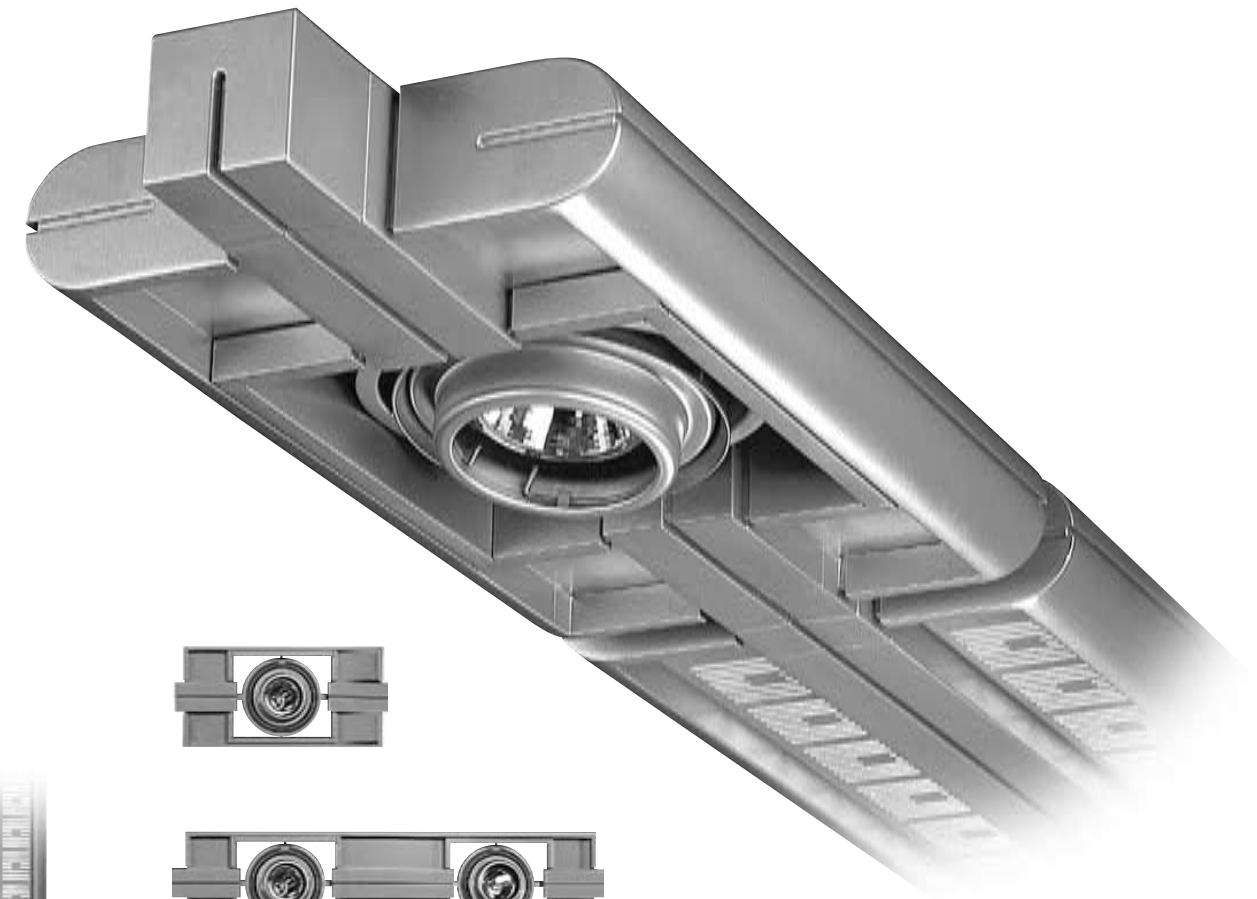
**F7000 Point Source**

The F7000 family includes point source modules with MR16 or T4 metal halide accent lights. The point source modules can attach at the end of a run of pendants, or anywhere between fluorescent sections, to provide directional focal light within a single suspended luminaire system. F7000 Point Source modules can also be used without any fluorescent sections.

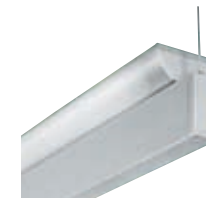
MR16 modules include an electronic transformer and an adjustable lamp holder. The one-light unit can be cantilevered off the end of a run of fixtures; the longer units must be supported at both ends.

The metal halide units include an electronic ballast and an adapter. They accept any of the PowerArc Modular Lytespots or wall washers, up to 70W.

**To specify:** Select the point source series that corresponds to the fluorescent modules; specify the length and the light source (MR or MH). This determines the number of lights in each module. For MH, indicate the desired PowerArc, see page 22. Then add the finish. Example (F7000-6-1-MR-AL, shown with F7000-27). Indicate location of the module on the lighting plan.



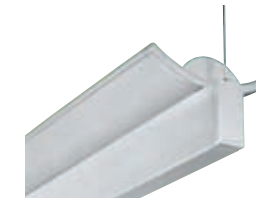
Point Source	Compatibility	Module Size	Lamping
F7000-6	F7000-1, 2, 4, 27	1'	1 MR16
F7000-12	F7000-7, 8, 10	2'	2 MR16 or 1 MH
F7000-16	F7000-13, 14, 17	4'	4 MR16 or 2 MH



**SA-1**  
90/10<sup>^</sup>  
W 2 3/4", H 3 5/8"



**SB-2**  
93/7<sup>^</sup>  
W 5 3/4", H 4 1/16"



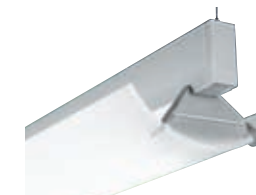
**SC-2**  
100/0<sup>^</sup>  
W 5 5/8", H 3 1/2"



**SD-2**  
80/20<sup>^</sup>  
W 6 1/16", H 2 1/4"



**SE-2**  
71/29<sup>^</sup>  
W 5 11/16", H 4 1/4"



**SF-2**  
47/53<sup>^</sup>  
W 7", H 4 7/16"



**SG-1**  
17/83<sup>^</sup>  
W 2 3/4", H 4 1/4"



**SH-2**  
15/85<sup>^</sup>  
W 5 3/4", H 5 7/16"



**SJ-1**  
83/17<sup>^</sup>  
W 4", H 4 1/2"



**SK-1**  
91/9<sup>^</sup>  
W 4", H 3 3/4"

**Silhouette**

Silhouette offers a diverse range of form and texture, designed around small diameter T5 lamps. Each distinctive Silhouette provides a different distribution of light and a different visual effect: The indirect/direct distribution is shown alongside each catalog number. Luminous elements, sized to the 46" long T5 lamp, sit astride thin 4" and 8" aluminum extrusions.

The modules can be arrayed into continuous rows or patterns; aircraft cable suspension points are perfectly modular, 48" and 96" on center. The rhythm of the luminous elements and draw-tight connectors minimize seams between modules. Die-cast end caps add 3/4" to the overall length of any run; corner elements add 4" per side.

Both F28T5 and F54T5HO lampings are available. Unless rows of pendants can be spaced at least 20" apart, we recommend 28W for two-lamp Silhouette. Dimming options are available. Emergency options are not available for F54T5HO units.

**To specify:**

Use the series shown, which indicates the number of lamps used in each 4' module. Add the lamp wattage desired (28 or 54) and the finish (WH or AL). Example: SH-2-28-AL (shown in the adjacent photograph).







**Aleron**

Aleron is designed around a single T5 lamp, seated over a slim electronic ballast. The basic extruded aluminum oval profile is covered by a ribbed lens and can be elaborated with canopies that reflect light downwards in different proportions. The winged profile creates an ultra-widespread upright distribution for smooth ceiling brightness, as well as gentle fixture luminance.

Aleron's 4', 8' and 12' modules can be arrayed into continuous rows or patterns; aircraft cable suspension points are perfectly modular, 48", 96" or 144" on center. Draw-tight connectors minimize seams between modules. Die-cast end caps add 3" to the overall length of any run; corner elements add 6" per side.

Both F28T5 and F54T5HO lampings are available. The widespread optics and canopy options effectively distribute the light output from 54W lamps. The open oval works best with the 28W lamp. Dimming and emergency options are available.

Aleron can also incorporate accent lights mounted to an optional track in the bottom of any Aleron fixture.

**To specify:**  
Use the A series shown (all use one-lamp per four-foot section). Add the lamp wattage desired (28 or 54) and the finish (WH or AL). Example: A-8-28-WH (shown in the small adjacent photograph).



**A-2**  
Open 94/6 ^  
W 2 3/16", H 3 7/16"



**A-4**  
Solid canopy 30/70 ^  
W 12 3/8", H 9 9/16"

**A-6**  
Perforated canopy 59/41 ^  
W 12 3/8", H 9 9/16"

**A-8**  
Lens canopy 61/39 ^  
W 12 3/8", H 9 9/16"



**A-12**  
Perforated wing 97/3 ^  
W 8 1/16", H 3 5/16"

**A-14**  
Pierced wing 95/5 ^  
W 8 1/16", H 3 5/16"



**A-16**  
Acrylic diffuser 88/12 ^  
W 8 1/16", H 3 5/16"



**Lytespread LSB**

Lytespread LSB is a high-performance, bi-directional luminaire, delivering both direct and indirect illumination from a low-profile design.

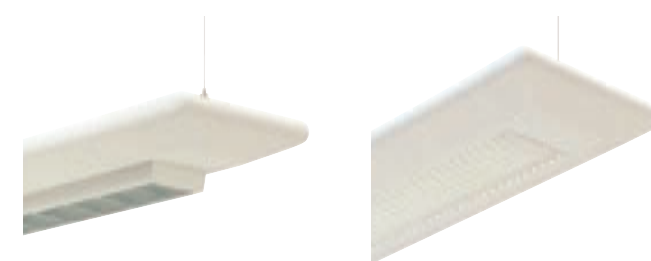
The radial blade louver is backed by a thin acrylic overlay, which diffuses the high brightness of T5 lamps. The parabolic louver provides sharp cut-off shielding for the direct light component and is most effective in the one-lamp model.

LSB's 4' and 8' modules can be arrayed into continuous rows; aircraft cable suspension points are perfectly modular, 48" or 96" on center. Die-cast ends add 3" to the overall length of any run. The extruded aluminum fixture sides are held rigidly at either end by a die-cast bulkhead; a draw-tight connector minimizes fixture seams.

Both T5 (28W and 54W) and T8 lampings are available. Limited dimming and emergency options are available.

**To specify:**

Use the Lytespread LSB series shown. Add the lamp wattage desired (28 or 54 for T5 or 32 for T8) and finish (WH or AL). Example: LSB-13-54-WH (shown in the classroom photograph).



**LSB-9**

1-light T5 69/31 ^

**LSB-10**

2-light T5 74/26 ^

**LSB-12**

2-light T8 73/27 ^

W 8 1/2", H 2 5/8"

**LSB-13**

1-light T5 74/26 ^

**LSB-14**

2-light T5 76/24 ^

**LSB-16**

2-light T8 74/26 ^

W 8 1/2", H 1 3/4"



**Lytespread LSC**

Lytespread LSC is a high-performance, indirect luminaire. Using T5 lamps, Lytespread delivers "flat" and widespread light distribution that minimizes ceiling hotspots. Perforations or piercings in the housing brighten the underside of the luminaire.

LSC's 4', 8', and 12' modules can be arrayed into continuous rows; aircraft cable suspension points are perfectly modular, 48", 96", or 144" on center. Die-cast ends add 10" to the overall length of any run. Concealed joiner splines hold the formed steel housings rigidly in place with a draw-tight connector.

LSC is available in F28T5 and F54T5HO lamping. We recommend the one-light 54W for applications with typical ceiling heights. In high-ceiling applications, the two-light 54W works well spaced at least 20' apart. Limited dimming and emergency options are available.

**To specify:**

Use the Lytespread LSC series shown. Add the lamp wattage desired (28 or 54) and finish (WH or AL). Example: LSC-5-54-WH (shown left). For matching wall units, supported by a cast arm (overall extension 13 3/8"), replace LSC with LSCW.



<b>Solid</b>	<b>Perforated</b>	<b>Pierced</b>
<b>LSC-1</b>	<b>LSC-3</b>	<b>LSC-5</b>
1-light T5 100/0 ^	1-light T5 94/6 ^	1-light T5 93/7 ^
<b>LSC-2</b>	<b>LSC-4</b>	<b>LSC-6</b>
2-light T5 100/0 ^	2-light T5 94/6 ^	2-light T5 93/7 ^
W 9", H 2 3/8"	W 9", H 2 3/8"	W 9", H 2 3/8"





**Linear PerfLyte**

Linear PerfLyte is a simple formed steel system suitable for every day applications. The use of perforated housings with a thin acrylic overlay and blade louvers offers a range of light distributions. T8 lamps are standard.

PerfLyte is available in a 9" wide model, designed for conventional ceiling heights, and a 13" model, which serves in larger spaces.

PerfLyte's 4' and 8' modules can be arrayed into continuous rows; aircraft cable suspension points are perfectly modular, 48" or 96" on center. A unique draw-tight strap connector provides a rigid connection between modules with minimal seam identification. The 9" model is available in 12' lengths. Dimming and emergency options are available.

**To specify:**

Use the Linear PerfLyte LP series shown. Example: LP-12 (shown in the classroom photograph).

