IRiS Lighting Systems

Precision Architectural Lighting Products

Innovation you can rely on™

COOPER Lighting

IRiS LIGHTING SYSTEMS

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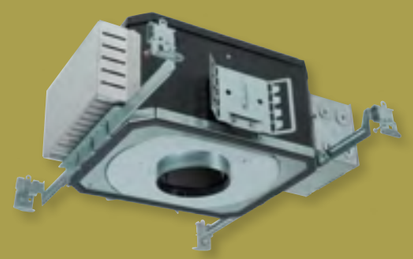

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Lighting: An Essential Element of Life

Fine lighting enhances your environmental experience by drawing the eye to elements of art and architecture, improving your vision when performing tasks, and creating an emotional response that defines the mood of a space.

To accomplish this, your choice of lighting is immensely important. The source of light should enhance and not distract from your surroundings. It should support the design solution with adaptability, placing illumination precisely where it is needed. It should offer design flexibility, integrating choices of color, size and shape to perfectly fit your needs.

IRiS Lighting Systems provide the broadest family of architectural recessed lighting with unmatched optical control, precision installation and adjustability, in a wide selection of color and trim options to fit any application.

IRiS.
Truly The Superior Choice.

Innovative, thoughtfully designed products

IRiS products are definitely not run-of-the-mill and they are not intended for just any space. We offer prestige products that truly showcase architectural details, functional space, artwork, interior design, or whatever feature is important to you or your client. IRiS empowers you to achieve your most daring designs, allowing you to take your space to the next level.

Built by lighting designers for lighting designers

We listen to our customers and develop IRiS products based on the feedback they provide. Using only the finest quality materials, finishes, and electrical and optical components, IRiS products are designed to be adaptable. Housing platforms adapt to nearly all ceiling types and construction practices, and most are offered in both insulated and non-insulated versions.

IRiS is designed to make change more manageable. A broad range of reflector styles, lamp sources and finish options can be specified and modified at any time during the construction process – or even years later.

Unsurpassed optical, electrical and mechanical performance

IRiS is driven by the belief that technical excellence should be balanced with aesthetic needs to achieve the perfect combination of performance and visual comfort. We pioneered equal lamp and lamp image cutoff to produce the most visually comfortable downlighting available.

We developed translating center beam optics, in which the lamp beam aligns with the center of the aperture, regardless of aiming angle, to maximize light output and eliminate glare. IRiS uses only the finest control gear. Our highly efficient, ultra-reliable toroidal, magnetic step-down transformer boasts the industry's lowest noise emission. Electronic gear is used for both low-pressure and high-pressure gas discharge lamps, and most control interfaces are supported, including phase cut, 0-10V and digital control.

IRiS Lighting Systems has received numerous industry recognitions, including the Illumination Engineering Society of North America Progress Report for "advancement in the art and science of illumination."

IRiS continues to invest in new developments, including the latest LED technologies.

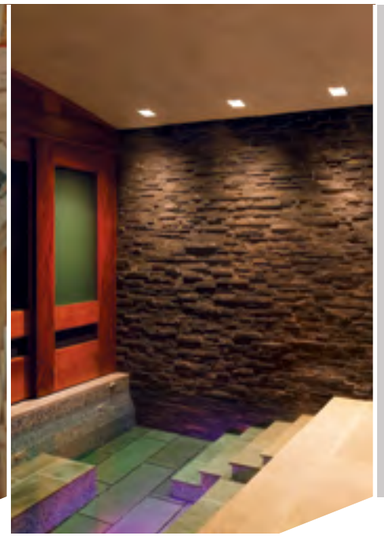
Incredible Ease of Installation

High-end residential and prestige commercial ceiling construction is complex. IRiS housing platforms are contractor-friendly and install quickly, allowing adjustments from above or below the ceiling. IRiS offers both new construction and renovation platforms, making it possible to retrofit existing spaces or install into new spaces with ease.

Whether a single IRiS accent fixture is installed in a new project to keep up with a homeowner's growing artwork collection, or hundreds are installed in the old wing of a major remodel, common optical elements create a visually seamless installation, blending the fixtures together and allowing the architecture or other features to be the primary focus.

P3MR 3-inch, IC low-voltage housing platforms adjust and lock into position on rigid bar hangers, allowing accurate alignment in this bold residential space.

PN3MR 3-inch, NON-IC low-voltage housing platforms install easily into the tight framing that defines the barrel vault of this complex gable.



4-inch, square low-voltage accent housing platforms integrate within the subtle barrel vault and provide wall-grazing richness to bring out the stone's texture in this inviting spa.

Seamless Ceiling Integration

IRiS offers a unique progression of aperture sizes and shapes, allowing you to relate the fixture to architectural factors, such as ceiling height, square footage and visual cut-off. We have many flange options, including self-flanged and die-cast metal trim rings which can be removed and faux-finished to match any décor.

For a quiet ceiling appearance, optional flush mount or rimless adapters are available. Our vast array of reflector styles and trim finishes let you choose between creating a visual statement or a tight, clean look.

P406TAT 4-inch, square housing platforms adjust and lock into position on rigid bar hangers which clip directly to T-grid ceiling.

The translating collar of the P406TAT 4-inch, square housing allows vertical and rotational adjustment necessary to ensure the square apertures are perfectly aligned.

4-inch, square ceramic metal halide downlights illuminate this portico, connecting lecture halls of a major university.

Lighting for Work. Lighting for Play. Lighting for Life.

From a boardroom, to a luxury hotel suite, to a private home, lighting plays an important role in life. The quality of the light in your space impacts how you adapt, feel and function.

Design professionals face many challenges. Space limitations, systems integration, project timelines, budgets, and emerging energy and construction codes all serve to define the lighting design and how it is integrated into the project. IRiS has been used in design applications longer than any other premier recessed lighting solution in some of the world's most prestigious and architecturally demanding spaces.

Adaptability is part of our heritage. Our systems are designed to fit into tight spaces, integrate seamlessly with dimming and control systems, and meet the most demanding performance expectations.

Inspiration Goes Both Ways

Working closely with lighting and architectural designers, IRiS product designers are able to provide the best in architectural, high-performance recessed downlights and directional fixture solutions.

Regardless of the scope of a project, from a simple kitchen remodel, to an elaborate estate, to a mixed-use commercial space, IRiS recommends collaboration with a design professional.

At the same time, IRiS design and marketing experts provide in-depth training for these same professionals.

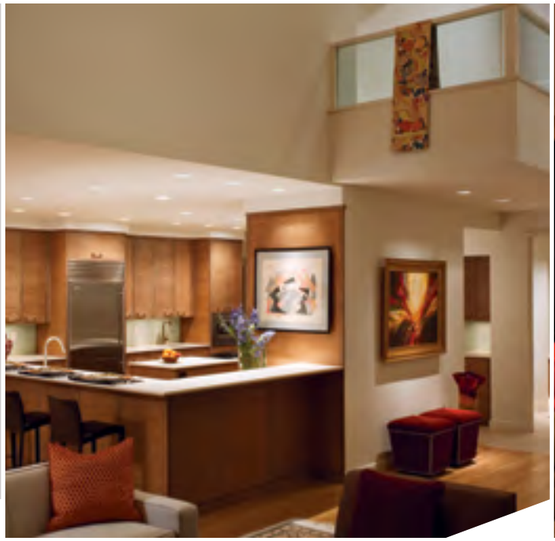
On the following pages, you will find exciting examples of how this collaborative philosophy has resulted in products that can add controlled beauty to your commercial and residential designs.

Designed to Perform

With IRiS, you get a complete vocabulary of recessed luminaires for architecturally distinctive residential and commercial properties.

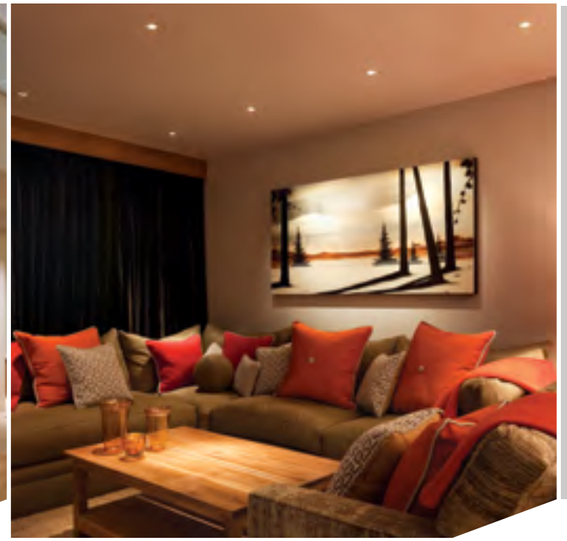
These carefully designed lighting instruments provide a clean form that integrates seamlessly with contemporary architecture without sacrificing lighting performance.

Throughout this catalog, you will find detailed information about the extraordinary IRiS product line, including a full range of aperture sizes and shapes, lamping options, and optical distributions for ambient, accent, wall wash and specialty applications.



General (Ambient) Lighting

IRiS offers a broad array of recessed downlighting products with varying aperture sizes and light sources to subtly blend with the architecture. They inconspicuously provide comfortable, glare-free general illumination, and create the perfect foundation upon which to build your lighting tapestry.

