

**MR16 Downlight**  
'Gloves Off Aim' allows  
self-locking hot aiming



**LED Downlight**  
Delivers 1,300 lumens  
of light output



**Sensing Switch**  
Automatically shuts  
down unoccupied rooms



**Tilt Down Wall Wash**  
Uses 16 ceramic metal  
halide lamping



# illuminate

THE ART OF LIGHTING DESIGN



- 14 WILDCAT RIDGE RESIDENCE, Snowmass, Colo.
- 22 MUSEO DE ARTE DE PONCE, Ponce, Puerto Rico
- 26 SPECIAL FEATURE: The Luminous Worlds of Paul Friedlander



## WILDCAT RIDGE

**Project:** Wildcat Ridge Residence

**Location:** Snowmass, Colo.

**Architect:** Voorsanger Architects PC

**Lighting Designer:** Robert Singer & Assocs.

**Interior Designer:** BAM Design

**General Contractor:** Keelty Construction

**Electrical Engineer:** Electrical Outfitters

**Photography:** Paul Bardagly

**Awards:** 2004 Cooper SOURCE Award, 2005 IIDA Cutler Award of Merit

### Challenge:

► Voorsanger Architects designed the Wildcat Ridge private residence as two sections connected by a predominantly open space, requiring a lighting design that would visually unite the open space and individually light each room while itself virtually disappearing into the architecture's clean planes and lines.

### Solution:

► Robert Singer & Assocs. produced a highly detailed architectural lighting design in which light is abundant but the lighting itself is largely visually non-existent, requiring an intense level of detail in the design and coordination between the design disciplines.

► Incorporating more than 4 million pounds of concrete, 550,000 lbs. of steel, 270,000 lbs. of stone and 50,000 lbs. of glass, the Wildcat Ridge private residence in Snowmass, Colo. stands "more like a monument than a residence—an interactive architectural sculpture of light, geometry and a diversity of finish materials," says Kale Lacroux, LD, IES, vice president of lighting design firm Robert Singer & Assocs., Inc.

This contemporary 12,000-sq.-ft. house, designed by Voorsanger Architects PC, and interior designer BAM Design, as a gathering place for the client's extended family, consists of two sections connected by a predominantly open space—the main areas and the bedroom wing. The main areas conjoin under the main roof structure, with the master bedroom sound-insulated by large glass partitions above the wall structure, while the bedroom wing contains 10 bedrooms for extended family and guests. The house, enclosed almost entirely by large windows offering stunning views of the Rockies, sits flat on the ridge, alone and subtly encompassed by its natural surroundings.

A primary lighting goal of the project, says Lacroux, involved providing a consistent feel throughout the house's predominant open space while individualizing each room's ambience via a layered lighting design—not an easy task here. "With such a clean architectural design, lighting had to be integrated subtly as a complement to the spaces and finishes without standing out or compromising its own functionality," he says.

The goal of designing a lighting scheme that both emphasized and disappeared into the architecture required new thinking. The designers immediately rejected the notion of placing a significant number of downlights and decorative luminaires, which would compete with the clean lines and overall aesthetic, and were concerned that bright objects in the space would make


## WILDCAT RIDGE RESIDENCE SNOWMASS, COLO.

IRIS adjustable downlights with black Alzac reflectors (to minimize glare) provide accent lighting on the stone chimney and the sculpture in the entryway.



► CONTINUED ON 516





These skylights provide daylight into the main spaces; at night, Ardee Lighting linear luminaires glow from a concealed cove to simulate continuing daylight and eliminate the possibility of a dark spot on the uplighted ceiling plane.

Tokistar linear lighting concealed under the stone slab accents this floating stone display table and sculpture.



the rest of the space appear dark.

"This project was not meant to be compared with any other custom residence; it stands on its own and the lighting design had to follow suit," says Lacroux. "The traditional methods and concepts that are usually part of the equation when lighting living spaces had to be traded for a new approach dedicated to this unusual challenge." This included not only a step back from traditional lighting design, but also traditional construction techniques—requiring an integrated design approach more commonly found in large "green" building projects than custom home construction.