**PerfLyte 9"**  
W 9", H 2 1/2"



**LP-1**  
2-light T8 100/0 ^  
**LP-2**  
3-light T8 100/0 ^



**LP-3**  
2-light T8 91/9 ^  
**LP-4**  
3-light T8 92/8 ^



**LP-7**  
2-light T8 80/20 ^



**LP-8**  
2-light T8 70/30 ^

**PerfLyte 13"**  
W 13", H 3"



**LP-9**  
2-light T8 100/0 ^  
**LP-10**  
3-light T8 100/0 ^



**LP-11**  
2-light T8 91/9 ^  
**LP-12**  
3-light T8 93/7 ^  
**LP-13**  
4-light T8 92/8 ^



**LP-15**  
2-light T8 82/18 ^



**LP-17**  
3-light T8 60/40 ^

**PerfLyte Wall**  
W 8", H 3"



**LP-18**  
1-light T8 97/3 ^  
**LP-21**  
2-light T8 96/4 ^



**Sora**

Sora combines indirect T5 optics with a large-size 0.03" acrylic canopy to create a localized luminous element. The canopy is supported on a thin frame of chrome tubing. Even with the sail, most light is distributed upwards for a soft lighting effect. The open Sora optic can be used for wide spacing in high ceiling applications.

Each Sora module is suspended from a cast hub that also articulates the connections in a continuous row (pendant only). Ceiling suspension is by means of aircraft cable or slim 3/8" diameter stems. Wall-mounted Sora can only be installed individually.

**To specify:**

Use the Sora series shown. Add the lamp wattage desired (28 or 54) and finish (WH or SC) and indicate mounting. Example: Sora-5-28-SC-(cable)



**Sora-5**  
2-Light 76/24 ^  
OAW 21 1/4", OAH 13 1/4"



**Sora-1**  
1-Light/Wall 78/22 ^  
OAW 19", OAH 13 3/4"



**Sora-3**  
1-Light 100/0 ^  
**Sora-4**  
2-Light 100/0 ^  
W 8", H 2 3/8"

**LFK**

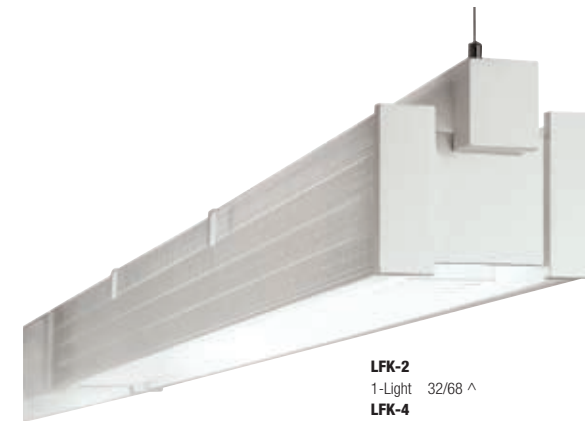
LFK features luminous diffusing panels of prismatic, layered polycarbonate, suspended from a central channel. The lighting distribution is primarily downwards; a floating blade louver provides longitudinal cutoff.

LFK's luminous panels are sized to the 46" long T5 lamp and so are spaced rhythmically on the 4' and 8' sections, which can be run in continuous rows; aircraft cable suspension points are perfectly modular, 48" or 96" on center. Die-cast end caps add 3/4" to the overall length of any run. The finish on exposed metal parts is white.

Both F28T5 and F54T5HO lampings are available. Generally, 28W works best in the two-lamp model and 54W in the one-lamp. Dimming and emergency options are available.

**To specify:**

Use the LFK series shown. Add the lamp wattage desired (28 or 54). Example: LFK-4-28



**LFK-2**  
1-Light 32/68 ^  
**LFK-4**  
2-Light 35/65 ^  
W 4 7/8", H 4 5/16"





**Lytecel Linear**

Lytecel Linear is an economical parabolic louvered luminaire for downlight or bi-directional light distribution, using two T8 lamps. Lytecel Linear matches the appearance of recessed Lytecel.

The 4' and 8' fixtures can be arrayed into continuous rows; aircraft cable or stem suspension points can be located flexibly along the top of the center channel, which is convenient in remodeling applications. Die-cast ends add 2 3/4" to the length of a fixture or row. Dimming and emergency options are available.

**To specify:**  
Use the Lytecel series shown (which is a four-foot module) and indicate the mounting: stem or surface.



**LL4MF12LX232**  
2-Light T8 60/40 ^  
**LL4MF12LR232**  
2-Light T8 0/100 ^  
W 8 9/16", H 4 5/8"

**CCM**

CCM provides mostly downlight through an exposed parabolic louver that is perforated to illuminate the side of the upper extruded aluminum channel.

The 4' and 8' modules can be arrayed into continuous rows; aircraft cable or stem suspension points can be located flexibly along the channel. Dimming and emergency options are available.

**To specify:**  
Use the CCM series shown and indicate the mounting: stem, cable, or surface.



**CCM2047**  
2-Light T8 6/94 ^  
W 6", H 6"

**EYE-Q**

EYE-Q is an inexpensive louvered luminaire for downlight or bi-directional light distribution, using two T8 lamps.

The 4' and 8' fixtures can be arrayed into continuous rows; aircraft cable or stem suspension points can be located flexibly along the top of the center channel, which is convenient in remodeling applications. Dimming and emergency options are available.

**To specify:**  
Use the EYE-Q series shown (which is a four-foot module) and indicate the mounting: stem or surface.



**EYS425FX**  
2-light T8 60/40 ^  
**EYS425FS**  
2-light T8 0/100 ^  
W 8 3/4", H 3 3/4"



**Multi-Lyte**

Multi-Lyte is a space-frame system, whose electrified channel can be configured into continuous runs and patterns. Multi-Lyte supports a variety of lighting effects and fixture styles. Fluorescent lighting modules for ambient and task lighting attach to channel at any point. Lytespan track can be inserted into the channel between the modules and Lytespots attached for accent and wall lighting.

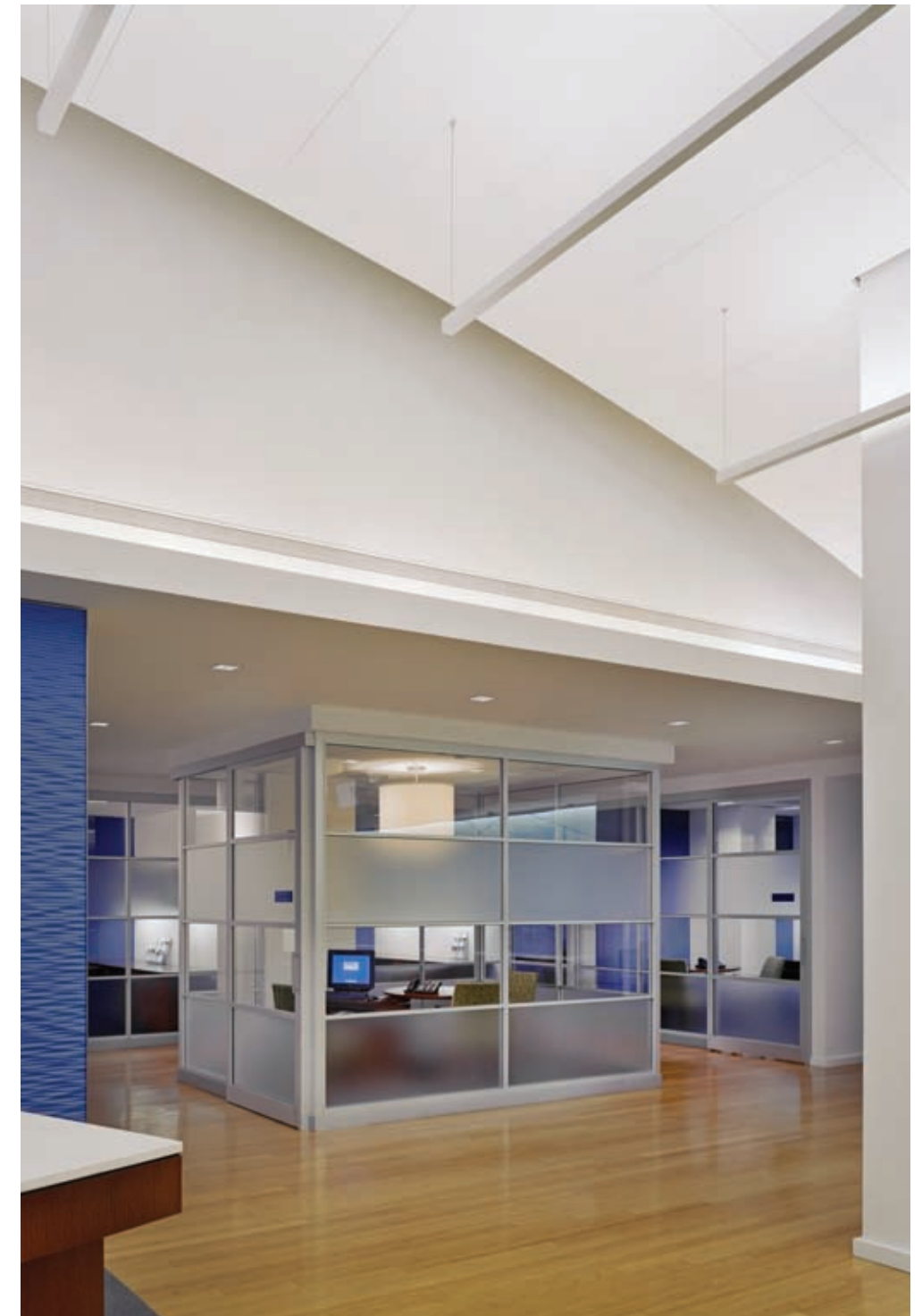
Multi-Lyte can be suspended and electrified from virtually any point on the channel, affording great flexibility in lighting existing spaces. The channel also functions as a raceway with the capacity for multiple circuits and voltages.

To see and specify the Multi-Lyte system, visit [www.designingwithlight.com](http://www.designingwithlight.com).

**SQ6**

SQ6 is a family of simple 6" x 6" linear fluorescent systems for pendant, ceiling, wall, or recessed mounting. SQ6 offers a choice of direct, indirect, or bi-directional lighting effects.

To see and specify the SQ6 system, visit [www.designingwithlight.com](http://www.designingwithlight.com).





## Recessed & Surface Fluorescent

Recessed fluorescent troffers represent the most economical approach to ambient illumination in commercial spaces and a simple solution to lighting from low ceilings. In addition to modular recessed luminaires, the Lightolier fluorescent product families also include basic commercial surface-mounted fixtures and specialized wall washers, task lights, and cove lights.

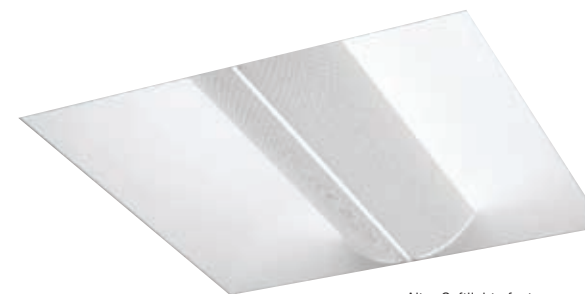
Soft lighting coffers, in a wide variety of styles, create a high-brightness environment with plenty of light on vertical surfaces. The Alter family offers the broadest assortment of shielding options, sizes, and mounting arrangements. ParaPlus balances direct and internally reflected light to avoid the glare often experienced with overly bright "basket" fixtures. ParaPlus is also one of the few soft lighting fixtures suitable for air return applications.

Parabolic louver luminaires, with their sharp cut-off optics, combine high efficiency with visual comfort. They can deliver high levels of ambient illumination while maintaining low ceiling brightness. Deeper louvers provide better shielding. A specular louver finish appears dark from normal viewing angles and is most appropriate for intensive work on computers. A semi-specular finish glows gently and softens shadows. Sharp cut-off luminaires can cast pronounced shadows on nearby walls. Add wall washers to achieve a smoother gradient of light across the surface.

To comply with lighting power limits, use one-lamp and two-lamp fixtures, instead of three-lamp models, and avoid the wide spacing that creates shadows on the work plane. Those limits include plug-in task lighting. In open plan offices, low wattage task lights, such as Pristine, reduce the shadows caused by partition-mounted binder bins – without excessive brightness or power consumption.

With generously dimensioned coves, pockets, and valences, a simple T5 or T8 strip light will perform well if the cove is painted white and the lamps overlap or are butted end-to-end. To achieve the smoothest distribution of light on the ceiling, especially where space is tight, use a dedicated Covelyte with an integral reflector. More cove lighting details are on pages 138.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).



Alter Softlights feature an articulated defuser





**Alter Classic**

Alter Classic soft light covers shield the lamps behind a perforated mesh basket lined with an acrylic diffuser. A narrow slot adds a line of accent light.

Recessed and semi-recessed models fit grid ceilings.