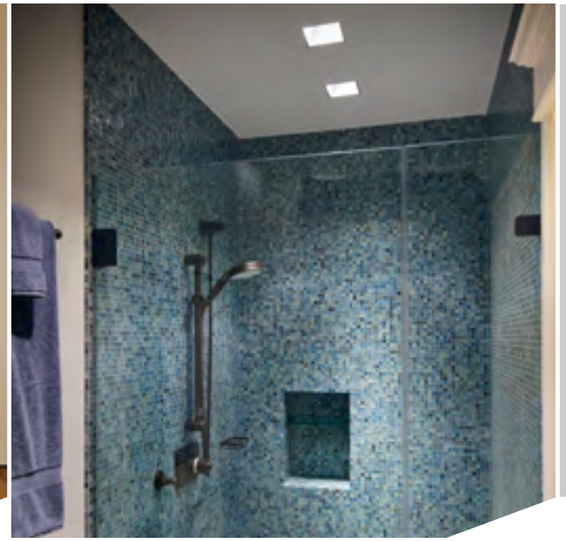


Directional (Accent) Lighting

Providing contrast in a lighting scheme can provide interest and drama. Adjustable accent lighting is one approach to achieving this effect. IRiS directional luminaires precisely define features such as paintings, furnishings, and interior architectural elements, while letting less important areas fade into the background. IRiS beam-modifying lens, filters and louvers add additional control and bring the passion and details of a room to life.

Wall Wash Lighting

Wall washing defines a space, while effectively emphasizing color, texture and other surface properties. Wall wash distribution lights asymmetrically provides even, vertical illumination across the wall, making the space seem larger and more open.



Shower / Wet Location Lighting

Safety and code requirements for showers, bathrooms, and other spaces requiring containment, present special challenges for lighting. IRiS provides general, accent and wall wash solutions which combine mood and sparkle with proven lighting effectiveness.

Upstairs Landing

"This landing acts as a hub between the social areas in the house. We needed light sources that wouldn't conflict with the architectural style – that we would use to add dramatic accents on the revolving art pieces and on key architectural elements." – Paul Hixson

P3MR-FMC3-E3PIN with 50W, 9º, 15º and 25º MR16 lamps

Lighting Design: Paul Hixson, LC, IALD, HELIUS Lighting Group
Photo: Paul Bardagjy Photography

Exterior

"Diffuse focus, small aperture downlights and accent lights softly illuminate vertical and horizontal surfaces, highlighting contrasting rough and smooth textures. We wanted to create a warm and inviting exterior space, such as floating the balcony deck with under-deck accents and decorative fixtures." – Robert Singer

P3MR-E3AAB, E3MRB with 50W EXT, EXN

Lighting Design: Robert Singer, IALD, IES, Robert Singer & Associates
Architect: Charles Cunniffe, AIA, Charles Cunniffe Architects

Kitchen

Faux finish trim rings and black apertures provide a low brightness solution to this kitchen with clean lines and warm tones. The sources brilliantly light the natural movement in the burled wood panels and granite countertops below.

P3MR-E3MR and P3MR-E3AA with 37W, 25° MR16 IR lamps

Lighting Design: Tom Dearborn, Dearborn Lighting Design
Architect: Stewart Woodward, AIA, The Woodward Group
Photo: Tom Dearborn

Living Room

Textured stone walls are brought out boldly using IRiS lensed wall washers tucked close to the surface, while furniture groups and artwork become focal points using matching aperture adjustable accent lights to highlight them.

P3MR-E3LWW with 50W, 40° MR16 IR lamps and
P3MR-E3AA with 37W, 25° MR16 IR lamps

Lighting Design: Tom Dearborn, Dearborn Lighting Design
Architect: Mark Scheurer
Photo: Tom Dearborn

Entry

"The idea was that the barrel vault penetrate the exterior to interior with a seamless glow. We were able to put light where we wanted without the sources being seen and with no ceiling hot spots." – Robert Singer

P3MR-E3AA and P3MR-E3MR with 50W, 15º and 40º lamps

Lighting Design: Robert Singer, IALD, IES, Robert Singer & Associates
Photo: Michael Hefferon

Entry

An IRiS low voltage downlight over the main entrance of this home features a Cognac Haze reflector finish to match the exterior color palette, while interior art is seamlessly illuminated with lensed wall washers. The main entrance of the home features a series of striking and radiant arches. To beautifully illuminate the prime exterior arch, buried MR16 uplights were used. The first arch leads to the arched front door, lit by an MR16 downlight. Looking deeper, the art is seamlessly illuminated with lensed wall washers.

P3MR-E3MR and P3MR-E3LWW with 50W, 25º MR16 lamps

Lighting Design: Erin Erdman, eSquared Lighting Design
Photo: Brian Pink

Living Room

"We wanted to throw light on surfaces worthy of accent to draw the eye from focal surface to focal surface in an effort to reveal the entry of the home. The IRiS 3" flush pinhole fixtures offer great flexibility while maintaining an excellent level of minimal visual distraction compared to competing products." – Paul Hixson

P3MR-E3PIN with 50W, 9º, 15º and 25º MR16 lamps

Lighting Design: Paul Hixon, LC, IALD, HELIUS Lighting Group
Photo: Paul Bardagjy Photography

Vestibule

"The vestibule was intended to be dramatic. As you enter the space, you are welcomed with a dominant focal wall of art illuminated with an IRiS 4" square fixture installed with a trimless reflector." – Paul Hixson

P4MRICAT-E4AA with 50W, 15º MR16 lamps

Lighting Design: Paul Hixson, LC, IALD, HELIUS Lighting Group
Photo: Paul Bardagjy Photography

Kitchen

"The luminaires deliver a directed high-contrast punch, with up to a 25' throw on the counter surfaces from a recessed source in the vaulted ceiling. Because of the wood ceiling, we wanted a reflector color that would merge with the color of the ceiling and a self-flange option so that the trim kept a clean aesthetic throughout the space." – Paul Hixson

P5-M5P30/E5AAKHSF with 75W PAR30 35° lamps, and P3MR/E3AAKHSF with 50W MR16 EXT lamps

Lighting Design: Paul Hixson, LC, IALD, HELIUS Lighting Group
Photo: Paul Bardagjy Photography

Artwork Niche

The IRiS recessed adjustable fixtures, which feature a hex cell louver for glare control, were selected for the lockable aiming to prevent incorrect aiming during relamping. The slot aperture significantly reduced spill light allowing the glass sculpture to glow brilliantly for maximum effect.

PN3MR-E3SLOT with 50W, 15° MR16 lamps

Lighting Design: Christopher M. Thompson, IES and James L. Sultan, LC, IES, Studio Lux
Photo: Michael Walmsley Photography

Bathroom

"Playing off their favorite spa, the client wanted an intimate space while keeping all surfaces clean and modern. These lighting solutions made that possible."
– Paul Hixson

P3MR-E3PIN WITH 50W, 15° AND 25° MR16 LAMPS

Lighting Design: Paul Hixson, LC, IALD. HELIUS Lighting Group
Photo: Paul Bardagjy Photography

Spa Shower

"The client wanted the ultimate clean shower that resembled their favorite spa. So we washed the tile wall with shower adjustable fixtures and added a level of accent in the tile wall with low-mount mini LED indicator lights."
– Paul Hixson

P3MR-E3AASRPIN with 50W, 40°, MR16 lamps

Lighting Design: Paul Hixson, LC, IALD, HELIUS Lighting Group
Photo: Paul Bardagjy Photography

Spa Shower

A stunning shower deserves the crisp light of these IRiS fixtures, bringing out all of the colors in the tile, without glare to impede the view of the window.

P3MR-E3AASR with MR16 lamps

Lighting Design: Robert Singer, IALD, IES,
Robert Singer & Associates
Architect: Mountain Concepts
Photo: Paul Bardagjy Photography

Spa

Dramatic wall grazing using Iris 4-inch square MR16 downlights provides reflected illumination, which creates a warm and inviting atmosphere, in this private spa.

P406AT-E4MR with MR16 lamps

Lighting Design: Julian Johnson, Electric Associates Design
Architect: Aleck Wilson Architects
Photo: Paul Bardagjy Photography

Sitting Area

This museum-like environment was created by placing light exactly where needed, while leaving the surroundings dark for maximum contrast. The artwork is illuminated like a performer on center stage.

P3MR-E3PIN with MR16 Lamps

Lighting Design: Tom Dearborn, Dearborn Lighting Design
Architect: Stewart Woodard, AIA, The Woodard Group
Interior Design: Shawn Taddy

Madonna della Strada – Church Nave
Chicago, IL

"We selected IRiS low-voltage adjustable fixtures to illuminate the baptismal font in the Nave and IRiS wall washers with halogen A-lamps to illuminate the walls flanking the entry in the Madonna della Strada chapel. The fixtures were chosen mainly due to their quiet visual appearance. We also liked their quiet low-voltage transformers and their low fixture sound transmission, both of which were critical for this application. We also liked the flexibility provided by the interchangeable optics and the availability of the same color trim finish for the two companion fixtures allowing for a consistent appearance." – Giulio Pedota

PN3MR-E3LWW and PN3MR-E3AA with 71W, 25º MR16 lamps and PN5-M120-E5A19WW and PN5-M120-E5A19 with A19 lamps

Lighting Design: Giulio Pedota, IALD, LC, LEED AP, Schuler Shook
Photo: Mark Ballogg

Hotel – Hallway
San Francisco, CA

IRiS Squares lead the hotel guest down a corridor of light, illuminating the surfaces softly and providing accent light on artwork and key elements. A once narrow and uninviting space has been transformed into a pleasant environment.