A primary challenge—the vastness of the ceiling plane and overall size and layout of the spaces—also provided the means for a solution. The partition walls and design of some architectural features and interior elements provided opportunities to target illumination to certain areas without compromising the lighting of the entire space.

"From shelf lighting to built-in reflectors in the millwork for uplight sources in the dressing rooms to wall-mounted track for art lighting, detailed solutions helped define each individual 'room' without having to compromise the overall view and scheme of the open space," says Lacroux.

Two features visually uniting the open space required special attention—a 190-ft.-long, 12-ft.-tall stone wall and the wood ceiling plane. The stone wall is accented from above with downlights and grazed from below by a linear floor uplight detail. The ceiling plane is uplighted by floodlights concealed above the stone wall; skylights add daylight to this indirect light distribution and illuminate at night due to luminaires concealed in the skylights. Each room then received individual lighting treatments. Some spaces with multiple focal points, such as the entryway with its stone chimney and floating stone display table and sculpture, feature



Rambusch asymmetrical-throw flood uplights concealed on top of the 190-ft.-long stone wall provides indirect ambient illumination in the main spaces while "floating" the ceiling plane.

The stone wall is grazed from below by an Ardee Lighting linear lighting detail concealed in the floor.





**DAYLIGHT / NIGHTLIGHT:** While the interior lighting in the house is meticulously detailed, there is no exterior landscape and site lighting. Lacroux points out that local "light pollution" codes severely restrict outdoor lighting, while the house itself, with its envelope of glass, produces a lanternlike glow at night.



multiple luminaires accenting these features from above and below, with recessed ceiling accent lights fitted with black Alzac reflectors to minimize glare and emphasize the lighting effect, not the light source. Other spaces, such as the media room, featuring a floating ceiling plane, are lighted simply with cove-lighting for a subtle glow on the walls along with two pendants and a single downlight accenting wood tables.

"A good architectural lighting design accentuates and complements architecture by becoming an integrated part of its surroundings without being the focus of attention," says Lacroux. "The best architectural lighting design solution is one that does not draw its own praise."

Daylight and controls play a significant role in the project. Ample daylight enters the house via the glass façade, skylights and clerestory. Motorized sunshades and blackout shades, designed into the house paralleling each of the large windows and controlled by a LiteTouch lighting control system, allows automatic raising and lowering of the sunshades via an astronomical time-clock during the day. At the touch of a button, blackout shades provide privacy from the outside. In addition, all lighting in the house is controlled by the LiteTouch system, allowing users to create and select multiple scenes from the layered lighting design.

Interestingly, while the interior lighting in the house is meticulously detailed, there is no exterior landscape and site lighting. Lacroux points out that local "light pollution" codes severely restrict outdoor lighting, while the house itself, with its envelope of glass, produces a lanternlike glow at night. To emphasize this desired effect, most exterior lighting is either mounted onto the exterior of the house or immediately adjacent to it. "One of the most subtle but important lighting design elements is the inte-



**SOFFIT GLOW:** "One of the most subtle but important lighting design elements is the integration of soffit downlights around the exterior ceiling plane to create a glow around the perimeter of the glass that surrounds the house," says Lacroux.

▶ CONTINUED ON S18



gration of soffit downlights around the exterior ceiling plane to create a glow around the perimeter of the glass that surrounds the house," says Lacroux. "This allows for the eye to penetrate through the glass to the outside and minimizes the mirror effect from the inside of the house at night."