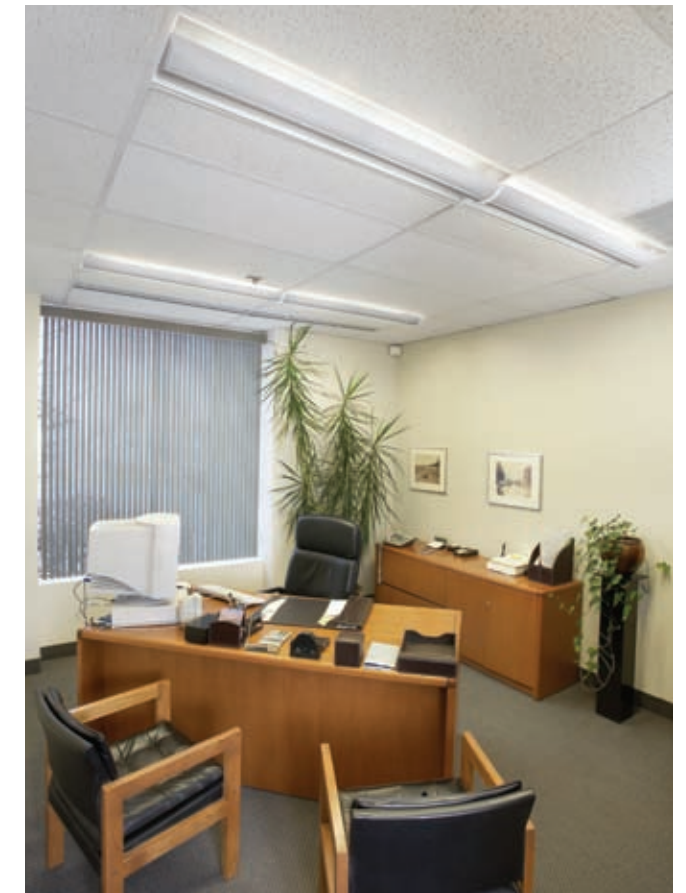
Alter Recessed



Alter Semi-Recessed



Alter Surface Square



	Recessed	Lamping	Semi-Recessed	Lamping	Surface Square	Lamping
2' x 4'		QVS2GPFOS228-PG	2-F28T5	QVH2GPFOS228-PG	2-F28T5	
		QVS2GPFOS328-PG	3-F28T5	QVH2GPFOS328-PG	3-F28T5	
		5 1/2" D		2 1/4" D		
2' x 2'		QVS2GPFOS2FT-SB	2-FT40TT5	QVH2GPFOS2FT-SB	2-FT40TT5	QVB2SPWOS1FT-SB
		5 1/2" D		2 1/4" D		4" OAH
1' x 4'		QVS1GPFOS228-PG	2-F28T5	QVH1GPFOS228-PG	2-F28T5	
		5" D		3 9/16" D		
			For F54T5HO replace 28-PG with 54-PG For F32T8, replace 28-PG with 32-SO		For F54T5HO replace 28-PG with 54-PG	



**Alter Louver**  
Louver of perforated mesh with overlay for additional downlight in an Alter soft light coffer.



**Metalyte Louver**  
Distinctive ridged-aluminum upper reflector, combined with perforated mesh louver.



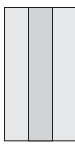

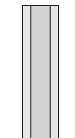
**Elegance**  
Ribbed glass diffuser in an ultra-shallow coffer. Also available with perforated shielding.





**Alter Windows**  
Non-directional 2x2 coffer with perforated square shield.



**Alter Eclipse**  
Non-directional 2x2 coffer with perforated round shield.

	Alter Louver	Lamping	Metalyte Louver	Lamping	Elegance	Lamping
2' x 4'		QVS2GPFLV232-SO	2-F32T8	QVS2GPTLV228-PG	2-F28T5	
		QVS2GPFLV332-O3	3-F32T8	QVS2GPTLV328-PG	3-F28T5	
		5 1/2" D		5 1/2" D		
2' x 2'		QVS2GPFLV224-PG	2-F24T5HO	QVS2GPTLV224-PG	2-F24T5HO	QVE2GGLOS2FT-SB
		QVS2GPFLV324-PG	3-F24T5HO	QVS2GPTLV324-PG	3-F24T5HO	3 1/2" D
		5 1/2" D		5 1/2" D		
1' x 4'		QVS1GPFLV232-SO	2-F32T8			
		5" D				
			For F54T5HO replace 32-SO with 54-PG		For F54T5HO replace 28-PG with 54-PG	

	Alter Windows	Lamping	Alter Eclipse	Lamping	
2' x 2'		QVS2GPASQ2TT	2-TTT 32 or 42 W	QVC2GPFCB2TT	2-TTT 32 or 42 W
		8" D		7 9/16" D	
					



**Paraplus**

Paraplus achieves higher efficiency and better visual comfort than typical coffer luminaires. The combination large-cell louver and lens overlay balances the brightness of the fixture interior and the diffuser.

Paraplus fits lay-in grid ceilings and is suitable for air return.



PPH2G12WW232-SO 2-F32T8  
 PPH2G12WW332-03 3-F32T8  
 PPH2G12WW254-PG 2-F54T5H0  
 2' x 4', D 5 1/2"



PPH2G8WW217-SO 2-F17T8  
 PPH2G8WW317-03 3-F17T8  
 PPH2G8WW224-PG 2-F24T5H0  
 PPH2G8WW2FT-SB 2-FT40TT5  
 2' x 2', D 5 1/2"



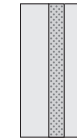
PPH1G6WW132-SO 1-F32T8  
 PPH1G6WW232-SO 2-F32T8  
 PPH1G6WW154-PG 1-F54T5H0  
 1' x 4', D 5 1/2"



**Mini Beam**

Mini Beam is a high efficiency coffer with a minimal perforated basket.

Mini Beam uses T5 and T5HO lamps, fits grid ceilings (only), and is suitable for air return.



MBS2GPW128-PG 1-F28T5  
 MBS2GPW228-PG 2-F28T5  
 MBS2GPW154-PG 1-F54T5HO  
 MBS2GPW254-PG 2-F54T5HO  
 2' x 4', D 5 1/2"

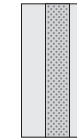


MBS2GPW214-PG 2-F14T5  
 MBS2GPW224-PG 2-F24T5HO  
 2' x 2', D 5 1/2"

**Coffaire**

Coffaire is a mainstream coffer luminaire with a one-piece perforated mesh basket and acrylic overlay.

Coffaire fits grid ceilings (only) and is suitable for air return.



CFH2GPW232-SO 2-F32T8  
 CFH2GPW332-O3 3-F32T8  
 2' x 4', D 5 1/2"



CFH2GPW217-SO 2-F17T8  
 CFH2GPW317-O3 3-F17T8  
 CFH2GPW214-PG 2-F14T5  
 CFH2GPW224-PG 2-F24T5HO  
 CFH2GPW2FT-SB 2-F40T5  
 2' x 2', D 5 1/2"





**Parabolic Louvers**

Parabolic louvers provide sharp cut-off optics for visually comfortable recessed luminaires. The depth and finish of the louver determine the cut-off to the light source and control glare. Better cut-off improves visual comfort but can leave shadows on the upper portion of nearby walls.

For areas with intensive computer use, choose the VPA series with 4" deep specular louvers that eliminate screen images at most viewing angles. For normal office work, choose the VRA series with 4" deep semi-specular louvers that provide a comfortable luminosity. For stores and schools, consider the DPA series with 3" deep semi-specular louver, which has higher efficiency.

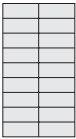



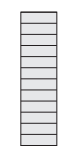
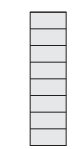
All fixtures shown are suitable for lay-in grid ceilings.



Semi-Specular louver



Specular louver

		Intensive VDT		Office		Stores & Classrooms			
		VPA Series	Lamping	VRA Series	Lamping	DPA Series	Lamping		
2' x 4'		2' x 4'		VPA2G29PR232-SO	2-F32T8	VRA2G18LP332-SO	2-F32T8	DPA2G18LP332-SO	2-F32T8
		6" deep	2 x 9 cells	6" deep	3 x 6 cells	5" deep	3 x 6 cells		
2' x 2'		2' x 2'		VPA2G16PR2FT-SB	2-FT40TT5	VRA2G9LS26U-SO	2-FB32T8/6	DPA2G9LS26U-SO	2-FB32T8/6
		6" deep	4 x 4 cells	6" deep	3 x 3 cells	5" deep	3 x 3 cells		
1' x 4'		1' x 4'		VPA1G12PR132-SO	1-F32T8	VRA1G8LS132-SO	1-F32T8		
		6 5/8" deep	12 cells			6 5/8" deep	8 cells		
						VRA1G12LS232-SO	2-F32T8		
						6 5/8" deep	12 cells		



### Lytecel

Lytecel linear luminaires can be used as individual fixtures or arranged in continuous rows with an uninterrupted parabolic louver detail. Lytecel installs in grid ceilings, supported on either side by ceiling runners that are either 8" or 9" on center. Use the 9" model with reveal slots to integrate air handling return or supply.

Lytecel features an ultra-low brightness 12-cell specular louver that meets standards for intensive computer use. Two-lamp models in an over/under configuration can be wired for half-level switching control.

### Wal-Lyter

Wal-Lyter provides effective wall and vertical display illumination. Fits grid ceilings without the need for additional T-bars. Wal-Lyter uses a specular reflector and performs optimally when spaced 3' from the wall (to the furthest edge of the fixture). The 2' model can be spaced up to 6' on center; the 4' model can be spaced up to 8' on center.

To avoid glare, do not use adjacent to doorways.



Self-flanged ceiling trim



**WLRN244-SB 2-FT40TT5**  
4' x 7 13/16", D 4 7/8"



**WLRN124-SB 1-FT40TT5**  
2' x 7 13/16", D 4 7/8"

	8" Continuous		9" Continuous		9" Individual	
	LCS8 Series	Lamping	LCA9 Series	Lamping	LIA9 Series	Lamping
9" x 4'	LCS8G12PR132-SO	1-F32T8	LCA9G12PR132-SO	1-F32T8	LIA9G12PR132-SO	1-F32T8
	LCS8G12PR232-SO	2-F32T8	LCA9G12PR232-SO	2-F32T8	LIA9G12PR232-SO	2-F32T8
	6 1/8" deep		6 1/8" deep		6 1/8" deep	



**Pristine Task Lighting**

Pristine is a low profile Energy Smart task light designed for installation under cabinets. Pristine uses a 13W T2 fluorescent lamp (furnished with the fixture) and a prismatic lens to spread light effectively over the work surface, while controlling the brightness of local vertical surfaces and limiting energy consumption.

Pristine is furnished with a push-button switch and a 9' cord and plug. The finish is baked pewter polyester.



**PC2P13T2120PTCPB 1-F13T2**  
L 22", W 4 3/4", D 3/4"



**Specplus**

Specplus recessed luminaires feature a 5" deep housing and a prismatic lens. Specplus fits grid ceilings and is not suitable for air handling.



**SPS2GFSVA232-S0 2-F32T8**  
**SPS2GFSVA332-03 3-F32T8**  
**SPS2GFSVA432-S0 4-F32T8**  
2' x 4', D 5"



**SPS2GFSVA26U-S0 2-FB32T8/6**  
2' x 2', D 5"

**Dominaire**

Dominaire is a surface, lens-enclosed luminaire ("wrap around").



**WA4A232-S0 2-F32T8**  
9" x 4', D 2 5/8"



**WB4B332-03 3-F32T8**  
**WB4B432-04 4-F32T8**  
14" x 4', D 2 5/8"

**Taskmaster II**

Taskmaster II (not shown) is an inexpensive task light designed for hardwiring under cabinets, especially where high levels of illumination are required. Taskmaster II has a baked white enamel finish and includes a rocker switch.

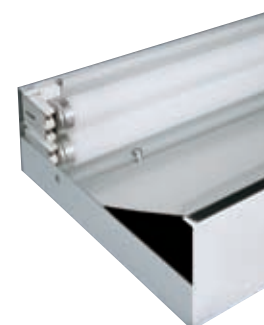
**TCU20WUNVRO BPR F17T8**  
L 24 1/8", W 5 1/4", D 1 7/8"  
**TCU30WUNVRO BPR F25T8**  
L 36 1/8", W 5 1/4", D 1 7/8"  
**TCU40WUNVRO BPR F32T8**  
L 48 1/8", W 5 1/4", D 1 7/8"



### CoveLite

CoveLite provides high-performance asymmetrical indirect lighting, with minimum brightness on adjacent surfaces and maximum projection. CoveLite is designed for continuous row installation and is available in a variety of lengths. We recommend, however, that only one lamp type and wattage be used in a cove to assure uniform appearance.

For the best results, provide a minimum of 14" clearance between the top of the fixture and the ceiling and locate the fixture as far from the wall as possible. The top of the fixture should not extend above the top of the concealing fascia.



Type	Product	Nom Length	Width	Height	Lamping
CL1 1-T8	CL-14E81	48"	8"	2 3/4"	1-F32T8
CL2 2-T8	CL-24E81	48"	8"	2 3/4"	2-F32T8
CL3 1-TT5	CL-12BX	24"	8"	2 3/4"	1-FT40TT5
CL4-1-T5	CL-1T5	46"	5 3/4"	1 3/4"	1-F28T5
CL5 2-T5	CL-2T5	46"	8"	3"	2-F28T5

Notes: For F54T5HO replace T5 WITH HO



### Fluorescent Channels

Fluorescent channels ("strip lights") are the basic, unshielded fluorescent utility lights used in coves, pockets, valances and other built-in applications. The wide variety of configurations helps to size the luminaire to the available space.

For best results in a cove, allow 24" to the ceiling. Locate the channel as far from the wall as possible and fully conceal the channel behind the fascia.

Type	Product	Width	Height	Lamping
Narrow 1-light	SN4S132-SO	2 1/2"	3 13/16"	1-F32T8
Standard 2-light	SW4S232-SO	4 1/2"	3 1/2"	2-F32T8
Staggered 2-light	SS4S232-SO	4 1/4"	3 1/2"	2-F32T8
Side 1-light	SM132-SO	4 1/8"	1 13/16"	1-F32T8
T5 1-light	SV4S128-PG	2"	2 3/8"	1-F28T5
T5 2-light	SV4S228-PG	2"	2 3/8"	2-F28T5
T5 Staggered	SS4S228-PG	3 1/8"	2 3/8"	2-F28T5
T5 Side	SM4S128-PG	3"	1 3/8"	1-F28T5

Notes: For F54T5HO replace 28-PG with 54-PG. Staggered T8 strips are 51" long. Staggered T5 strips are 50" long





### Hospital Patient Room Lighting

Lightolier's MD\* series luminaires combine all of the lighting functions in a patient's room into a single, ceiling-mounted luminaire. Removing lighting from walls and other locations where it may be interfering with equipment and prone to damage. It supports a friendly and more residential design for the entire room.

MD\*4 installs at the edge of the ceiling and provides ambient, reading, examination, and night lighting – all from carefully shielded sources. MD\*Coffer installs 12-18" from the wall and provides the same lighting functions, using an indirect coffer for the ambient and reading light.