P406TAT-MH4CFL42E-E4DLMW

Architect: Raquel Bito, Project Lead Designer; Brian Capelli, Project Manager, Patri Merker Architects
Photo: © 2011 Douglas A. Salin

The Forge – Dining Room
Miami, FL

"The original stained glass panels were to remain the architectural features in the remodel of The Forge restaurant, the second oldest restaurant in Miami, Florida. In keeping with the owner's desire to brighten the space, we decided to accent each table with a single spot light in this high ceiling application. Due to the design of the IRiS adjustment mechanism, the fixture allows for full light output no matter what angle the lamp is tilted and the Black oculus prevents glare at the source." – Katharyn Chick

RPN3MR-E3PIN with 37W, 10º MR16 lamps

Lighting Design: Katharyn Chick, Innovative Illumination Design
Interior Design: FFD, Inc. - FFD Product Inc. - TAI Architecture & Design
Photo: Mike Butler Photography

Corporate Office – Lobby
Houston, TX

The IRiS 4" square fixtures fit perfectly into the rectilinear environment that was expressed in the panelized walls and ceiling and the grid texture of the carpet and window diffusion.

P406TAT-MH4CFL42E-E4DL and P406TAT-MV4CMH20MRE-E4MR

Lighting Design: Charter Sills
Architect: Ziegler Cooper Architects
Photo: Paul Bardagjy Photography

Corporate Office – Staircase and Lobby
Houston, TX

"The client wanted a warm, intimate atmosphere. We achieved this through large-aperture incandescent downlights for general illumination and pinhole adjustable accent lights to focus light on the table and flowers." – Michael Smith

P7-M120-E7P38 with 83W PAR38 HIR lamps

Lighting Design: Michael John Smith, FAIA, LC, IES, IALD
Francisco Z. Rodriguez, IES, MJS Lighting Consultants
Photo: ©Joe C. Aker, Aker Imaging

Corporate Office – Lobby
Houston, TX

IRiS square aperture fixtures illuminate this corporate lobby using trims which match the hardware finishes. Lens wall washers are used to accent the wooden wall panels in the conference room in the background.

P406TAT-MH4CFL42E-E4DL and P406TAT-MV4CMH20MRE-E4MR

Lighting Design: Charter Sills
Architect: Ziegler Cooper Architects
Photo: Paul Bardagjy Photography

Corporate Office – Work Area
Houston, TX

"To achieve a warm and welcoming luminous environment with higher light levels for secretarial tasks, we illuminated walls with large aperture lensed wall washers to open the space and reveal the art. Pinhole aperture adjustable accent lights provide superior task lighting for the work surfaces." – Michael Smith

P7-M120-E7LWW with 83W, PAR38 HIR lamps

Lighting Design: Michael John Smith, FAIA, LC, IES, IALD
Francisco Z. Rodriguez, IES, MJS Lighting Consultants
Photo: ©Joe C. Aker, Aker Imaging

Julian Serrano – Restaurant
Las Vegas, NV

Small aperture IRiS fixtures with Chocolate trims integrate flawlessly into the metal pan ceiling system and virtually disappear, making it easy for the designer to place fixtures in random locations without visual clutter at this Julian Serrano restaurant in Las Vegas.

P3MR-E3AA WITH 37W IR MR16 LAMPS

Lighting Design: Fisher Marantz Stone
Photo: Courtesy of CityCenter Land, LLC

Aria Resort & Casino – Gaming Room
Las Vegas, NV

"We needed to leave the client with a lighting system that was easily maintained and that could stand the test of time. Each fixture in gaming area of the Aria Resort & Casino is easy to focus and lock tight, so relamping doesn't require refocusing."
– Kelly Stechschulte

PN3MR-E3SLOT and RPN3MR-E3SLOT with MR16 lamps

Lighting Design: Kelly Stechschulte, Executive Lighting Designer, Illuminating Concepts
Photo: Courtesy of CityCenter Land, LLC

Jean Philippe Pattiserie – Restaurant
Las Vegas, NV

The use of differing apertures in curvilinear rows reminds the visitor of bubbles floating through the air, adding another layer of playfulness to the interior design of the Jean Philippe Patisserie.

PN3MR-E3MR and PN3MR-E3AA with 50W, MR16 IR lamps

Lighting Design: Fisher Marantz Stone
Photo: Courtesy of CityCenter Land, LLC

Round Aperture Platforms

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Bedroom

Lighting Design: Bill Cross, Cross Design Group
Photo: Sky Lake Studios

Grand Design

For traditional or contemporary design, IRiS offers round aperture housing platforms that will seamlessly integrate with residential or commercial architecture without sacrificing lighting performance.

Our round aperture products accept line or low-voltage tungsten-halogen, compact fluorescent and LED lamps and their modular design allows them to be reconfigured and relamped from above or below the ceiling during or after the construction process.

IRiS offers the widest selection of optical elements for each aperture size 3-inch, 5-inch and 7-inch and the ability to change from downlights, to adjustables, to wall washers or to shower elements after the ceiling is installed.

Rounds

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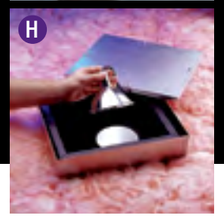
Product Matrix

Use the rounds product matrix to quickly locate detailed product information based on desired aperture, lamp type and optical distribution.

	DOWNLIGHT						DIRECTIONAL / ACCENT				
	LED	CFL	A LAMP	R/PAR	QT4	MR16	LED	MR16	SUPER ADJ.	PAR 36/ AR111	PAR
Page	54	54	54	54		54	55	55,56	56		55,56
3" PLATFORMS	LED		A19	R20 PAR 20 PAR16		MR16	LED	MR16	MR16		R20 PAR 20 PAR16
Page		65	65	65	65	65		66		66	66
5" PLATFORMS		TTT CFL	A19	PAR30	QT4	MR16		MR16		PAR36 AR111	PAR30
Page		70	75	75	75					76	76
7" PLATFORMS		TTT CF	A21	PAR38	QT4					PAR36 AR111	PAR38 PAR38/3

	WALL WASH					SHOWER/LENSED		
	LED	CFL	A LAMP	LENSED	QT4	DROPPED	REGRESSED	ADJUSTABLE
Page	57			57		57	57	57
3" PLATFORMS	LED			MR16 PAR16 PAR20		A19	LED MR16 PAR20	LED MR16 PAR20
Page		67	67	67	67	68	68	68
5" PLATFORMS		TTT CFL	A19	PAR30	QT4	A19 TTT CFL	A19 QT4 TTT CFL	
Page		77,78	77,78	77,78	77,78	79	79	79
7" PLATFORMS		TTT CF	A21	PAR38 PAR30/3	QT4	A21 TTT CFL	A21 QT4 TTT CFL	

Housing / Platform Features



A. Suitable for direct contact with insulation and framing. Insulation must be kept 3-inch away from NON-IC framing.

B. Housing interiors painted optically flat Black to reduce stray light.

C. Integral thermal protector prevents overlamping of fixture.

D. 1/2" plaster lip with centerline notches align quickly with laser lines or strings. Field-installed plaster lip extenders for ceilings up to 2" thick.

E. Captive pre-installed bar hangers adjust from 8-1/2" to 24" wide; pass thru feature allows shortening without removal. Captive nail penetrates standard and engineered lumber. Mounting flange levels platform with ceiling. Integral clip attaches directly to tee-bar.

F. All new construction platforms are airtight to prevent dust marks on ceilings, room drafts and energy loss.

G. Platforms are shipped with overspray protector installed in aperture. Set screw locks hangers to avoid inadvertent repositioning.

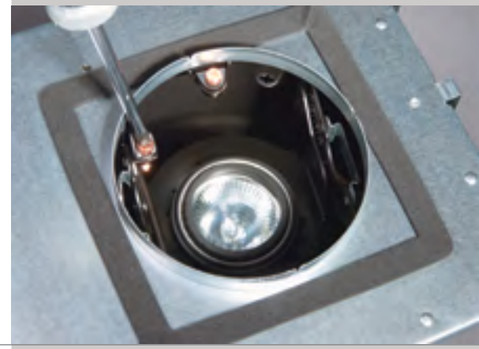
H. Top lamp access allows attic relamping and maintenance in high ceilings.

Additional Information

- IC Fixtures meet Title XXIV, Washington state and CABO Model Energy Code requirements.
- All fixtures are UL listed for damp location and below-ceiling accessibility to components for worry-free installation. All shower elements are wet-location listed.
- Each platform accepts all optical elements to allow fixtures to change from a downlight to an accent or a wall washer, if desired.
- 5" and 7" platforms accept all lamp modules, allowing lamp source to change from incandescent to, low-voltage halogen, to fluorescent, as needed.
- Platforms are sized to fit standard joist spacing and heights.

Adjustment Mechanism For P3MR, PN3MR and P3LED Allows Hot Aiming

- Allows rapid and accurate lamp aiming from below the aperture without blocking the beam.
- Allows the use of a screw driver to change rotation and tilt.
- Die-formed rotation disc allows smooth 361° rotation.
- Precision drive screw allows accurate 0° to 45° tilt and maintains any adjustment angle during re-lamping.
- Mechanism can be removed through the aperture for P3MR and PN3MR allowing field replacement and easy access to junction box and transformer.



Truvolt™ Premium Grade Toroidal Transformer

- A premium grade magnetic step down transformer converts input voltage to 12 volts nominal to drive low voltage lamps.
- Used on all low voltage lamp modules and housing platforms including remodeler.
- Ultra reliable, especially when used in recessed fixtures buried in insulation.
- 5 year transformer warranty.