Lacroux says the Wildcat Ridge private residence stands out as one of the most challenging and different projects his firm has worked on. "Challenging on every level of design, coordination and construction, this house epitomizes the efforts required to integrate all disciplines into one beautiful work of art," he says. "From a lighting standpoint, it is an excellent example of clean, concealed and integrated lighting design techniques meant to complement the shape, scale and finishes of both the interior and exterior of the structure in which it is contained." ■

**Lighting Designer:** Robert Singer & Associates, Inc. [www.robertsingerlighting.com](http://www.robertsingerlighting.com), **Circle 220.**

#### PRODUCTS USED:

- **IRIS** (round aperture downlights), [www.cooperlighting.com/brands/iris](http://www.cooperlighting.com/brands/iris), **Circle 219.**
- **RSA Lighting** (square aperture and multiple downlights), [www.rsalighting.com](http://www.rsalighting.com), **Circle 218.**
- **Lucifer Lighting** (track lighting, wet location downlights), [www.luciferlighting.com](http://www.luciferlighting.com), **Circle 217.**
- **Rambusch** (indirect floodlights), [www.rambusch.com](http://www.rambusch.com), **Circle 216.**
- **Ardee Lighting** (linear indirect/cove/reveal lighting, linear closet lighting), [www.ardeelighting.com](http://www.ardeelighting.com), **Circle 215.**
- **Tokistar** (linear step/shelf/reveal lighting), [www.tokistar.com](http://www.tokistar.com), **Circle 214.**
- **Tech Lighting** (track lighting), [www.techlighting.com](http://www.techlighting.com), **Circle 213.**
- **Juno Lighting** (track lighting), [www.junolighting.com](http://www.junolighting.com), **Circle 212.**
- **Celestial Lighting** (linear fluorescent), [www.celestiallighting.com](http://www.celestiallighting.com), **Circle 211.**
- **Bartco Lighting** (linear fluorescent), [www.bartcolighting.com](http://www.bartcolighting.com), **Circle 210.**

A cove incorporated around the floating ceiling plane in the media room conceals Ardee Lighting stripights, which provide a comfortable and subtle perimeter glow on the walls.





Decorative pendants, centered over each of the two gaming tables, provide both task lighting as well as a general glow to help illuminate the ceiling plane.