#### MD\*Coffer

- Indirect ambient light with perforated mesh shield.
- Four integral lighting functions: indirect ambient, direct reading, examination and optional night light.
- Precise light control for glare-free patient environment.
- Installs as a one-piece unit.
- Recessed or surface mounted to ceiling which eliminates damage to fixture from hospital equipment attached to patient's bed.
- 6 7/8" deep.
- All lamps are shielded.
- All twin tube T5 lamps are accessible for relamping without tools.
- Optional low voltage electronic sequential switch mounted in fixture for ambient and reading light controlled with pillow speaker (optional by others). Meets NYC Code requirements. Chicago Plenum requirements available.



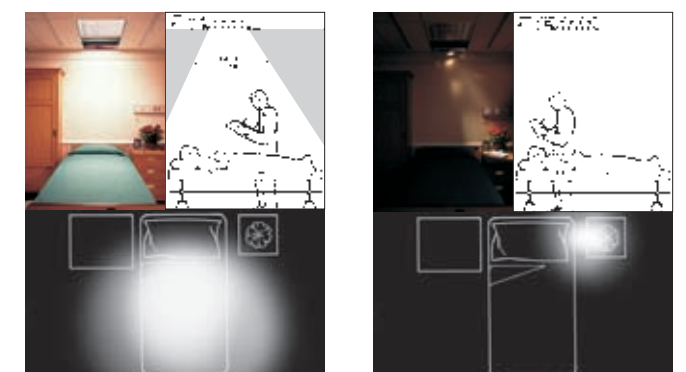
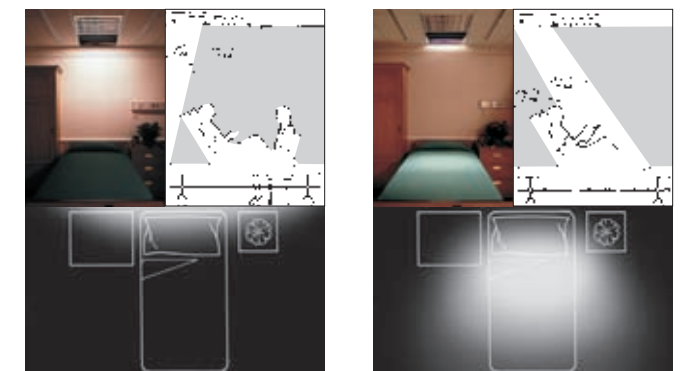
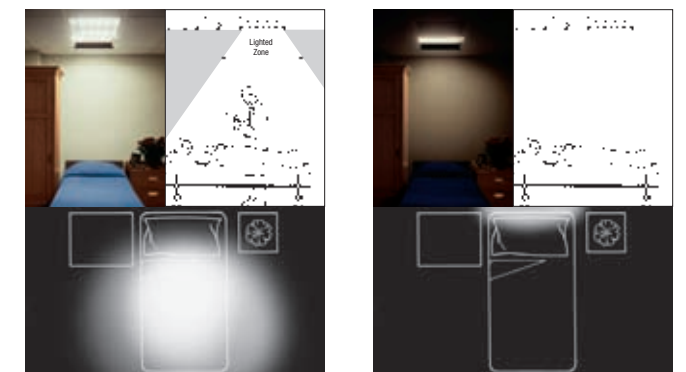
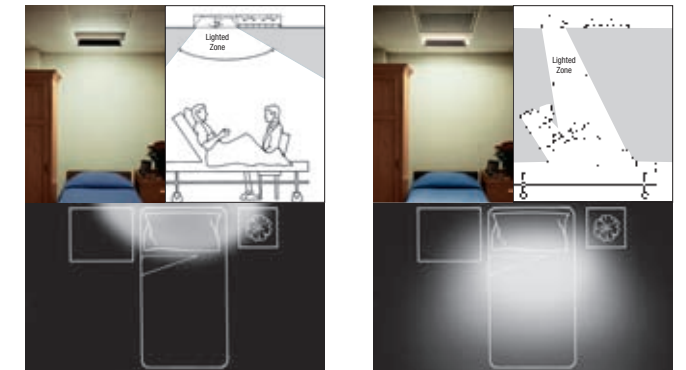
MDCGWSVA2SB4SB

#### MD\*4 Series

- Four lighting functions with integral ambient, reading, examination and optional night light.
- Precise light control for glare free patient environment.
- Installs as a one-piece unit.
- Recessed or surface mounted to ceiling against wall directly behind patient which eliminates damage to fixture from hospital equipment attached to patients bed.
- 6 7/8" deep.
- All lamps are enclosed.
- All twin tube T5 lamps are accessible for relamping without tools.
- Optional low voltage electronic sequential switch mounted in fixture for ambient and reading light controlled with pillow speaker (optional by others).
- Meets NYC Code requirements. Model to meet Chicago Plenum requirements is available.



MD4GPSVA2SB4SB





## Dimming and Controls

Well designed lighting controls strengthen human motivation and productivity, reduce facility costs, and enhance the beauty of the interior space.

Lighting Controls adjust lighting intensity to serve multiple activities, to set a desired mood, or to reduce energy when electric lighting is not needed at full output. Or, they can simply turn lights off when they are not needed.

Thanks to continuing advances in semiconductor technology, today's controls are easier to use and more economical than ever before. Relying on a conventional switch is no more sensible than using air conditioning without a thermostat or audio without a volume control.

Controls divide into two basic groups: individual devices such as dimmers and switches, and dimming systems of connected components, which afford more flexibility.

For simple residential applications, such as dimming a few lights in a corridor, bath, or bedroom, use an appropriate individual control. For spaces with layered lighting effects, such as a dining or living room, large kitchen, or master bedroom suite, use a multi-scene dimming control. For control over all of the lighting in a home, use a centralized lighting control system.

For simple commercial applications with intermittent use, such as a bathroom, copy or storage area, or private office, consider an energy-saving occupancy-sensing control. Depending on the configuration of the space, this may be an individual device or a multi-sensor system.

For areas with multiple activities, such as restaurants and dining areas, houses of worship, or conference and training areas, use multi-scene dimming controls. Larger and more sophisticated facilities, such as hotels, clubs, and school theaters, benefit from more elaborate dimming systems.

Entries and vestibules often benefit from dimming to tune the lighting for the most dramatic first impression and to adjust lighting as people move from perimeter daylighted zones to interior areas.

Daylight-linked control requires the integration of photocells. The lighting system can then be switched or dimmed. Which approach is more economical depends on where the building is located and sited, the nature of the daylight-admitting architecture, and facility usage. Large facilities often use building management systems (not covered here), which link several environmental systems for integrated control.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).





### Designing with Lighting Controls

Designing with lighting controls follows a straight-forward process. First, determine the lighting design itself, identifying the layers of light desired to create ambient, task, wall, and accent effects. Spaces with a single layer of light and just a few fixtures are well served with individual dimmers devices.

With the lighting program in mind, determine the desired control effects – individual or multi-scene dimming, occupancy-control, or central control. This will suggest which product is most appropriate for the application.



Screwless Faceplate



Keypad



Dimmer

#### Channels / Zones

Lights that should be controlled together are called channels or zones. Typically, they represent the different layers of light. Visible light sources should also be separately controlled on their own channels. Additionally, each different type of light source (line or low voltage incandescent, linear or compact fluorescent) needs its own control.

Note that the determination of lighting channels is different from circuiting. All of the lights controlled on one channel may be wired from a single circuit breaker as a single circuit, or represent just a part of that circuit. In large spaces, several circuits may be controlled by a single channel. Channel design should precede circuit design, which is the responsibility of the electrical engineer.

#### Individual Dimmer Layout

An individual device is a stand alone dimmer which typically incorporates a slider raise/lower knob and a On/Off preset switch or rocker pad. Includes both the control medium (slider or rocker pad) and the dimmer or switch that adjusts the lights. Locate individual devices where occupants will find them most convenient, typically by the entry. For spaces with multiple entries, add a remote, which affords an additional control location (often called 3-way). Be sure not to locate controls behind doors.

#### System Design

A dimming system includes separate dimmers and master controls (keypads). Locate the system masters and remotes by entries, as you would individual controls, and at any other places where an occupant would typically want to control the lighting. Hand-held wireless remotes, a common system accessory, permits users to control lights from any location in the space.

With a system, you can separate the dimmers from the master controls. Dimmers can be concealed in a closet, in the "back of the house", or simply in a less conspicuous location. This enables you to prevent unwanted adjustment, reduce the noise produced by the dimmers, and clean up the appearance of the wall.

#### Appearance

Lightolier's most advanced controls use keypads and rockers. The buttons on the keypads can be custom engraved with the names of the effects (scenes) or channels they control. Other styles of individual dimmers are available. Controls are available in a range of finishes.

Most controls fit into a single-gang wall box and are sized to fit decorator style faceplates. The controls can be dressed with attractive screwless faceplates and which available in a variety of colors.

#### Specification

Control channels and the location of dimmers, masters, and remotes should be delineated on the lighting plan (larger projects typically add a separate dimming or control schedule.)

Each dimmer must be compatible with the load (light source and wattage) that it is dimming. Fluorescent dimmers must be compatible with the specific dimming ballasts in the fixtures. Likewise, compatible dimmers for low voltage depend on the type of transformer, magnetic or electronic.

We recommend that you specify the control product (individual or system) by name, function (dimmer, master, remote, etc.), and finish. The electrical engineer (or installing residential contractor) will identify the loads and determine the specific dimmer required. You can find the complete specifications for all of the products at [www.lightolier.com](http://www.lightolier.com).

#### Commissioning

Dimming systems need to be commissioned. That is, each channel needs to be preset to the desired level for each lighting scene. While the settings can be specified for implementation by the installers, most dimming systems are commissioned on site, often with direct input from the occupants. Field assistance is available from Lightolier Controls to assist in the commissioning (and specification) of complex installations.

1 (800) 526-2731



### MultiSet Pro™

MultiSet Pro is a multi-scene dimming system for the control of layered lighting in a single space. A MultiSet Pro system consists of individual “smart” dimmers and switches, masters, remotes, and accessories. Each dimmer controls a specific load and memorizes up to 13 presets. Dimmers, masters, and remotes install in conventional wall boxes, which can be ganged together. System components are connected by a single line voltage conductor (the purple wire) that can be installed with the power wiring in the same conduit.



**MSP5ESW**  
Ellipse 6-Button Master Control Station with built-in infrared receiver



**MSP8ESW**  
Ellipse 8-Button Master Control Station



**MSP600VAW**  
MultiSet Pro 600 Watt Dimmer

#### Application

Typical applications include restaurants, conference and training rooms, houses of worship, lobbies and vestibules, dining rooms, living rooms, and master bedroom suites.

#### Capability

MultiSet Pro scales easily from two channels to more than two dozen. The purple wire network can handle a total of 30 devices (dimmers, masters, and remotes combined) with over 50 KW of connected load. The 5-scene and 8-scene master controls can be combined to handle up to 13 preset scenes. The fade rate between scenes is field programmable from 1.5 seconds to one hour.

A MultiSet Pro system can accept inputs from Lightolier's occupancy sensing systems, astronomical time clock, wireless and infrared hand-held remote controls, and standard RS232 connections. In the event of power failure, MultiSet Pro returns to its pre-failure settings. MultiSet Pro provides dimming and switching control of the loads shown below.

#### Controlled Loads

Incandescent  
Low voltage incandescent (magnetic and electronic transformers)  
Fans  
Neon and Cold Cathode  
Fluorescent (120 volts only)

#### Finish

White, Ivory, Almond, Black, Gray

#### Specification

For most residences and corporate applications, 5-scene control is adequate. Houses of worship and larger restaurants may require 8 or 13 scenes. Use MSP or MHP series and specify dimmer, switch, master, or remote and their location within the space.

A MultiSet Pro system must be fully detailed in order to be accurately costed and procured.



### Brilliance II™

Brilliance II is an affordable centralized control system designed for use with MultiSet Pro controls. Brilliance II controls lighting in different rooms throughout the house, turning lights on and off individually or in combination. Keypads (located as desired) are connected to the Brilliance II control center by dedicated CAT 5 signal wiring. The control center wires to the electrical panel and to individual MultiSet Pro dimmers.



**BM6RES**  
Ellipse Series



**BM8RES**  
Ellipse Series

#### Application

Brilliance II serves homes and smaller commercial and institutional facilities with multiple spaces and 120 volt lighting circuits.

Brilliance II can turn all (or selected) lights on or off when entering or leaving the building, providing security, convenience and economy. The Brilliance II system permits central control of indoor and outdoor lighting and creates customized lighting pathways and emergency modes for exit and night time routines. The keypads also indicate the on/off lighting status of the various rooms in the home.

Because of its additional signal wires, Brilliance II is not well suited for installation in existing spaces. Select Compose PLC for existing building where whole house lighting control is desired.

#### Capability

Brilliance II can control up to 30 rooms from as many as 30 different locations. Brilliance II accepts signals from Lightolier's astronomical time clock, wireless and infrared transmitters, and standard RS232/485 and momentary closure connections. Brilliance II can also signal AV devices through RS232/485 connection and has relay control over non-lighting loads. In the event of power failure, Brilliance II returns to its pre-failure setting.

The Brilliance II central control and keypads (and the MultiSet Pro devices to be controlled) are hard-wired in place. The system is configured after installation to create the control patterns desired. The patterns may be reconfigured at any time.

#### Controlled Loads

Brilliance II carries no loads. It controls MultiSet Pro devices, which carry the dimming and switching loads.

#### Finish

White, Ivory, Almond, Black, Gray

#### Specification

Brilliance II can be specified by noting which MultiSet Pro controls are to be connected to the system and the location of the Brilliance II control keypads. Use BM to identify Brilliance II keypads.

A Brilliance II system must be fully detailed in order to be accurately costed and procured.