Lamp Modules Consist of:

- Socket and quick-connect plug.
- Ballast or transformer (when required).
- Adjustable accent snap-in bracket (when required).

Magnetic Low-Voltage Halogen

- Toroidal Transformer to maximize output.
- Sockets are easily replaced in the field without tools.
- All lamp modules have a keyed quick-connect plug for tool-less installation, even after drywall is installed.

Compact Fluorescent

- 4-pin electronic ballast prevents flash, flicker and humming.
- Ballast meets FCC title 47 CFR part 18 for consumer equipment.
- Dimmable version available.

Incandescent

- Nickel-plated porcelain socket prevents lamp freeze.

Line-Voltage Halogen QT4

- Porcelain minicandelabra screw base socket for cool operation.

Magnetic low Voltage Halogen

Compact Fluorescent

Incandescent

Line Voltage Halogen QT4

Element Features

A. **50° maximum cutoff** to lamp and lamp image for glare-free lighting.

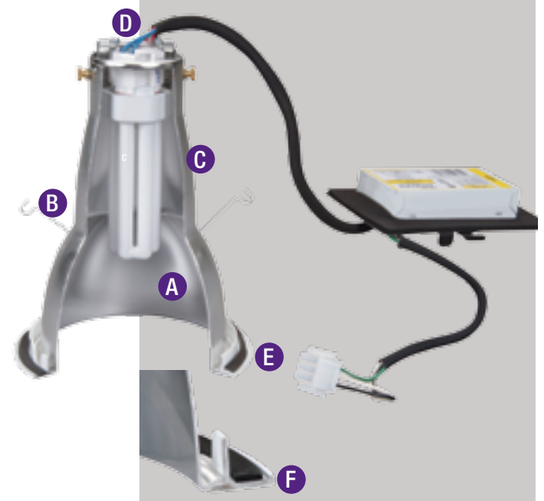
B. **Torsion springs** prevent sag, install without tools, and self-adjust elements for ceilings up to 2" thick. For thicker ceilings please consult our tech hotline.

C. **Full-cone optics** eliminate light leaks and views into the platform on general and wall wash elements.

D. **Fixed socket** attachment ensures optimal lamp position for consistent performance.

E. **Die-cast flange ring** can be removed for field painting. Paint should be rated for at least 90°C. Return lip accommodates ceiling imperfections. Ring is keyed to ensure proper installation of all elements.

F. **Coined reflector detail** creates a mechanical light trap, preventing light from hitting inside edge or leaking out behind flange ring.

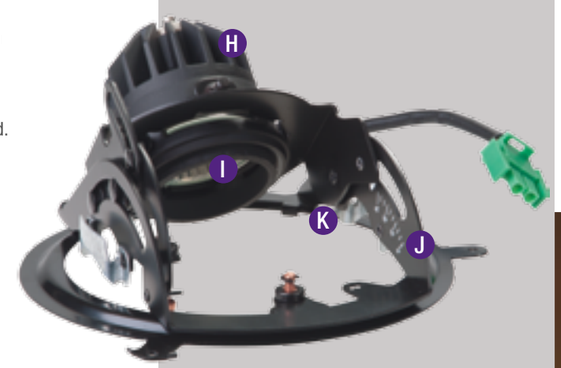


H. **Diecast lamp capsule** Lowers seal temperatures, extending lamp life.

I. **Soft-focus lens** Soft-focus lens is shipped standard with MR16 fixtures for smoother beam patterns. Pinhole elements also ship with a clear lens for use with spot lamps. Low-voltage sources accept one or two lens/louver media or snoot for dramatic effects.

J. **Adjustable brackets** lock into position and eliminate re-aiming when lamps are replaced.

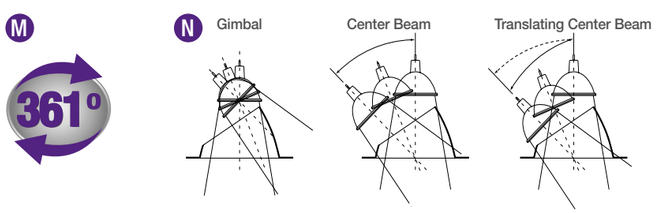
K. **Aiming marks and hot-aiming guides** mean easy and consistent adjustment.



L. **Slot-cut cones** for MR16 lamps minimize views into the platform.

M. **All elements rotate 361°** for real-world flexibility.

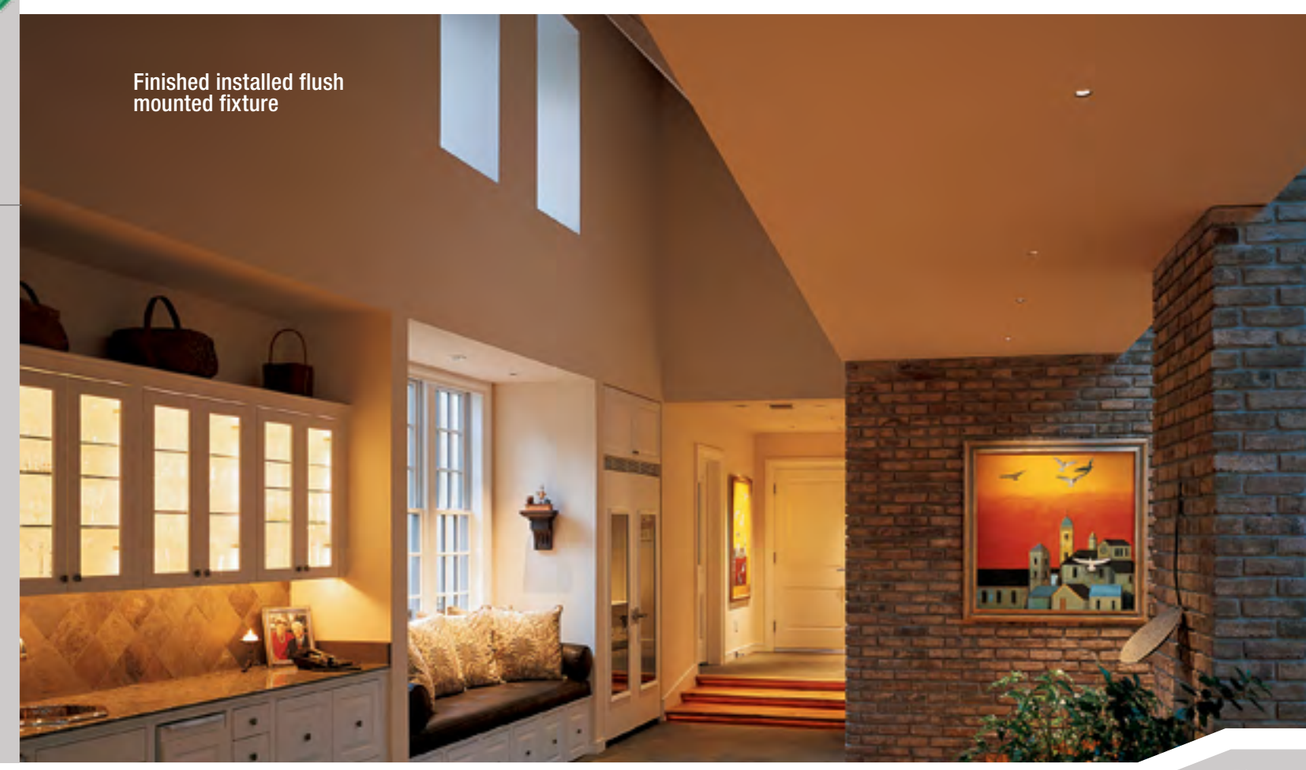
N. **Translating center beam optics** ensure glare-free performance and maximum light output at all adjustment angles.



A complete palette of sources and optical elements for each aperture ensures useful lumen output for various ceiling heights while maintaining aesthetic consistency throughout a project.

Quiet Ceiling™ Appearance

An adjustable mudding ring attaches to 3" and 5" new work platforms allowing the optical element to sit flush with the finished ceiling providing a seamless appearance.



Rounds

Selecting Optical Elements: Optical Element Colors / Flanges

IRiS offers many finish choices giving you the ability to match any color scheme imagined. The use of finish multipliers to adjust our published photometrics allows for accurate prediction of the installed performance of our fixtures.

Reflector Colors*

FINISH		MULTIPLIERS		DESCRIPTION
Clear (C)		Directional lamps 1.0	Non-Directional lamps 1.0	A clear specular Alzak finish which delivers full light output.
Clear Haze (H)		Directional lamps .99	Non-Directional lamps .96	A clear semi-specular Alzak finish to provide visual identity.
Gold (G)		Directional lamps 1.0	Non-Directional lamps .99	A champagne Gold specular Alzak finish which provides visual warmth.
Warm Haze (WMH)		Directional lamps .98	Non-Directional lamps .90	A semi-specular Alzak to provide visual identity, with a hint of Gold to add warmth.
Wheat (WH)		Directional lamps .99	Non-Directional lamps .95	A deep Gold specular Alzak finish which adds significant visual warmth.
Wheat Haze (WHH)		Directional lamps .99	Non-Directional lamps .88	A clear deep Gold semi-specular Alzak finish which adds significant visual warmth.
Cognac (K)		Directional lamps .95	Non-Directional lamps .58	A warm Copper color in specular Alzak finish. A good choice for wood ceilings or anywhere that a rich look is desired.
Cognac Haze (KH)		Directional lamps .95	Non-Directional lamps .44	Same as Cognac but with a semi-specular Alzak finish.
Chocolate (CC)		Directional lamps .94	Non-Directional lamps .38	A warm deeply dark color similar to architectural Bronze in a specular Alzak finish.
Chocolate Haze (CCH)		Directional lamps .93	Non-Directional lamps .31	Same as Chocolate but with a semi-specular Alzak finish.
Graphite (GP)		Directional lamps .95	Non-Directional lamps .46	A gun metal Gray in a specular Alzak finish If you like Black Alzak, but not the way that dust shows on it; then you'll appreciate Graphite.
Graphite Haze (GPH)		Directional lamps .94	Non-Directional lamps .44	Same as Graphite but with a semi-specular Alzak finish.
Black (B)		Directional lamps .93	Non-Directional lamps .24	A specular Alzak finish providing maximum aperture darkness.