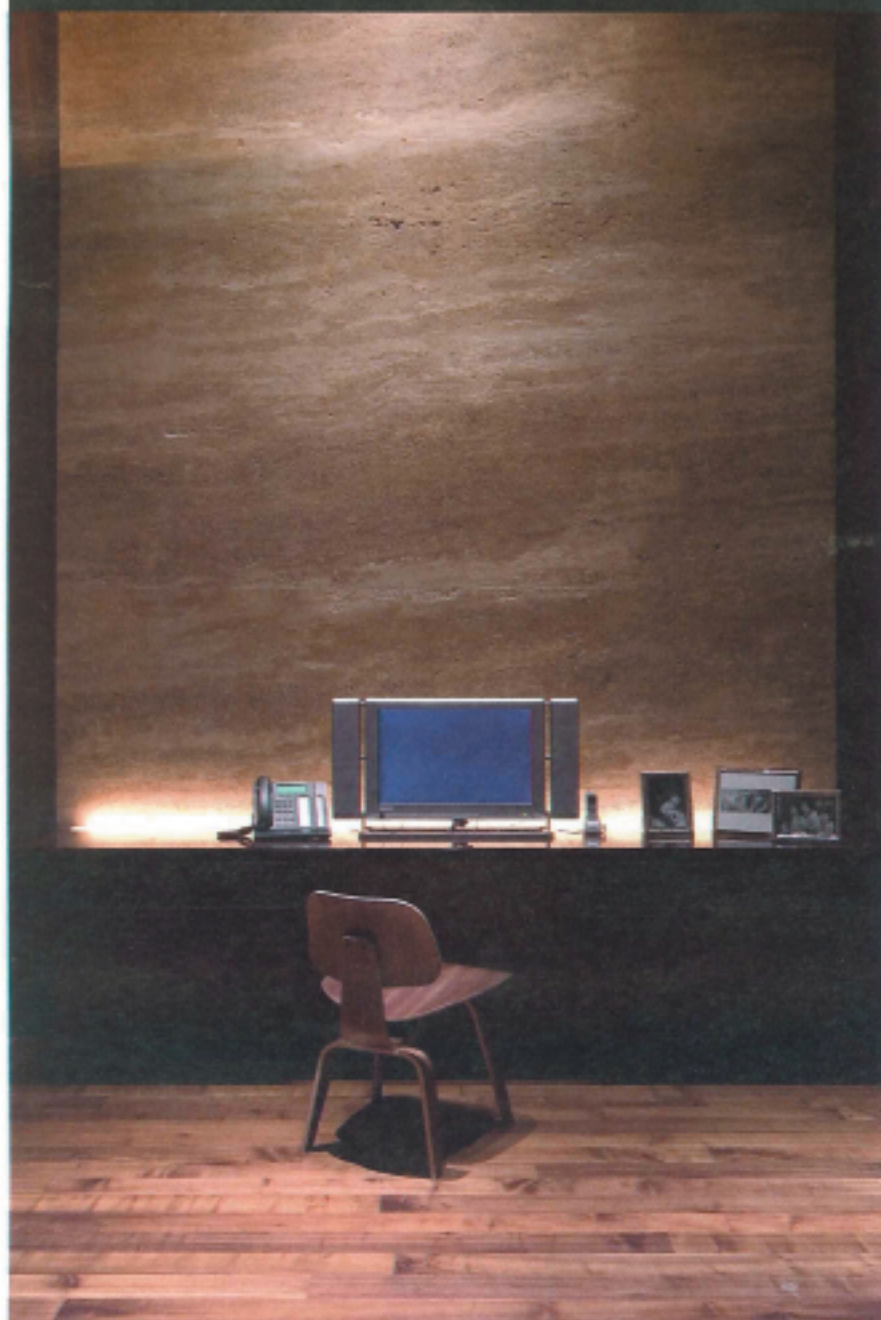


## MORE PRODUCTS USED:

- **Lightolier** (recessed fluorescent), [www.lightolier.com](http://www.lightolier.com), **Circle 209.**
- **Hera** (linear closet lighting), [www.heralighting.com](http://www.heralighting.com), **Circle 208.**
- **CSL** (undercabinet lighting), [www.csllighting.com](http://www.csllighting.com), **Circle 207.**
- **Creative Illumination** (undercabinet lighting), [www.creativeilluminationinc.com](http://www.creativeilluminationinc.com), **Circle 206.**
- **Drama Lighting** (fiber-optic lighting), [www.dramalighting.com](http://www.dramalighting.com), **Circle 205.**
- **GE** (lamps), [www.gelighting.com](http://www.gelighting.com), **Circle 204.**

- **Color Kinetics** (color-changing LED lighting), [www.colorkinetics.com](http://www.colorkinetics.com), **Circle 203.**
- **B-K Lighting** (steplights, recessed in-ground lights), [www.bklighting.com](http://www.bklighting.com), **Circle 202.**
- **Semper Fi** (transformers), [www.semperfipowersupply.com](http://www.semperfipowersupply.com), **Circle 201.**
- **Philips** (lamps), [www.nam.lighting.philips.com/us](http://www.nam.lighting.philips.com/us), **Circle 200.**
- **LiteTouch** (control system), [www.litetouch.com](http://www.litetouch.com), **Circle 199.**
- **Lutron Electronics** (standard switches), [www.lutron.com](http://www.lutron.com), **Circle 198.**

**ACCENTING STONE:** According to Kale Lacroix, LD, IES, vice president of lighting design for Robert Singer & Assoc., the home's lighting designer, good architectural lighting design accentuates and complements architecture by becoming an integrated part of its surroundings without being the focus of attention. One of the home's major elements, a 12-ft.-tall stone wall, is accented from above with downlights and grazed from below by a linear floor uplight detail. "The best architectural lighting design solution is one that does not draw its own praise," he says.



## CONCEALED SOURCES:

From a lighting standpoint, the home is an excellent example of clean, concealed and integrated lighting design techniques meant to complement the shape, scale and finishes of both the interior and exterior of the structure in which it is contained. From shelf lighting to built-in reflectors in the millwork for uplight sources in the dressing rooms to wall-mounted track for art lighting, detailed solutions helped define each individual 'room' without having to compromise the overall view and scheme of the open space.