### Compose™ PLC

Compose PLC combines the capabilities of a multi-scene dimming system and a centralized control system, with the convenience and economy of power line carrier signaling. For all its flexibility and control power, Compose PLC is one of the lowest cost approaches to sophisticated residential lighting control.

Compose PLC is a self-contained system of compatible dimmers, switches, room and whole-house master controls, PLC/Firewall™, and accessories. The Firewall unit (wired to the electrical panel) connects the devices and filters noise on the power lines to assure reliable performance.



CP5ESPLCW

Room Keypad with CC600VAPLWC Dimmers set to CP Mode



CM6BESPLCW and CM8BESPLCW

Whole House Keypads

#### Application

Compose PLC is particularly appropriate for residential applications, both new construction and remodeling. It can also be used to introduce multi-scene dimming control into small commercial remodeling applications.

#### Capability

Compose PLC “convertible” dimmers can be used as individual devices or converted (on site) to function as multi-scene dimmers. Room control masters operate up to 10 multi-scene dimmers with up to 13 scenes. Multi-room centralized control masters handle up to 16 individual dimmers and room masters throughout the home. The house master keypads indicate the On/Off lighting status of the various rooms in the home. A Compose PLC system can control up to 640 devices and virtually unlimited connected load.

Compose PLC accepts signals from Lightolier’s astronomical time clock, infrared and RF remote controls, a serial computer cable, and momentary closure connections.

All Compose PLC devices are hard wired through the Compose PLC Firewall. The firewall reduces communication interference from external devices, isolates the lighting circuits from the rest of the house or outside sources, and amplifies/repeats signal for maximum communication reliability. The Control patterns are programmed after installation and can be easily reconfigured.

#### Controlled Loads

Portable incandescent lamps  
Incandescent (including magnetic low voltage)  
Fans (1.5 amps/3-speed)  
Fluorescent

#### Finish

White, Ivory, Almond

#### Specification

For most residences and corporate applications, 5-scene room control is adequate. House masters may need to be ganged together in key locations. This needs to be specified in advance. Use CC for dimmers and CP keypads for multi-scene room control, and CM keypads for multi-room (whole house) control.

A Compose PLC system must be fully detailed in order to be accurately costed and procured.



### InSight™ Occupancy Sensors

Occupancy sensors turn off lights when no one is in the room. Studies show they save 25-30% in typical office spaces, depending on occupancy patterns and the availability of other automated controls.

InSight occupancy sensors detect changes in thermal patterns by means of non-invasive passive infrared (PIR) sensors. When the sensor no longer detects changes in the thermal pattern for a time out period, it signals a switch to turn off the lights. PIR technology requires a direct line of sight throughout the occupied space.



**IS2600VAW**  
InSight Switch



**1D2600W**  
InSight Dimmer



**OSW**  
InSight System Wall Sensor



**OSC**  
InSight Systems Ceiling Sensor, OSW, Power Pack  
(OSPS10A Not Shown)

#### Application

Spaces with intermittent usage, such as private offices, conference and training areas, rest rooms, storage rooms, play rooms, basements, and attics.

#### InSight Switches and Dimmers

InSight switches and dimmers are individual devices designed for small, non-partitioned spaces, particularly private offices, of up to 750 square feet. InSight uses a manual on/automatic off, or automatic on/off protocol. The occupant can turn lights on – if they are needed – and can turn them off if so desired. When the sensor no longer detects occupancy, it emits an audible “beep” and then turns the lights off. The time out period can be field adjusted from 2-15 minutes to reflect occupancy patterns.

InSight should be located by the entry, like any individual dimmer or switch (not behind the door). An InSight remote is available for spaces with multiple entries. Use IS for a switch, ID for a dimmer, and IS3R3 for the remote.

#### InSight Systems

InSight Systems use separate ceiling sensors, control relays, and switches. They are designed for larger and, partitioned areas, and for integration into spaces with dimming systems, such as conference and training rooms.

From a 10' ceiling, an InSight sensor (OSC) looks down over a 25' diameter area. The control relays can be programmed for either manual or automatic on. With manual on, a switch (OSW) is needed at the entry; for multiple entries, add remotes (IS3R3). For rest rooms and storage areas, automatic on is recommended so people do not enter a dark space and fumble for an unfamiliar switch.

InSight systems can be linked to MultiSet Pro dimming systems with a special relay power pack CSOSLV, OSPSSYS.

Locating ceiling sensors is the key to arranging an InSight system. The sensors must cover the entire area and look down into partitioned spaces. If a sensor looks out into another space (through an open door into a corridor, for example), it can be masked off to avoid “false triggering.”





### Individual Dimmers

#### Onset® OS Series

Onset is a digital dimmer with two presets – a user selected level and full brightness. A touch-control rocker panel gently fades the lighting to the preset; Onset can dim manually to any level while maintaining the presets in memory. Onset remotes (OSR) provide full dimming control from an unlimited number of locations, not just on/off like a 3-way switch. An Onset master can direct all dimmers to their preset levels.

Onset controls all load types at 120 volts, as well as fans, with dimmers and switches. For large loads, use Onset High Wattage (2-gang Heatsink style face plate) OH series.

Finishes: W, I, AL, BL, GR



#### Rockslide RS Series

Rockslide is a preset dimmer with a small slider to adjust the lighting intensity and a larger rocker for convenient on/off control. Rockslide blends well with conventional decorative style rocker switches and is well suited to applications where lighting intensity is adjusted infrequently. Rockslide can also be turned on or off by the Lightolier remote (RS3R).

Rockslide controls 120 volts incandescent and magnetic low voltage loads in 600 and 1000 watt sizes.

Finishes: W, I



#### Sunrise Preset ZP Series

Sunrise is a slide-operated dimmer with a micro touch on/off switch. The attractive and full travel slider makes adjustment easy; a red LED night-light glows when the lights are off. Sunrise can be controlled by an unlimited number of 3-way Sunrise remotes (ZPR).

Sunrise controls all load types at 120 volts, as well as fans, with dimmers and switches. For large loads, use Momentum High Wattage (2-gang Heatsink style face plate) MP series.

Finishes: W, I, AL, BL, GR, BR



#### Vega™ V Series

Vega combines a clean, architectural look with a thin profile high wattage commercial grade slide-to-off dimmer. Vega is the ideal choice for demanding commercial applications that include boardrooms, restaurant/hospitality, and houses of worship.

Vega controls all loads, including fluorescent dimming ballasts at 120 or 277 volts.

Finishes: W, I (color kit options available)



### Notes on Dimming

Although we recommend that an electrical engineer complete the dimming specification by selecting compatible dimmers for each channel and load, it is worth understanding a few of the intricacies.

#### Dimmer Noise

All dimmers emit noise, which is reduced by filters built into the dimmer. Whether the noise is audible or objectionable depends on room surfaces, ambient sound, and occupant sensitivity. For ultra-quiet operation, you can remote the dimmers or add filters.

#### Low Voltage Dimming

Magnetic transformers should be dimmed with Inductive dimmers (LV or VA suffix). Electronic transformers should be dimmed with Quiet Electronic dimmers (QE Suffix), which are limited in their wattage capacity. Both are available as individual and multi-scene models. Quiet Electronic Dimming Amplifiers are also available (DA Series). They handle up to 2000 watts and are controlled by any Lightolier HDF dimmer.

#### Fluorescent

When dimming a fluorescent lamp, a dimming ballast is required. Dimming ballasts vary according to the technology used to control the lamp and communicate with the dimmer. Fixture design may limit the use of specific dimming ballast. Review the fixture specifications to ensure compatibility. Each ballast must be controlled by a compatible dimmer.

Lightolier PowerSpec HDF dimming ballasts are controlled by Lightolier HDF dimmers. They use a dedicated communication wire that can be installed with the power wiring (three conductors). PowerSpec HDF dimming and ballasts are available for T8, T5, and T5HO linear fluorescent and various Circline T5, TT5, TTT, and QT compact fluorescent lamps. The PowerSpec HDF three-wire system provides soft starting and very smooth dimming down to 1% of output for linear and 3% for compact fluorescent lamps. Individual PowerSpec HDF dimmers control 120 volt loads only (see Vega for 277V). Dimming amplifiers are available for 277 volt loads.

Advance Mark X® dimming ballasts are controlled by EB dimmers that communicate over the two power conductors. These are for 120 volt loads only (see Vega for 277V) and dim to 5%.

Other dimming ballasts (0-10 volt control signal) use two low voltage conductors for communication and two line voltage conductors for power and can be controlled by Sunrise/Momentum FAM dimmers at 120 volts and Vega FAM dimmers at 120 or 277 volts. They generally dim to 5%. The line and low voltage conductors must be in separate conduits.

Advance Mark X® is a registered trademark of Advance Transformer Co.



**Lytemode™**

Lytemode Systems bring together advanced dimming technologies for use in elaborate and demanding applications, such as hotel ballrooms, integrated conference centers and large-scale religious buildings, as well as professional, community, and educational theaters. Lytemode systems are both the most powerful and most cost-effective approach to high performance dimming control.



**iGEN**

iGEN Intelligent Generation of Luminaires applies digital control technology to provide advanced control of lighting for office and educational applications. iGEN systems provide energy-savings, enhance personal productivity, permit easy reconfiguration of controlled zones, and support advanced building management. iGEN is a core strategy for achieving a sustainable lighting design.



**IGBT Dimming**

State-of-the-art IGBT dimmers are completely solid state. They operate silently without the use of choke filters, are completely free of mechanical hum, and produce ultra-smooth dimming effects. Cooler, smaller, and lighter than older SCR-type dimmers, IGBT dimmers are overload and short-circuit proof.

IGBT dimmers can be consolidated into remotely located fan cooled compact cabinets. Or, with their silent operation, they can be distributed in the activity space and directly associated with the loads they control.

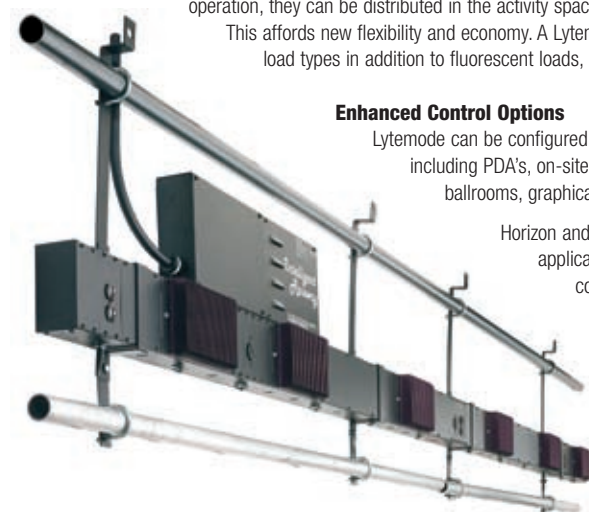
This affords new flexibility and economy. A Lytemode system can control all architectural and theatrical load types in addition to fluorescent loads, including 277 volts.

**Enhanced Control Options**

Lytemode can be configured using a wide variety of personal, graphical devices, including PDA's, on-site touch screens, and laptop computers. For large ballrooms, graphical panels permit easy repartitioning of spaces.

Horizon and Marquee Lighting consoles serve theatrical applications, using advanced TCP/IP over Ethernet or conventional DMX 512 protocols. These systems can effectively control both conventional and moving lights and may be controlled over the Internet. Attractive Lytemode master controls can be integrated into architectural applications.

Consult Lightolier Controls for personal assistance in applying Lytemode into your lighting design.



**Flexible Control**

Using the open-architecture DALI (Digital Addressable Lighting Interface) protocol, iGEN luminaires are controlled independently of the hard-wired electrical circuits. In other words, the control channels operate independently over their own two-wire bus, which is generally installed in the electrical conduit.

Each iGEN-equipped luminaire responds to signals from iGEN controls, either located in the space for personal control, or centralized for building management. iGEN luminaires respond to an individual control, to master controls in a conference or training room, to occupancy sensors, or to daylight-sensing photocells.

Unlike conventional dimming technology where the control channels are permanently wired, iGEN control channels are field programmable and reconfigurable.

iGEN supports two-way communication, which allows building management online visibility of lighting system performance in terms of usage patterns, energy consumption, and lamp and ballast failure.

**iGEN Systems**

iGEN technology can be fitted to a wide range of Lightolier luminaires. Although the initial cost of an iGEN system exceeds that of most conventional approaches, iGEN is cost effective in terms of reducing life-cycle energy and maintenance costs. And the flexibility of configuring control channels can reduce installation cost, compared to conventional approaches.

**Design and Commissioning**

Lightolier's iGEN staff works with designers and engineers to configure the system and contracts for onsite installation and commissioning on a turnkey basis.

Consult Lightolier for a fuller understanding of iGEN capability.





## Emergency and Exit Lighting

**E**mergency and exit lighting are life safety requirements. The path of egress and the emergency and exit lighting products used must comply with national, as well as any applicable local codes. At a minimum, signage and path of egress lighting must remain evenly lit for 90 minutes so occupants can exit the building in the event of an emergency.

Specifying the performance, location and circuiting of exit signs and emergency lighting equipment is an important electrical engineering responsibility. The selection of the equipment – particularly the size and style – affects the aesthetic design of the space, and it benefits from architectural consideration.

Outlook exit signs and emergency lighting units satisfy life safety requirements with advanced technologies, all packaged in thin-profile, architecturally pleasing forms. Edge-lit exit signs minimize the visual impact of the sign. Die-cast housings are the most durable and may satisfy vandal-proof requirements. Thermoformed housings serve in everyday applications. The compact emergency units mount to the ceiling or wall and are ADA compliant.

Outlook exit signs use long-life, energy efficient LEDs. Both exit signs and emergency units use long-life nickel metal hydride batteries, which are non-toxic and recyclable. Units run standard electronic self-diagnostic tests automatically. Hard-to-reach units can also be tested manually with an optional infrared control. There is a choice of exterior colors to complement architectural finishes.