*See back cover insert for color swatches.

Painted Finishes*

FINISH		DESCRIPTION
Black Baffle (BB)		Traditional ridged Black baffle cone. Not available with self-flange.
White Baffle (WB)		Traditional ridged White baffle cone. Not available with self-flange.
Gloss White (W)		Painted White finish for a neutral daytime ceiling look.
Matte Black (MB)		Painted diffuse Black finish for maximum aperture darkness.
Matte White (MW)		Painted diffuse White finish for a neutral daytime ceiling look.

All IRiS optical elements can be ordered with the flanges below, except baffles, which are available with Standard and Raw flanges only.
*See back cover insert for color swatches.

Flanges

FINISH		DESCRIPTION
Standard Flange (Blank)		Matte White painted die-cast ring, removable for field painting.
Raw Flange (RAW)		Raw die-cast ring, removable for field painting.
Self-flange (SF)		Alzak reflector finish continues outward to form flange and maintains color onto ceiling.
Self-flange Painted White (SFWF)		Same as SF with flange painted Matte White.

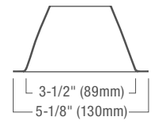
Note On Photometric Performance: Since a reflector has a greater effect on non-directional lamps like the A-lamp as compared to a directional lamp like the PAR30, Iris has tested all of our finishes with both lamp types for better accuracy. These finish multipliers are listed with each finish and should be used to modify the published photometrics for our Clear or Low Iridescent Alzak® reflectors to another finish.

Rounds
Optical Elements: Downlight

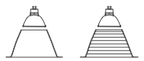
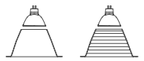
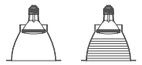
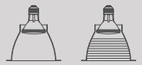
3"

3" Optical Elements

IRiS optical elements are designed to be glare-free and visibly similar across all optical distributions for a consistent look throughout. IRiS offers the widest selection of optical elements for each aperture size and the ability to change from downlights, to adjustables, to wall washers or to shower elements after the ceiling is installed. The reflector Aperture is 3-1/2", except for the 1-1/4" and 2" pinholes. O.D. of the flange is 5-1/8"; except for the Luna, which is 5-1/2" and self-flanges which are 4-7/8". Self-flange elements are not recommended for use with RPN3MR.



Downlight

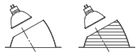
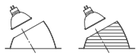
ELEMENT		PLATFORM	MAX LAMP	
3 1/2-Inch Round Aperture 50º Cutoff Reflector E3MR **3 1/2-Inch Round Aperture 50º Cutoff Baffle** E3MRBB E3MRWB		P3LED	900 Lumens (Nominal)	
		P3MR P3MR Remote	50MR16 75MR16	
		PN3MR PN3MR Remote	75MR16 75MR16	
		RPN3MR	50MR16	
1 1/4-Inch Round Aperture Downlight Pinhole E3DNPIN		P3MR P3MR Remote	50MR16 50MR16	
		PN3MR PN3MR Remote	75MR16 75MR16	
		RPN3MR	50MR16	
3 1/2-Inch Round Aperture 50º Cutoff Reflector E3A19		P3120	60A19, 43A17, 60BT15	
		PN3120	100A19, 72A17, 100BT15	
3 1/2-Inch Round Aperture 50º Cutoff Reflector E3P20 **3 1/2-Inch Round Aperture 50º Cutoff Baffle** E3P20BB E3P20WB		P3120	50PAR20, 60PAR16, 50R20	
		PN3120	50PAR20, 75PAR16, 50R20	

Notes: A clear lens is shipped with all low voltage housing platforms which can replace the soft focus lens provided to allow maximum output.

Rounds
Optical Elements: Directional / Accent

3"

Directional / Accent

ELEMENT		PLATFORM	MAX LAMP	
3 1/2-Inch Round Aperture Angle-Cut Reflector E3AA **3 1/2-Inch Round Aperture Angle-Cut Baffle** E3AABB E3AAWB		P3LED	900 Lumens (Nominal) (Not available in WB or BB)	
		P3MR P3MR REMOTE	50MR16 75MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		RPN3MR	50MR16	
		P3120	50PAR20, 60PAR16, 50R20	
		PN3120	50PAR20, 75PAR16, 50R20	
3 1/2-Inch Round Aperture Shallow Angle-Cut Reflector Note: AA20 recommended for ceilings over 7/8" thick E3AA20		P3LED	900 Lumens (Nominal)	
		P3MR P3MR REMOTE	50MR16 75MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		RPN3MR	50MR16	
		P3120	50PAR20, 60PAR16, 50R20	
		PN3120	50PAR20, 75PAR16, 50R20	
3 1/2-Inch Round Aperture Angle-Cut Baffle E3P20AABB E3P20AAWB		P3120	50PAR20, 60PAR16, 50R20	
		PN3120	50PAR20, 75PAR16, 50R20	
3 1/2-Inch Round Aperture Slot Cut Reflector E3SLOT		P3LED	900 Lumens (Nominal)	
		P3MR P3MR REMOTE	50MR16 75MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		RPN3MR	50MR16	

Rounds
Optical Elements: Directional / Accent

3"

Directional / Accent

ELEMENT		PLATFORM	MAX LAMP	
1 1/4-Inch Round Aperture Adjustable Pinhole E3PIN		P3MR P3MR REMOTE	50MR16 50MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		RPN3MR	50MR16	
1 3/4-Inch Round Aperture Adjustable Pinhole E3PINLARGE		P3MR P3MR REMOTE	50MR16 75MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
1 3/4-Inch Round Aperture Adjustable Pinhole with Radius Edges E3PINRD		RPN3MR	50MR16	
		P3120	50PAR20	
		PN3120	75PAR16	
2-Inch Oval Aperture E3OVAL		P3MR P3MR REMOTE	50MR16 50MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		RPN3MR	50MR16	
3 1/2-Inch Round Aperture Super Adjustable 15º-75º Tilt Includes Hex cell Louver E3SA		P3MR P3MR REMOTE	50MR16 50MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		RPN3MRSA	50MR16	

Notes: A clear lens is shipped with all low voltage housing platforms which can replace the soft focus lens provided to allow maximum output.

Rounds
Optical Elements: Lens Wall Wash, Lens / Shower Rated

3"

Lens Wall Wash

ELEMENT		PLATFORM	MAX LAMP	WET LOCATION
3 1/2-Inch Round Aperture Lensed Wall Wash E3LWW		P3LED	900 Lumens (Nominal)	
		P3MR P3MR REMOTE	50MR16 50MR16	
		P3120	35PAR20, 45PAR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		PN3120	50PAR20, 75PAR16	
		RPN3MR	50MR16	

Lens / Shower Rated

ELEMENT		PLATFORM	MAX LAMP	WET LOCATION
3 1/2-Inch Round Aperture Lens Angle-Cut Reflector E3AASR		P3LED	900 Lumens (Nominal)	
		P3MR P3MR REMOTE	50MR16 50MR16	
		P3120	50PAR20, 50R20	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		PN3120	50PAR20, 75PAR16	
		RPN3MR	50MR16	
1 3/4-Inch Round Aperture Adjustable Lens Pinhole E3AASRPIN		P3MR P3MR REMOTE	42MR16 50MR16	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		RPN3MR	50MR16	

Rounds
Optical Elements: Lens / Shower Rated

3"

Lens / Shower Rated

ELEMENT		PLATFORM	MAX LAMP	WET LOCATION
3 1/2-Inch Round Aperture Regressed Lens Wet Location Listed E3SR		P3LED	900 Lumens (Nominal)	
		P3MR P3MR REMOTE	50MR16 75MR16	
		P3120	50PAR20, 50R20	
		PN3MR PN3MR REMOTE	75MR16 75MR16	
		PN3120	50PAR20, 60PAR16, 50R20	
3-Inch Round Aperture Blown Veined Glass Wet Location Listed E3A19LUNA		P3120	60A19, 43A17, 60BT15	
		PN3120	100A19, 72A17, 100BT15	

Notes: For all Elements with "_" please add reflector color and flange option from below. A clear lens is shipped with all low voltage housing platforms which can replace the soft focus lens provided to allow maximum output.

OPTICAL ELEMENT CATALOG NUMBER EXPLANATION

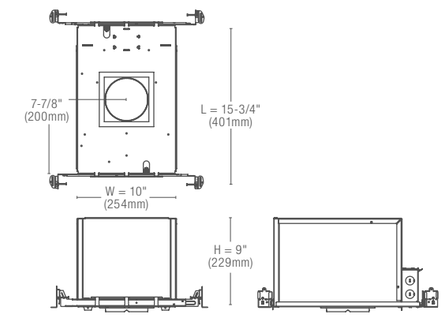
ELEMENT	REFLECTOR FINISHES			FLANGE STYLE AND FINISH
E3MR, E3A19, E3P20, E3AA	Alzak® Finishes **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	 **H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	Painted Finishes **W** = Gloss White **MW** = Matte White **MB** = Matte Black **BB** = Black Baffle **WB** = White Baffle	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting **RAW** = Raw die-cast flange ring with clear coat not recommended for field painting **SF** = Self-flanged, flange finish matches reflector, not available with Black Baffle (BB) or White Baffle (WB) **SFWF** = Self-flanged, Matte White painted flange
ELEMENT	**REFLECTOR FINISHES**			**FLANGE STYLE AND FINISH**
E3AA20, E3SLOT, E3LWW, E3AASR, E3SR	Alzak® Finishes **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	 **H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	Painted Finishes **W** = Gloss White **MW** = Matte White **MB** = Matte Black	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting **RAW** = Raw die-cast flange ring with clear coat not recommended for field painting **SF** = Self-flanged, flange finish matches reflector **SFWF** = Self-flanged, Matte White painted flange
ELEMENT	**PINHOLE FINISHES**			**FLANGE STYLE AND FINISH**
E3DNPIN, E3PIN, E3PINLARGE, E3PINRD, E3OVAL, E3SA, E3AASRPIN	Unless otherwise stated, shipped with Black Alzak® upper reflector to control aperture brightness			**[Blank]** = Matte white painted die-cast flange ring with black oculus or baffle **W** = Matte white painted die-cast flange ring with white oculus or baffle **RAW** = Raw die-cast flange ring with black oculus or baffle **POL** = Polished aluminum die-cast flange ring with black oculus or baffle **SAL** = Satin aluminum die-cast flange ring with black oculus or baffle

Rounds
Housing Platforms

3"

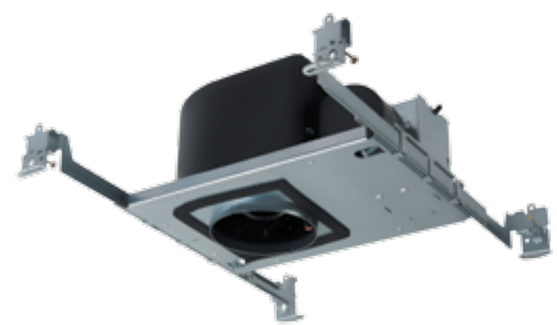
3-Inch Platforms

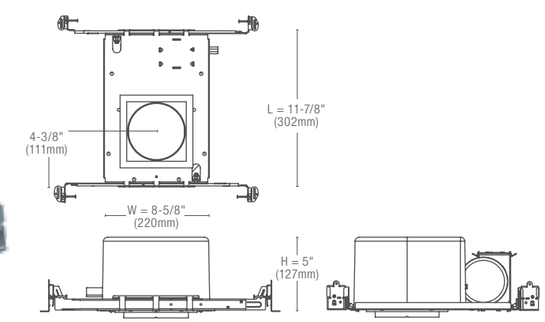
IRiS 3-inch platforms utilize halogen MR16 or PAR lamps to deliver powerful beams of light from a diminutive 3.5-inch aperture. Each Platform accepts Optical Elements (see pages 54-58) for downlighting, accenting, wall washing and shower applications. Optical Elements can be changed after installation to adapt fixture as artwork, furniture or other features of a home are changed.



3-Inch Aperture MR16 Directional IC, Housing Platform

P3MR	LENGTH 15-3/4"	WIDTH 10"	HEIGHT 9"	CUTOUT 4-3/8"
A specification-grade housing platform dedicated for low-voltage MR16 lamps, featuring a toroidal transformer with secondary outputs for either switch or dimmer controlled applications. Integral adjustment mechanism allows up to 45° tilt with accent elements. Platform is airtight and may be used in direct contact with insulation. A complete fixture requires an IRiS optical element. P3MR REMOTE version available for use with remote mounted transformers.				





3-Inch Aperture MR16 Directional NON- IC, Housing Platform

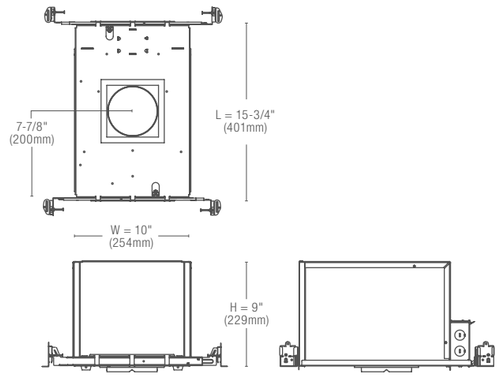
PN3MR	LENGTH 11-7/8"	WIDTH 8-5/8"	HEIGHT 5"	CUTOUT 4-3/8"
A specification-grade housing platform for use in niche areas where minimum space is available. Platform is dedicated for low-voltage MR16 lamps, featuring a toroidal transformer with secondary outputs for either switch or dimmer controlled applications. Integral adjustment mechanism allows up to 45° tilt with accent elements. Platform is airtight but insulation must be kept 3" away from fixture. A complete fixture requires an IRiS optical element. PN3MR REMOTE version available for use with remote mounted transformers.				

Rounds
Housing Platforms

3"

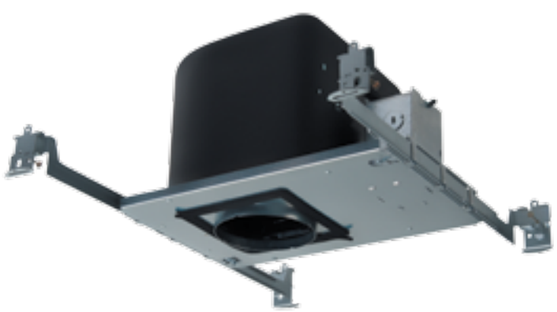
3" Platforms

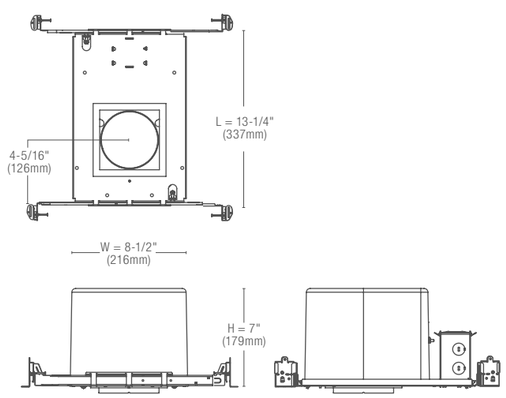
The **Housing Platform + Optical Element** combination supports various lamp types and a complete range of optical distributions.



3-Inch Aperture IC, Housing Platform

P3120	LENGTH 15-3/4"	WIDTH 10"	HEIGHT 9"	CUTOUT 4-3/8"
A specification-grade housing platform dedicated for line voltage A, PAR16 or PAR20. Platform is airtight and may be use in direct contact with insulation. Integral adjustment mechanism allows up to 35° tilt with accent elements. A complete fixture requires an IRiS optical element.				

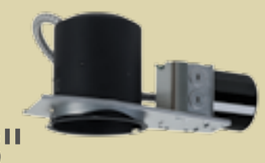




3-Inch Aperture NON- IC, Housing Platform

PN3120	LENGTH 13-1/4"	WIDTH 8-1/2"	HEIGHT 7"	CUTOUT 4-3/8"
A specification-grade housing platform dedicated for line voltage A, PAR16 or PAR20. Integral adjustment mechanism allows up to 35° tilt with accent elements. Platform is airtight, but insulation must be kept 3" away from fixture. A complete fixture requires an IRiS optical element.				

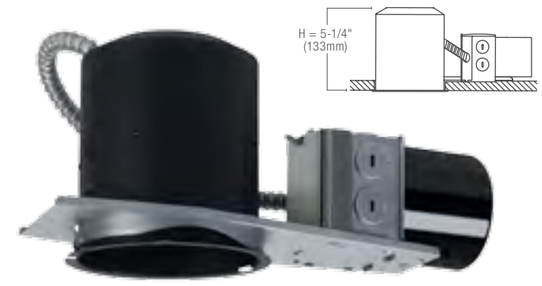
Rounds
Remodel Housing Platforms

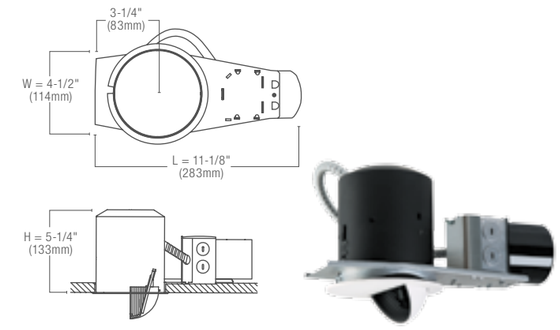


3"

3" Remodel Platforms

The IRiS Remodel Platforms are specification grade housings are designed for installation from below the finished ceiling and are ideal for renovation work. They fit into 2x6 framed areas and are ideal when working within the constraints of tight construction.