There are new choices in Emergency lighting that achieve small scale, attractive forms, and effective performance. Outlook emergency units offer a visual neutral appearance. Solution units are recessed to reduce visual clutter and vandalism. Radiante and LP units use LEDs to achieve unusually compact design.

Emergency lighting requirements can also be satisfied with battery packs mounted inside linear and compact fluorescent luminaires – troffers, pendants, downlights, ceiling and wall fixtures.

Reference the National Fire Protection Life Safety Code, National Electrical Code, UL944 and OSHA standards for specific compliance information.

For information regarding Lightolier's complete product line, technical specifications and electrical options visit [www.designingwithlight.com](http://www.designingwithlight.com).



Outlook EXIT sign is just 5/8" thick.



**Outlook** Edge-Lit Exit Sign

**EX Series**  
 Surface Mount  
 L 12 1/2", W 1 1/2", H 10 11/16" (Not including canopy)  
 Recessed Mount (Not including canopy)  
 L 12 1/2", W 1 5/8", H 8 13/16"



**DX Series**

L 12 1/2", W 5/8", H 8 5/8" (Not including canopy)



**TX Series**

L 12 1/2", W 5/8", H 8 5/8" (Not including canopy)



**Outlook** Emergency Light

The EL2 Series is an architectural 6W halogen emergency light for either wall or ceiling mounted applications.

**EL2 Series** 2 Light  
 L 6 7/16", W 2 1/2", H 6 11/16"  
**EL4 Series** 4 Light  
 L 6 7/16", W 2 1/2", H 12 5/8"



**Solution** Emergency Light

Solution is a fully recessed emergency light using two 35W MR16 lamps that can illuminate a pathway up to 90' long with a single fixture. Available in either ceiling or wall mount, or a 2 x 2 lay-in.

**SOLUTIONWCL** Wall or Ceiling  
 L 15 1/2", W 3 3/4", H 10 1/2"  
**SOLUTION2** 2 x 2 Lay-in  
 L 23 3/4", W 4 1/6", H 23 3/4"



**Radiante** Emergency Light

Radiante is a state-of-the-art architectural emergency light that uses high-output white LEDs to achieve widespread illumination from units up to 50 feet apart. A wide variety of decorative finishes are available.

**RD Series**  
 L 13 1/8", W 6", H 4 1/2"



**LP Series** Multi-Purpose Step Lights

LP Series uses three high performance white LEDs, and is designed for low-level applications, such as; stairwells, step landings, wheel chair ramps and exit corridors. The LP Series can be specified for either emergency or non-emergency applications.

**LP1C**  
 L 2 3/4", W 1 1/2", H 4 1/2"





# Data and Resources

## For Additional Information

For complete technical specifications, photometry, installation instructions, lead times, and budget pricing on products in the Designing with Light catalog, please visit [www.designingwithlight.com](http://www.designingwithlight.com). You can also find a local Lightolier Sales Office and nearby Lightolier distributors through this site, and browse the complete selection of more than 10,000 Lightolier products.

## Lighting Power Allowances

All States are required to adopt energy codes at least as stringent as ASHRAE/IES 90.1-1999, which limits the power allowed for lighting (among other provisions) and applies to commercial new construction and major remodels.


The lighting power allowance is measured in watts per square foot (lighting power density or LPD). Here are some of the allowances for whole buildings. The standard also provides allowances by type of space. The space-by-space approach allows additional power for displays of fine merchandise, decorative lighting, and VPA-type sharp cut-off luminaires for intensive computer applications. This detailed approach generally produces a slightly higher allowance for an entire building.

## Building Types 1999 LPD\* (W/ft<sup>2</sup>)


Education	1.5
Exercise	1.4
Hotel	1.7
Library	1.5
Medical	1.6
Museum	1.6
Office	1.3
Restaurant	1.8
Religious	2.2
Retail	1.9
Theater	1.5

\* LPD Data from 1999 ASHRAE Standard 90.1  
© American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. [www.ashrae.org](http://www.ashrae.org)

## Commonly Used Lamps\*

	Watts	Bulb	Rated Lumens	Rated Life
<b>General Service Incandescent Lamps</b>				
	40W	A19	455	1,500
	60W	A19	870	1,000
	75W	A19	1,190	750
	100W	A19	1,750	750
	150W	A21	2,850	750


## Projector (PAR) Halogen Lamps

	35W	PAR20	400	2,500
	50W	PAR20	530	2,500
	35W	PAR30	450	2,500
	50W	PAR30	600	2,500
	75W	PAR30	1,100	2,500
	100W	PAR38	1,500	2,000
	120W	PAR38	1,800	3,000





## Low Voltage Projector Lamps

	MR16	(See page 165)		
	PAR36	(See page 165)		


## Reflector (BR) Lamps

	85W	BR30	925	2,000
	120W	BR40	1,600	2,000

## Fluorescent Lamps

	13W	Quad Tube/4P	900	10,000
	18W	Quad Tube/4P	1,150	10,000
	26W	Triple Tube/4P	1,800	10,000
	32W	Triple Tube/4P	2,400	10,000
	42W	Triple Tube/4P	3,200	10,000
	28W	T5	2,900	20,000
	54W	T5 HO	5,000	20,000
	32W	T8	3,000	20,000

## Ceramic Metal Halide Lamps (Open Fixture Type)

	39W	T4	3,300	9,000
	70W	T6	6,600	12,000

\* Lamp data shown is typical. Other wattages are available, generally with comparable output. Contact lamp manufacturer for specific data.

Rated Lumens measure the initial quantity of light emitted by the light source. As the source ages, the quantity of light depreciates.

Rated Life is point (in hours) when 50% of a large sample of lamps no longer operate (and 50% are still operating).

**Accent Lighting**

Accent lighting is fundamentally selective: if everything is highlighted, nothing stands out. Highlighted objects begin to stand out when they are three times as bright as the surround. For more dramatic and attention-getting effects, provide five-to-ten times the ambient illumination.

Since the brightness of an object depends on both the illumination it receives and its reflectance, dark objects need more light to stand out. For Energy Smart display lighting, limit the amount of ambient lighting against which the accent lighting "competes".

At right are some basic lighting terms used to calculate accent lighting performance.

Note: The data shown here is based on bare lamps and is meant to be representative. Contact the lamp manufacturer for specific data.

**Illumination** (the amount of light falling on an object or surface) is measured in footcandles. Illumination from a point source, such as the reflectorized lamps shown here, is inversely proportional to the distance between the source and the target.

**FC = Intensity (CBCP) ÷ Distance Squared.**

**Intensity** (the strength of light in a specific direction) is measured in candelas or candlepower. As with lumen output (previous page), candlepower depreciates as the lamp ages. The data shown here is initial footcandles. Center Beam Candlepower (CBCP) is the intensity at the center of the beam.

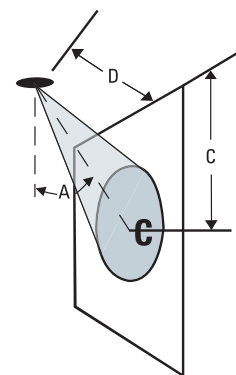
**Beam Spread** is the angle at which the luminous intensity falls to 50% of the maximum (CBCP). The beam patterns shown here are based on the beam spread of the lamp. Note that lamps emit light beyond the beam spread.



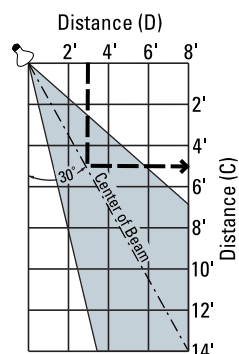
**Locating Accent Lights**

For the best viewing of pictures, place fixtures so the their beams are aimed at 30° from vertical. For three-dimensional objects, cross light with two fixtures aimed at 30°.

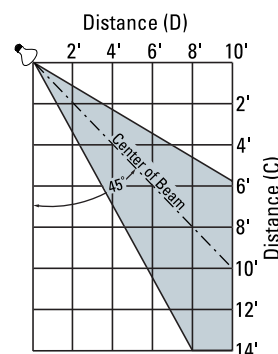
Use the accompanying charts to locate accent fixtures for the desired aiming angle. First determine where the center of the beam should hit the target (for example, the center of a painting on the wall) and identify the distance (C) down from the ceiling. Then trace a line from that point on the vertical scale to the center of the beam and back up to the top of the chart. Distance (D) is the distance away from the wall.



**30° Aiming Angle**

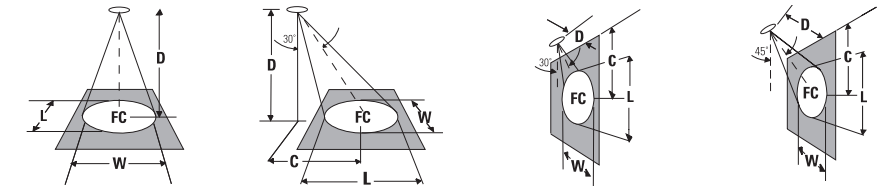


**45° Aiming Angle**



**Accent Lighting Performance Data**

(FC) is initial footcandles at center of beam. Beam length (L) and beam width (W) are where the candlepower is reduced to 50% of the center beam. CBCP is center beam candlepower. (C) is distance to the center of the beam. Lamp data shown is typical, and is based on bare lamp photometrics. Contact lamp manufacturers for availability and performance.



Lamps	Beam Spread (To 50% CBCP)	CBCP	Rated Life (Hrs.)	0° Aiming Angle				30° Aiming Angle				30° Aiming Angle				45° Aiming Angle							
				D	FC	L	W	D	C	FC	L	W	D	C	FC	L	W	D	C	FC	L	W	
<b>MR16 Low Voltage Halogen Bi-Pin Lamps</b>																							
20W MR16 IR VNSP	7°	7,400	3,000	7' 10"	151	0.9'	0.9'	6' 3.5"	134	1.0'	0.8'	2' 3.5"	231	1.0'	0.5'	4' 4.0"	164	1.0'	0.7'	6' 6.0"	73	1.5'	1.0'
20W MR16 IR NSP	15°	3,750	5,000	6' 10"	104	1.6'	1.6'	5' 2.9"	97	1.8'	1.5'	2' 3.5"	117	2.2'	1.1'	3' 3.0"	147	1.6'	1.1'	5' 5.0"	53	2.7'	1.9'
20W MR16 IR FL	40°	525	5,000	2' 4"	131	1.5'	1.5'	2' 1.2"	85	2.0'	1.7'	1' 1.7"	66	4.8'	1.5'	2' 2.0"	46	3.4'	2.1'	3' 3.0"	21	5.0'	3.1'
37W MR16 IR SP	10°	13,100	4,000	8' 12"	205	1.4'	1.4'	7' 4.0"	174	1.6'	1.4'	3' 5.2"	182	2.1'	1.0'	5' 5.0"	185	1.8'	1.2'	7' 7.0"	95	2.5'	1.7'
37W MR16 IR NFL	25°	4,600	4,000	6' 10"	128	2.7'	2.7'	5' 2.9"	120	3.0'	2.6'	2' 3.5"	144	4.2'	1.8'	3' 3.0"	181	2.8'	1.9'	7' 7.0"	33	6.5'	4.4'
37W MR16 IR FL	40°	2,500	4,000	4' 6"	156	2.9'	2.9'	3' 1.7"	180	3.0'	2.5'	1' 1.7"	313	4.8'	1.5'	3' 3.0"	98	5.0'	3.1'	4' 4.0"	55	6.7'	4.1'
50W MR16 IR SP	10°	15,700	4,000	8' 12"	245	1.4'	1.4'	7' 4.0"	208	1.6'	1.4'	3' 5.2"	218	2.1'	1.0'	5' 5.0"	222	1.8'	1.2'	7' 7.0"	113	2.5'	1.7'
50W MR16 IR NFL	25°	6,000	4,000	6' 10"	167	2.7'	2.7'	5' 2.9"	156	3.0'	2.6'	2' 3.5"	188	4.2'	1.8'	3' 3.0"	236	2.8'	1.9'	7' 7.0"	43	6.5'	4.4'
50W MR16 FL	40°	2,000	4,000	4' 6"	125	2.9'	2.9'	3' 1.7"	144	3.0'	2.5'	1' 1.7"	250	4.8'	1.5'	3' 3.0"	79	5.0'	3.1'	4' 4.0"	44	6.7'	4.1'
75W MR16 SP	10°	14,000	4,000	8' 12"	219	1.4'	1.4'	7' 4.0"	186	1.6'	1.4'	3' 5.2"	194	2.1'	1.0'	5' 5.0"	198	1.8'	1.2'	7' 7.0"	101	2.5'	1.7'
75W MR16 FL	36°	2,500	4,000	4' 6"	156	2.6'	2.6'	3' 1.7"	180	2.7'	2.3'	1' 1.7"	313	3.8'	1.3'	3' 3.0"	98	4.4'	2.8'	4' 4.0"	55	5.8'	3.7'
<b>PAR36 Halogen and Incandescent Low Voltage Lamps</b>																							
35W PAR36 (Halogen) SP	8°	8,000	4,000	10' 15"	80	1.4'	1.4'	8' 4.6"	81	1.5'	1.3'	4' 6.9"	63	2.3'	1.1'	6' 6.0"	79	1.7'	1.2'	8' 8.0"	44	2.2'	1.6'
35W PAR36 (Halogen) FL	30°	900	4,000	3' 7"	100	1.6'	1.6'	3' 1.7"	65	2.2'	1.9'	1' 1.7"	113	2.7'	1.1'	2' 2.0"	80	2.3'	1.5'	3' 3.0"	35	3.5'	2.3'
50W PAR36 (Halogen) SP	8°	10,000	4,000	10' 15"	100	1.4'	1.4'	8' 4.6"	101	1.5'	1.3'	4' 6.9"	78	2.3'	1.1'	6' 6.0"	98	1.7'	1.2'	8' 8.0"	55	2.2'	1.6'
50W PAR36 FL	30°	1,300	4,000	4' 8"	81	2.1'	2.1'	4' 2.3"	53	2.9'	2.5'	2' 3.5"	41	5.5'	2.1'	2' 2.0"	115	2.3'	1.5'	3' 3.0"	51	3.5'	2.3'

Accent Lighting Performance Data

(FC) is initial footcandles at center of beam. Beam length (L) and beam width (W) are where the candlepower is reduced to 50% of the center beam. CBCP is center beam candlepower. (C) is distance to the center of the beam. Lamp data shown is typical, and is based on bare lamp photometrics. Contact lamp manufacturers for availability and performance.

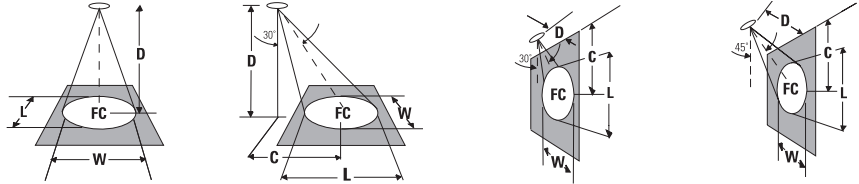


Table with columns: Lamps, Beam Spread (To 50% CBCP), CBCP, Rated Life (Hrs.), and four columns for aiming angles (0°, 30°, 30°, 45°). Rows include PAR20 Halogen Line Voltage Lamps, PAR30 (Short Neck) Halogen Line Voltage Lamps, and PAR38 Halogen Line Voltage Lamps.

Accent Lighting Performance Data

(FC) is initial footcandles at center of beam. Beam length (L) and beam width (W) are where the candlepower is reduced to 50% of the center beam. CBCP is center beam candlepower. (C) is distance to the center of the beam. Lamp data shown is typical, and is based on bare lamp photometrics. Contact lamp manufacturers for availability and performance.

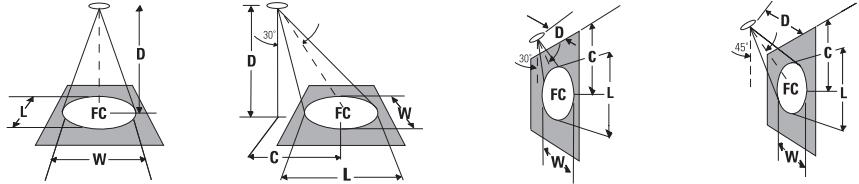


Table with columns: Lamps, Beam Spread (To 50% CBCP), CBCP, Rated Life (Hrs.), and four columns for aiming angles (0°, 30°, 30°, 45°). Rows include PAR30 and PAR38 Metal Halide (Ceramic Arc Tube) Lamps and Lytespan® Track Luminaires.

\* Exceeds usable limits

**Ambient and Task Lighting**

The quantity of illumination needed for a task depends on the size and contrast of the task, the speed and accuracy required, and the age of the person doing the work. People age 55 need twice as much light to see as well as those age 25. Recommended levels are shown below.

The quality of visual environment and the selection and placement of luminaires are as important as the quantity of illumination. Ambient and task illumination should be uniform over the targeted surfaces; diffuse lighting is more comfortable and effective than concentrated beams of light. Directing task lighting from the side makes tasks easier to see. Placing luminaires close together – and reducing the amount of light in each – is more effective than using fewer, brighter luminaires.

For work spaces, use a combination of general illumination and local task lighting. Select well-shielded types of luminaires to assure visual comfort, then choose the most efficient of these to conserve energy.

**Typical Illumination Levels**  
(Minimum, Maintained)

**High** (over 50 footcandles)  
Price-oriented retail  
Kitchens  
Drafting  
Laboratories  
Quick service restaurants

**Medium** (30-50 footcandles)  
General retail  
General office  
Classrooms  
Libraries  
Reception  
Leisure restaurants

**Low** (3-10 footcandles)  
Public spaces  
Corridors  
Stairs  
Social areas  
Intimate restaurants

**Multiple Fixture Layouts**

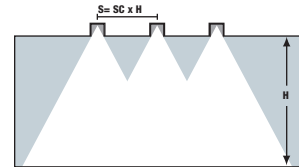
Data on the following pages enables you to assess various design options and compare luminaire types. Only a few luminaires are shown here; for complete photometry, please visit [www.designingwithlight.com](http://www.designingwithlight.com).

The data shows initial footcandle levels for various spacings. Maintained levels, which reflect lamp depreciation and dirt accumulation, will generally be 20-30% lower.

The amount of light that actually reaches the targeted surface depends on the aspect ratio of the space. The walls in taller spaces absorb more light than those in shorter ones, and dark reflectances have more impact. Technically, the aspect ratio is known as the room cavity ratio (**RCR = 5 x H x (L+W) ÷ (LxW)**). The data that follows are based on RCR = 2, which corresponds to the diagrams to the right.

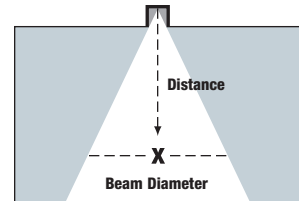
The power density at each spacing is shown in watts per square foot.

To achieve uniform lighting, space downlights within their spacing criteria, (provided with the accompanying data). The spacing criteria for most recessed fluorescent fixtures is 1.2-1.3. The spacing of indirect pendants depends on the suspension distance from the ceiling and how even the ceiling brightness should be. Generally, pendants can be spaced four to eight times the suspension distance.



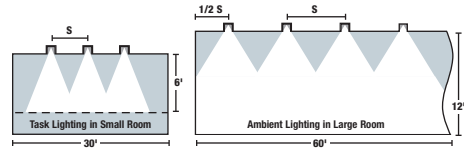
**Individual Fixtures**

The beam spread and illumination at the center of the beam is shown for selected downlights. This gives an idea of the effect when fixtures are used in high ceilings or individually over work surfaces.



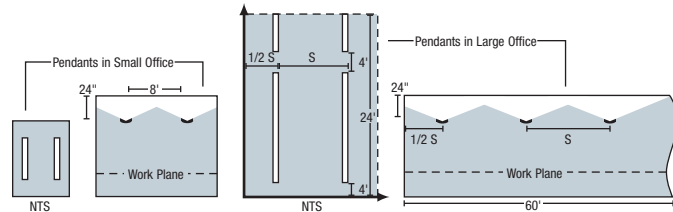
**Downlighting**

The diagram shows illumination from square arrays of downlights. The small space represents a 30' x 30' room with a work plane (desk or counter) 6' from the ceiling. The large space represents a 60' x 60' room with a 12' ceiling. Table-top illumination would be slightly higher. The illumination and power consumption shown can be scaled up or down by changing the wattage and lumen output of the lamps used. This application also applies to Pendalytes.



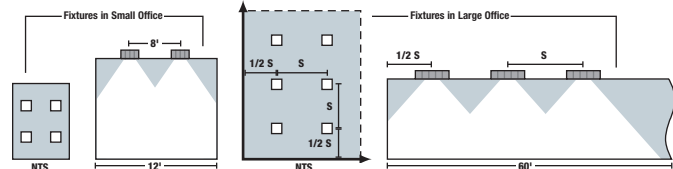
**Pendant Fluorescent Systems**

The diagrams show illumination from continuous rows of pendants. The 12' x 15' office has two 8' pendants. The 60' x 60' office has 24' rows of pendants, spaced as shown. Illumination is at desk height. Partitions will reduce illumination 20-30%, depending on their height and reflectance. The illumination and power consumption shown can be scaled up or down by changing the number and lumen output of the lamps used, but the fixture efficiency generally diminishes by 10% as more lamps are added to a luminaire.



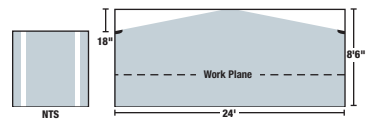
**Recessed Fluorescent**

The 12' x 15' office has four, two-lamp or three-lamp luminaires. The 60' x 60' office has rows of luminaires, spaced as shown. Illumination is at floor height. Partitions will reduce illumination 20-30% and create shadows, depending on their height and reflectance. The illumination and power consumption shown can be scaled up or down as described in Pendant Fluorescent Systems above.



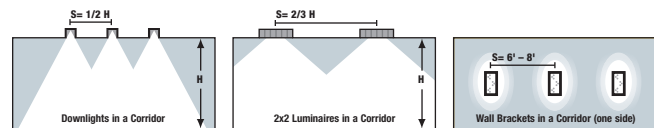
**Cove Lighting**

A 24' x 24' x 8', 6" space is illuminated by two full-length two T8 fluorescent coves 18" below the ceiling. The average illumination at a 2', 6" work plane in the center of the room is 32 footcandles. The power density is about 1.3 watts per square foot. The illumination and power density can be scaled up or down.



**Corridors**

The diagrams above suggest spacing for downlights, recessed fluorescent fixtures, and wall brackets. The spacing is closer than is typical for general lighting to assure effective lighting of faces and to limit shadows on corridor walls. Note that MR16 and PAR downlights have narrow beams and will create less even illumination. Use a lower wattage in the fixtures to conserve energy.



**Ambient and Task Lighting**

Average illumination from multiple **Calculite** downlights

4" Open Downlight	Spacing	Initial FC	W/SF	4" Open Downlight	Spacing	Initial FC	W/SF	4" Open Downlight	Spacing	Initial FC	W/SF
20W MR16 FL C4MRD S.C. = .5	4'	9	1.0	37W MR16 FL (IR) C4MRD S.C. = .5	4'	39	2.4	50W MR16 FL C4MRD S.C. = .5	4'	37	3.3
	5'	7	0.96		5'	28	1.8		5'	27	2.4
	6'	3	0.67		6'	13	.78		6'	12	1.1

4" Open Downlight	Spacing	Initial FC	W/SF	6" Open Downlight	Spacing	Initial FC	W/SF	6" Open Downlight	Spacing	Initial FC	W/SF
100W A19 C4AD S.C. = .8	4'	46	5.4	150W A21 C6AD S.C. = 1.0	5'	64	6.0	75W PAR30 FL C6PD S.C. = .6	4'	55	4.1
	5'	34	4.0		6'	45	4.2		5'	40	3.0
	6'	23	2.8		8'	29	2.7		6'	28	2.1

6" Open Downlight	Spacing	Initial FC	W/SF	7" Open Downlight	Spacing	Initial FC	W/SF	8" Open Downlight	Spacing	Initial FC	W/SF
26W CFL 8021 CCL S.C. = 1.0	5'	36	1.2	32W CFL 8022 CCL S.C. = 1.1	6'	42	1.0	2x42W CFL 8039 CL S.C. = 1.4	8'	67	1.7
	6'	25	0.86		8'	27	0.66		10'	38	0.9
	8'	16	0.55		10'	15	0.37		12'	17	0.4

6" Lens Downlight	Spacing	Initial FC	W/SF	7" Lens Downlight	Spacing	Initial FC	W/SF	7" Louver Downlight	Spacing	Initial FC	W/SF
26W CFL 8091FCL S.C. = 1.0	5'	49	1.2	32W CFL 8097FCL S.C. = .9	5'	52	1.5	32W CFL 8097CBW S.C. = .8	5'	37	1.4
	6'	34	0.86		6'	36	1.0		6'	26	1.0
	8'	22	0.55		8'	23	0.66		8'	17	0.62

4x4 Matrix	Spacing	Initial FC	W/SF	4x9 Matrix	Spacing	Initial FC	W/SF	9x9 Matrix	Spacing	Initial FC	W/SF
26W CFL 4x4 CLW S.C. = 1.0	4'	54	1.7	42W CFL 4x9 CLW S.C. = 1.3	6'	59	1.4	2x42W CFL 9x9 CLW S.C. = 1.4	6'	107	2.5
	6'	28	0.86		8'	38	0.87		8'	69	1.6
	6'	18	0.55		10'	21	0.49		10'	39	0.9

4" Open Downlight	Spacing	Initial FC	W/SF	6" Open Downlight	Spacing	Initial FC	W/SF	6" Open Downlight	Spacing	Initial FC	W/SF
39W T4 CMH C4T4VW S.C. = 1.1	5'	87	1.8	70W T6 CMH C6T6VW S.C. = 1.2	8'	72	1.4	150W T6 CMH C6T6VW S.C. = 1.2	8'	152	3.1
	6'	60	1.3		10'	41	0.79		10'	86	1.7
	8'	39	0.8		12'	18	0.35		12'	38	0.76

Beam Spread from individual **Calculite** downlights

4" Open Downlight	Distance	Beam Dia	Initial FC	6" Open Downlight	Distance	Beam Dia	Initial FC	6" Open Downlight	Distance	Beam Dia	Initial FC
50W MR16 FL C4MRA	6'	4.4'	56	150W A21 C6AD	8'	10'	21	70W T6 CMH C6T6VM	12'	12'	29
	8'	5.8'	31		10'	12'	14		16'	16'	16
	10'	7.3'	20		12'	14'	10		20'	20'	10

**Ambient and Task Lighting**

Average illumination from multiple **Lytecaster** downlights

3" Open Downlight	Spacing	Initial FC	W/SF	3" Open Downlight	Spacing	Initial FC	W/SF	5" Open Downlight	Spacing	Initial FC	W/SF
20W MR16 FL 304 S.C. = .6	4'	15	1.0	37W MR16 FL (IR) 304 S.C. = .6	4'	64	2.4	50W MR16 FL 1064LV S.C. = .6	4'	61	3.3
	5'	11	0.96		5'	47	1.8		5'	45	2.4
	6'	5	0.67		8'	21	0.78		8'	20	1.1