3-Inch Aperture MR16 Remodel NON- IC, Housing Platform

RPN3MR	LENGTH 11-1/8"	WIDTH 4-1/2"	HEIGHT 5-1/4"	CUTOUT 4-1/2"
Remodel platform dedicated for low voltage MR16 lamps, featuring a toroidal transformer with primary inputs for either switch or dimmer controlled applications. Platforms are thermally protected but insulation must be kept 3" away from fixture. Platform accommodates various ceiling thickness. A complete fixture requires an IRiS optical element. Integral adjustment mechanism allows up to 35° tilt with accent elements.				

3-Inch Aperture MR16 Remodel, E3SA Housing Platform

RPN3MRSA	LENGTH 11-1/8"	WIDTH 4-1/2"	HEIGHT 5-1/4"	CUTOUT 4-1/2"
Remodel platform designed for use with the E3SA optical element is dedicated for low voltage MR16 lamps and features a toroidal transformer with primary inputs for either switch or dimmer controlled applications. Platforms are thermally protected, but insulation must be kept 3" away from fixture. Platform accommodates various ceiling thickness. A complete fixture requires the E3SA IRiS super adjustable optical element which allows beam to tilt from 15°-75° (see page 56).				

Easy Installation

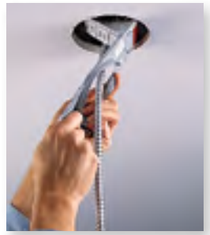
CUT

4-1/2" hole saw provides a perfect sized hole for installation or use the supplied hole cutting template.

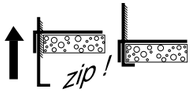
WIRE

The Junction box includes pryouts, a ground wire and a contractor's third hand to simplify wiring by supporting the fixture while it's being wired.

SLIDE

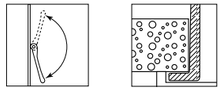


The "Easyslip" frame slides through the ceiling cutout and secures with Zip-clip.



PUSH

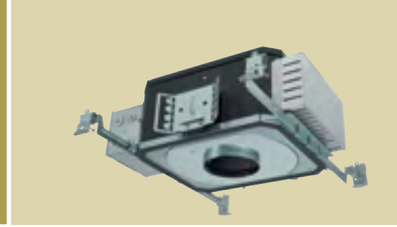
The housing inserts through hole and secures with cam lock easy-lock springs.



TRIM

After the lamp is installed and aimed, the torsion springs pull element snug to ceiling. Elements with die-cast flanges have a return lip to accommodate the lip of the housing. Self-flanged elements are not recommended for use with Remodel Platform as they will not sit tightly against the ceiling.

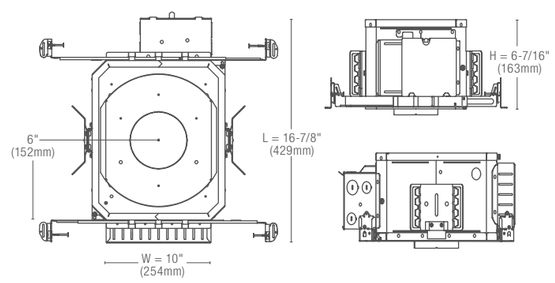
Rounds
Housing Platforms



3" LED Platforms

IRiS LED platforms are based on the popular 3-inch series with the flexibility of interchangeable optics and the energy savings, long life and sustainability of LED. They utilize the E3 Series optical elements providing a full vocabulary of distributions including downlight, directional, lens and lens wall wash and are visibly similar to other lamp types.

Line Voltage IC Platforms for LED



3-Inch Aperture LED IC,Housing Platform

P3LED	LENGTH 16-7/8"	WIDTH 10"	HEIGHT 6-7/16"	CUTOUT 4-3/8"
A specification-grade housing platform utilizing an LED array. The housing is suitable for 2x8 residential or commercial constructions, airtight and can be used in direct contact with insulation. **Housing platform + optical element** combination supports various distributions providing design flexibility. Use where high efficiency, excellent light control and low aperture brightness are demanded.				

3-Inch Aperture LED IC, CP Housing Platform

P3LEDCP	LENGTH 16-7/8"	WIDTH 10"	HEIGHT 6-7/16"	CUTOUT 4-3/8"
A specification-grade housing platform utilizing an LED array. The housing is suitable for commercial constructions and meets CCEA requirements for plenum requirements. **Housing platform + optical element** combination supports various distributions, providing design flexibility. Use where high efficiency, excellent light control and low aperture brightness are demanded.				

HOUSING PLATFORM CATALOG NUMBER EXPLANATION

HOUSING PLATFORM	LUMENS	DISTRIBUTION	COLOR	DRIVER	ACCESSORIES
P3LED = 3.5" Aperture **P3LEDCP** = 3.5" Aperture, Chicago Plenum	**9** = 900	**(Blank)** = Omit Primary Optic, (Order Separately) **NSP10** = 10° Beam **SP15** = 15° Beam **NFL25** = 25° Beam **FL40** = 40° Beam	**830** = 85 CRI Typical, 3,000° K CCT	**1E0-10V/TE** = 120V 60Hz 0-10V and trailing edge 10% dimming **2E0-10V** = 277V 60Hz 0-10V 10% dimming	**FMC3** = Flush mount collar **PLE3** = Plaster lip extender for up to 2" thick ceilings **FMC3** = Flush mount collar **RG50NSP10** = 10° beam glass reflector, 50mm **RG50SP15** = 15° beam glass reflector, 50mm **RG50NFL25** = 25° beam glass reflector, 50mm **RG50FL40** = 40° beam glass reflector, 50mm **RG50MH** = Media holder for 50mm reflector

Housing Specifications

IRiS P3LED housing platform series was developed for demanding residential and commercial applications and is suitable for both IC and NON-IC applications. The LED array conforms to emerging industry standards for interchangeability and can be replaced in the field. The primary optic can be specified with the housing platform or ordered separately and is available in various beams to facilitate focus.

Features and Benefits: 3-Inch Common Housing Platform

- Galvanized steel plaster frame with integral gun sights facilitate accurate positioning.
- Captive pre-installed bar hangers adjust from 8-1/2" to 24" wide, pass thru feature allows shortening without removal.
- Integral clip attached directly to tee-bar.
- Housing painted flat Black for a visually dark interior.
- Dynamic aiming rotates 365º, tilts 45º and locks in position, angle markings assist in repeatable settings.
- Translating center beam optics aligns primary reflector with aperture from nadir to 45º.
- Proximity phosphors over chip on board LEDs provide a uniform source with high efficiency and no pixilation.
- Color rendering index 85 typical, accuracy within 3 SCDM providing excellent color.
- Proportional active cooling achieves L70B50 lumen maintenance at 50,000 hours in IC and NON-IC applications.
- Integral 120 or 277V 60Hz constant current driver provides noise-free operation.
- Continuous, flicker-free dimming from 100%-10%, available with trailing edge phase cut, 0-10V and DALI digital control interfaces.

Primary Optic

- Borosilicate glass segmented optic with > 95% reflective multi-layer hard coating delivers a highly efficient and uniform beam with no color shift over time.
- Various distributions are available and can be interchanged without tools to facilitate focus with a unique turn and lock polarized interface.
- Elastomeric glare shield accepts up to 3 theatrical color filters and diffusion films (supplied by others).
- Optional media holder accepts up to 2 lens or filters.

RG50NSP10 = 10° beam glass reflector, 50mm
RG50SP15 = 15° beam glass reflector, 50mm
RG50NFL25 = 25° beam glass reflector, 50mm
RG50FL40 = 40° beam glass reflector, 50mm
RG50MH = Media holder for 50mm reflector

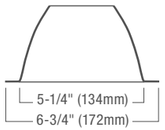
Lighting Design: Craig Roberts Association
Architecture: Michael Fuller Architects
Photo: Marlow Photography

Rounds
Optical Elements: Downlight

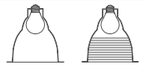
5"

5" Optical Elements

IRiS 5" fixtures are the most versatile specification grade fixtures available.
With their broad range of optical and lamp choices, which can be changed after installation, these fixtures adapt to any ceiling height or lighting need. IRiS optical elements are designed to be glare-free and visibly similar across all optical distributions for a consistent look throughout.



Downlight

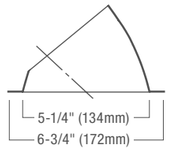
ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
5 1/4-Inch Round Aperture 50º Cutoff Reflector E5T		P5	M32T M32TLUTRON	26W//32W Triple CFL	
		P532ICAT	--	26W//32W Triple CFL	
		PN5	M32T M32TLUTRON	26W//32W Triple CFL	
5 1/4-Inch Round Aperture 50º Cutoff Reflector E5A19		P5	M120	100A19, 72A17, 100BT15	
5 1/4-Inch Round Aperture 50º Cutoff Baffle E5A19BB E5A19WB		PN5	M120	100A19, 72A17, 100BT15	
5 1/4-Inch Round Aperture 50º Cutoff Reflector E5P30		P5	M120	75PAR30, 75PAR30L, 85BR30, 100R30	
5 1/4-Inch Round Aperture 50º Cutoff Baffle E5P30BB E5P30WB		PN5	M120	75PAR30, 75PAR30L, 85BR30, 100R30	
5 1/4-Inch Round Aperture 50º Cutoff Reflector Wet Location Listed E5QT4		P5	MQT4	Q100T4/MC	
		PN5	MQT4	Q100T4/MC	
5 1/4-Inch Round Aperture 50º Cutoff Reflector E5MR		P5	M5MR	50MR16	
		PN5	M5MR	75MR16	

Notes: A clear lens is shipped with all low voltage lamp modules.