3" Open Downlight	Spacing	Initial FC	W/SF	5" Open Downlight	Spacing	Initial FC	W/SF	5" Open Downlight	Spacing	Initial FC	W/SF
60W A19 2046 S.C. = 1.1	4'	17	3.3	60W A19 1046 S.C. = 1.3	4'	27	3.3	100W A19 1046 S.C. = 1.3	5'	53	4.0
	5'	12	2.4		5'	20	2.4		5'	39	2.8
	6'	9	1.1		6'	14	1.1		8'	25	1.8

3" Open Downlight	Spacing	Initial FC	W/SF	5" Open Downlight	Spacing	Initial FC	W/SF	7" Open Downlight	Spacing	Initial FC	W/SF
50W PAR20 NFL 2013 S.C. = .6	4'	46	2.7	75W PAR30 FL 1013 S.C. = .7	4'	68	4.1	32W CFL 1113 S.C. = 1.1	6'	38	1.0
	5'	33	2.0		5'	50	3.0		8'	24	0.62
	6'	25	1.4		6'	35	2.1		10'	14	0.35

Average illumination from multiple **Decorative** fixtures

6 1/2" Glass Pendalyte	Spacing	Initial FC	W/SF	9" Glass Pendalyte	Spacing	Initial FC	W/SF	9" Aluminum Pendalyte	Spacing	Initial FC	W/SF
150W A19 416WH S.C. = 1.0	5'	60	6.0	32W CFL 409WH S.C. = 1.3	5'	59	1.4	32W CFL 40411 S.C. = 1.7	6'	41	1.0
	6'	42	4.2		6'	41	1.0		8'	26	0.62
	8'	27	2.7		8'	26	0.62		10'	15	0.35

12" Acrylic Pendalyte	Spacing	Initial FC	W/SF	12" Acrylic Pendalyte	Spacing	Initial FC	W/SF	16" Acrylic Pendalyte	Spacing	Initial FC	W/SF
42W CFL 40422 S.C. = 3.0	6'	60	1.3	70W E17 CMH 40422 S.C. = 2.9	6'	95	2.3	4 x 32W CFL 40432 S.C. = 2.4	8'	92	2.4
	8'	38	0.8		8'	61	1.5		10'	52	1.4
	10'	22	0.5		10'	34	0.8		12'	23	0.6

Inno Pendant	Spacing	Initial FC	W/SF	35" Pandalux	Spacing	Initial FC	W/SF	22" Spill Ring	Spacing	Initial FC	W/SF
39W T4 CMH C4CIN S.C. = .8	6'	42	1.3	6 x 32W CFL Cirrus S.C. = 1.3	8'	125	3.6	3 x 26W QT CFL 5543 S.C. = 1.3	6'	40	2.4
	8'	27	0.8		10'	71	2.0		8'	26	1.6
	10'	15	0.5		12'	31	0.9		10'	14	0.9

Beam Spread from individual **Lytecaster** and **Decorative** fixtures

3" Open Downlight	Distance	Beam Dia	Initial FC	6" Complete Slope	Distance	Beam Dia	Initial FC	9" Glass Pendalyte	Distance	Beam Dia	Initial FC
50W MR16 FL 304	6'	4.4'	56	90W PAR38 FL 1154CL	8'	4'	70	32W CFL 409WH	6'	8'	10
	8'	5.8'	31		10'	5'	45		8'	10'	6
	10'	7.3'	20		16'	6'	18		10'	14'	4

**Ambient and Task Lighting**

Average illumination from rows of **Pendant Fluorescent** fixtures

Lytespread 100% Up	Rows	Initial FC	W/SF	Aleron 88% Up	Rows	Initial FC	W/SF	Lytespread 74% Up	Rows	Initial FC	W/SF
1 x 54W T5HO LSC-1	10'	71	1.2	1 x 54W T5HO A-10	10'	69	1.3	1 x 54W T5HO LSB-13	10'	70	1.3
	12'	59	1.0		12'	57	1.1		12'	58	1.1
	16'	48	0.8		16'	46	0.8		16'	48	0.8
	Sm Office	35	1.1		Sm Office	35	1.1		Sm Office	37	1.1

F7000 90% Up	Spacing	Initial FC	W/SF	F7000 67% Up	Spacing	Initial FC	W/SF	Silhouette 47% Up	Spacing	Initial FC	W/SF
2 x 28W T5 F7000-4	10'	77	1.5	2 x 28W T5 F7000-17	10'	86	1.5	2 x 32W T8 SF-2	10'	93	1.5
	12'	64	1.2		12'	72	1.2		12'	77	1.2
	16'	51	1.0		16'	58	1.0		16'	62	1.0
	Sm Office	39	1.4		Sm Office	39	1.4		Sm Office	35	1.4

PerfLyte 91% Up	Spacing	Initial FC	W/SF	PerfLyte 70% Up	Spacing	Initial FC	W/SF	Eye-Q 60% Up	Spacing	Initial FC	W/SF
2 x 32W T8 LP-3	10'	71	1.3	2 x 32W T8 LP-8	10'	78	1.3	2 x 32W T8 EYS425FS	10'	76	1.3
	12'	59	1.1		12'	65	1.1		12'	64	1.1
	16'	47	0.8		16'	52	0.8		16'	51	0.8
	Sm Office	38	1.1		Sm Office	42	1.1		Sm Office	50	1.1

Average illumination from multiple **Fluorescent** fixtures

1x4 Alter	Spacing	Initial FC	W/SF	9" Parabolic	Spacing	Initial FC	W/SF	1x4 Parabolic	Spacing	Initial FC	W/SF
2 x 28W T5 QVS1GPFOS228 S.C. = 1.3	4' x 10'	95	1.7	1 x 32W T8 LJA9G12PR132 S.C. = 1.2 x 1.5	4' x 8'	57	1.0	2 x 32W T8 VRA1G12LS232 S.C. = 1.2 x 1.4	4' x 10'	89	1.6
	8' x 8'	52	0.9		6' x 8'	38	0.7		6' x 8'	69	1.2
	8' x 12'	42	0.7		8' x 8'	27	0.5		8' x 10'	47	0.8
	Sm Office	41	1.2		Sm Office	24	0.6		Sm Office	41	1.2

2x2 Alter Classic	Spacing	Initial FC	W/SF	2x2 ParaPlus	Spacing	Initial FC	W/SF	2x2 Parabolic	Spacing	Initial FC	W/SF
1 x 40W TT5 QVS2GPFOS1U4 S.C. = 1.2	6' x 6'	46	0.8	2 x 24W T5 PPH2G8WW224 S.C. = 1.2	6' x 6'	80	1.6	2 x 32W T8/U VRA2G9LS26J S.C. = 1.2	6' x 6'	87	1.7
	6' x 8'	32	0.6		6' x 8'	56	1.1		6' x 8'	61	1.2
	8' x 8'	23	0.4		8' x 8'	39	0.8		8' x 8'	43	0.8
	Sm Office	18	0.6		Sm Office	33	1.1		Sm Office	37	1.1

2x4 Coffaire	Spacing	Initial FC	W/SF	2x4 ParaPlus	Spacing	Initial FC	W/SF	2x4 Parabolic	Spacing	Initial FC	W/SF
3 x 32W T8 CFH2GPW332 S.C. = 1.2 x 1.3	6' x 8'	87	1.8	3 x 32W T8 PPH2G16WW332 S.C. = 1.2 x 1.3	6' x 8'	117	1.8	3 x 32W T8 VRA2G18LP332 S.C. = 1.2 x 1.4	6' x 8'	112	1.7
	8' x 10'	60	1.2		8' x 10'	80	1.2		8' x 10'	77	1.1
	8' x 12'	50	1.0		8' x 12'	67	1.0		8' x 12'	64	0.9
	Sm Office	48	1.7		Sm Office	68	1.7		Sm Office	69	1.6



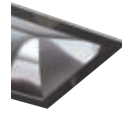


## Wall Washing & Grazing

### 4 1/2" x 4 1/2" Matrix®

#### Wall Washer

Lamp: 32W Triple Tube CFL  
Cat. No.: 4X4LWCLW

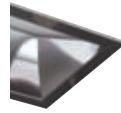


Distance from Ceiling	Units 3' from Wall			Units 3' from Wall		
	1' 3"	2' 3"	3' 3"	1' 4"	2' 4"	3' 4"
1'	1	8	9	9	5	9
2'	16	14	16	13	10	13
3'	18	16	18	15	12	15
4'	16	16	16	13	12	13
5'	15	15	15	12	11	12
6'	13	13	13	10	10	10
7'	11	11	11	9	9	9
8'	10	10	10	8	8	8
9'	9	9	9	7	7	7

### 4 1/2" x 9" Matrix®

#### Wall Washer

Lamp: 42W Triple Tube CFL  
Cat. No.: 4X9LWCLW



Distance from Ceiling	Units 3' from Wall		
	1' 3"	2' 3"	3' 3"
1'	17	13	17
2'	26	23	26
3'	30	29	30
4'	29	30	29
5'	26	27	26
6'	23	23	23
7'	20	20	20
8'	18	17	18
9'	16	16	16

### Perimeter Trough

1 Lamp T8



Distance from Ceiling	One Side Mounting No Opposite Wall	
	1' 3"	2' 3"
1.5'	63	
2.5'	33	
3.5'	22	
4.5'	18	
5.5'	16	
6.5'	15	
7.5'	14	
8.5'	12	
9.5'	12	
	0	Footcandles on Wall

### Fluorescent Wal-Lyter

Lamp: 40W TT5  
Cat. No.: WLRN124120SB



Distance from Ceiling	Units 3' from Wall					
	1' 4"	2' 4"	3' 4"	6' 4"		
1'	107	102	107	86	50	86
2'	102	106	102	78	58	78
3'	85	88	85	63	48	63
4'	66	74	66	49	48	49
5'	59	62	59	42	40	42
6'	48	56	48	35	34	35
7'	42	46	42	31	26	31
8'	38	36	38	28	22	27



## Photo Credits

### Introduction

- 1 Timothy Hursley  
*Seattle Library*
- 2 Catherine Tighe Photography (L)  
*Wesley Wei Architects Office*  
James Adcock (R)
- 3 Jim Kelley
- 4 Chuck Pappas (L)  
Max MacKenzie (R)
- 5 Jim Kelly
- 7 Prakash Patel Photography (L)  
*Fox Architects*  
Chuck Pappas (R)
- 8 Tim Maloney, Architect /  
Designer, Photographer  
*Trends Publishing Int'l*
- 10 Matt Wargo  
*Partridge Architects, Inc.*
- 11 Warren Jagger  
*Foster Associates*

### Track Lighting

- 12 Paul Warchol  
*Paoli Showroom*
- 14 Chuck Pappas
- 16 Chuck Pappas
- 18 Chuck Pappas
- 23 Chuck Pappas
- 24 Sean Hennessey
- 25 Jim Kelley
- 26 Catherine Tighe Photography  
*Kiss + Zwigard Architects*
- 28 Jim Kelley
- 31 Photo by Kaz Tsuruta / Asian  
Art Museum of San Francisco.  
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### Specification Downlighting

- 32 Michael Dersin  
*Lighting Design by*  
*Carol Crampton of*  
*Crampton Lighting Design*
- 35 Lisa Folavisi; Chuck Pappas;  
Tim Maloney, Architect /  
Designer, Photographer  
*Trends Publishing Int'l*
- 36 Chuck Pappas
- 38 Michael Dersin  
*Lighting Design by*  
*Carol Crampton of*  
*Crampton Lighting Design*
- 40 Andrew Bordwin Photography
- 42 Chuck Pappas
- 46 Chuck Pappas
- 48 Chuck Pappas
- 51 Chuck Pappas
- 54 Matt Wargo  
*Partridge Architects, Inc.*
- 55 Chuck Pappas

### General Purpose Downlighting

- 56 Mandelkorn Photography
- 58 Courtesy of Canlyte  
*Foster Associates*
- 59 Aaron Usher Photography
- 60 Warren Jagger  
*Foster Associates*
- 64 Chuck Pappas
- 66 Sharon Risedorph Photography  
*Becca Foster Lighting Design*
- 69 Edward Jacoby

### Architectural Decorative

- 70 James Adcock
- 75 Warren Jagger (top)  
*Foster Associates*
- 76 Chuck Pappas
- 78 Steven Evans Photography  
*Brian MacKay-Lyons Architect*
- 80 Catherine Tighe Photography  
*Audrey Matlock Architect's*
- 87 Matt Wargo  
*Partridge Architects, Inc.*
- 91 Chuck Pappas
- 95 Chuck Pappas

### Pendant Fluorescent

- 100 Paul Warchol Photography
- 102 Warren Jagger  
*Foster Associates*
- 104 Chuck Pappas
- 106 Prakash Patel Photography  
*Fox Architects*
- 108 Jim Kelley
- 110 Jim Kelley
- 112 Jim Kelley
- 113 Warren Jagger  
*Foster Associates*
- 118 Chuck Pappas
- 119 Tom Bonner Photography
- 120 Steve Rosenthal  
*Ellenzweig Associates, Inc.*

### Recessed Surface Fluorescent

- 122 Courtesy of Canlyte
- 124 Courtesy of Canlyte
- 128 Jim Kelley
- 132 Chet Burak Photography
- 133 Peter Paige Photography
- 134 Jim Kelley
- 136 Sean Hennessey
- 139 Jim Kelley
- 140 Courtesy of Southcoast  
Hospital Group (top)

### Dimming and Controls

- 148 Tim Maloney, Architect /  
Designer, Photographer  
*Trends Publishing Int'l*

- 150 Chuck Pappas
- 152 Chuck Pappas (top)
- 154 James Adcock
- 157 Peter Paige Photography (top)

### Emergency and Exit

- 158 Jim Kelley
- 160 Chuck Pappas

### Data and Resources

- 162 Chuck Pappas
- 164 Max MacKenzie
- 172 Sean Hennessey
- 174 Jim Kelley



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Brochure LOL6312

Printed in the U.S.A.