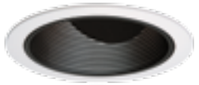
Rounds
Optical Elements: Directional / Accent

5"

IRiS offers the widest selection of optical elements for each aperture size and the ability to change from downlights, to adjustables, to wall washers, or to shower elements after ceiling is installed. Reflector Aperture is 5-1/4", except for the 1-3/4" pinhole. Outside Diameter of the flange is 6-3/4"; except for the Luna, which is 7-1/4".



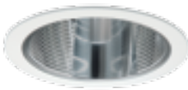
Directional / Accent

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
5 1/4-Inch Round Aperture Angle-Cut Reflector E5AA		P5	M5P36	50PAR36, 50AR111	
		P5	M5P30	75PAR30 / Short Neck Only	
5 1/4-Inch Round Aperture Angle-Cut Baffle E5AABB E5AAWB		P5	M5MR	50MR16	
		PN5	M5P36	50PAR36, 75AR111	
		PN5	M5P30	75PAR30/Short Neck Only	
		PN5	M5MR	75MR16	
5 1/4-Inch Round Aperture Shallow Angle-Cut Reflector E5AA20 recommended for ceilings over 7/8" thick E5AA20		P5	M5P36	50PAR36, 50AR111	
		P5	M5P36	50PAR36, 50AR111	
		P5	M5MR	50MR16	
		PN5	M5P36	50PAR36, 75AR111	
		PN5	M5P30	75PAR30/Short Neck Only	
		PN5	M5MR	75MR16	
5 1/4-Inch Round Aperture Slot-Cut Reflector E5SLOT		P5	M5MR	50MR16	
		PN5	M5MR	75MR16	
1 3/4-Inch Round Aperture Adjustable Pinhole E5PIN		P5	M5MR	50MR16	
		PN5	M5MR	75MR16	

Rounds
Optical Elements: Wall Wash

5"

Wall Wash

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
5 1/4-Inch Round Aperture Single Open Wall Wash E5TWW		P5	M32T M32TLUTRON	26/32W Triple CFL	
		P532ICAT	--	26/32W Triple CFL	
		PN5	M32T M32TLUTRON	26/32W Triple CFL	
5 1/4-Inch Round Aperture Double Open Wall Wash E5TDWW		P5	M32T M32LUTRON	26/32W Triple CFL	
		P532ICAT	--	26/32W Triple CFL	
		PN5	M32T M32LUTRON	26/32W Triple CFL	
5 1/4-Inch Round Aperture Corner Open Wall Wash E5TCWW		P5	M32T M32LUTRON	26/32W Triple CFL	
		P532ICAT	--	26/32W Triple CFL	
		PN5	M32T M32LUTRON	26/32W Triple CFL	
5 1/4-Inch Round Aperture Half Open Wall Wash E5THWW		P5	M32T M32TLUTRON	26/32W Triple CFL	
		P532ICAT	--	26/32W Triple CFL	
		PN5	M32T M32TLUTRON	26/32W Triple CFL	
5 1/4-Inch Round Aperture Single Open Wall Wash E5A19WW		P5	M120	100A19, 72A17, 100BT15	
		PN5	M120	100A19, 72A17, 100BT15	
5 1/4-Inch Round Aperture Double Open Wall Wash E5A19DWW		P5	M120	100A19, 72A17, 100BT15	
		PN5	M120	100A19, 72A17, 100BT15	

Notes: A clear lens is shipped with all low voltage housing platforms which can replace the soft focus lens provided to allow maximum output.

Rounds
Optical Elements: Lens / Wall Wash

5"

Wall Wash

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
5 1/4-Inch Round Aperture Corner Open Wall Wash E5A19CWW		P5	M120	100A19, 72A17, 100BT15	
		PN5	M120	100A19, 72A17, 100BT15	
5 1/4-Inch Round Aperture Half Open Wall Wash E5A19HWW		P5	M120	100A19, 72A17, 100BT15	
		PN5	M120	100A19, 72A17, 100BT15	

Lens Wall Wash

ELEMENT					
5 1/4-Inch Round Aperture Lensed Wall Wash E5LWW		P5	M120	75PAR30/Short Neck only	
		PN5	M120	75PAR30/Short Neck only	
5 1/4-Inch Round Aperture Wide Spread Lensed Wall Wash E5QT4WW		P5	MQT4	Q75T4/MC	
		PN5	MQT4	Q100T4/MC	

OPTICAL ELEMENT CATALOG NUMBER EXPLANATION

ELEMENT	REFLECTOR FINISHES			FLANGE STYLE AND FINISH
E5MR, E5A19, E5P30, E5AA	Alzak® Finishes **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	 **H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	Painted Finishes **W** = Gloss White **MW** = Matte White **MB** = Matte Black **BB** = Black Baffle **WB** = White Baffle	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting **RAW** = Raw die-cast flange ring with clear coat, not recommended for field painting **SF** = Self-flanged, flange finish matches reflector, not available with Black Baffle (BB) or White Baffle (WB) **SFWF** = Self-flanged, Matte White painted flange

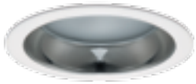
ELEMENT	REFLECTOR FINISHES			FLANGE STYLE AND FINISH
E5T, E5QT4, E5MR, E5AA20, E5SLOT, E5TWW' E5LWW, E5QT4WW, E5SR, E5A19WW	Alzak® Finishes **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	 **H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	Painted Finishes **W** = Gloss White **MW** = Matte White **MB** = Matte Black	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting. **RAW** = Raw die-cast flange ring with clear, coat not recommended for field painting. **SF** = Self-flanged, flange finish matches reflector **SFWF** = Self-flanged, Matte White painted flange

ELEMENT	PINHOLE FINISHES	FLANGE STYLE AND FINISH
E5PIN	Unless otherwise stated, shipped with Black Alzak® upper reflector to control aperture brightness	**(Blank)** = Matte White painted die-cast flange ring with Black oculus or baffle **W** = Matte White painted die-cast flange ring with White oculus or baffle **RAW** = Raw die-cast flange ring with Black oculus or baffle **POL** = Polished aluminum die-cast flange ring with Black oculus or baffle **SAL** = Satin aluminum die-cast flange ring with Black oculus or baffle

Rounds
Optical Elements: Lens / Shower Rated

5"

Lens / Shower Rated

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
5-Inch Round Aperture Blown Veined Glass E5LUNA		P5	M32T M32TLUTRON	26W/32W Triple CFL	
		P5	M120	100A19, 75BT15, 72A17	
		P532ICAT	--	26W/32W Triple CFL	
		PN5	M32T M32TLUTRON	26W/32W Triple CFL	
		PN5	M120	100A19, 75BT15, 72A17	
5 1/4-Inch Round Aperture Regressed Lens E5SR		P5	M32T M32TLUTRON	26W Triple CFL	
		P5	M120	75A19, 72A17, 75BT15	
		P532ICAT	--	26W/32W Triple CFL	
		PN5	M32T M32TLUTRON	26W/32W Triple CFL	
		PN5	M120	100A19, 72A17, 75BT15	
5 1/4-Inch Round Aperture 50º Cutoff Reflector E5QT4		P5	MQT4	Q100T4/MC	
		PN5	MQT4	Q100T4/MC	

Rounds
Lamp Modules

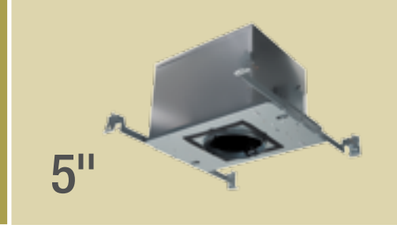
IRiS lamp modules for 5" platforms are required to complete the housing and can be installed during the electrical rough-in or during the final trim-out. They are available in a broad range of lamp choices and a full vocabulary of distributions. IRiS lamp modules can be installed though the aperture without tools and changed during or after construction adapting to any lighting need.

5"

MODULE	MODULE	DESCRIPTION
5-Inch Vertical Lamp Module for Compact Fluorescent Lamp 	M32T	• Accepts 26/32W TTT compact fluorescent lamp • Two position GX24 q-3+q-4 lamp socket optimizes lamp position • Meets EMI & RFI per FCC Part 18 for consumer limits • 120 Volt input
5/7-Inch Vertical Lamp Module for Compact Fluorescent Lamp 	M32TLUTRON	• Accepts 32W TTT compact fluorescent lamp • Use with controls compatible with Lutron® Tu-Wire® dimming ballast • Two position GX24 q-3+q-4 lamp socket optimizes lamp position • Meets EMI & RFI per FCC Part 18 for consumer limits • 120 Volt input
5-Inch Directional Lamp Module for MR16 Lamp 	M5MR	• Accepts up to 75W MR16 GX5.3 tungsten-halogen lamp • Translating center beam optics rotates 365°, tilts 45° and locks into position • Lamp module and lamp socket use quick disconnects for ease of service • Dual output Truvolt™ toroidal transformer compensates for dimmer losses • Epoxy encapsulated transformer is extremely low noise • 120 Volt input
5-Inch Directional Lamp Module for PAR36 & AR111 Lamp 	M5P36	• Accepts up to 50W PAR36 and 75W AR111 lamp • Translating center beam optics rotates 365°, tilts 35° and locks into position • Lamp module and lamp socket use quick disconnects for ease of service • Dual output Truvolt™ toroidal transformer compensates for dimmer losses • Epoxy encapsulated transformer is extremely low noise • 120 Volt input

5"

MODULE	MODULE	DESCRIPTION
5-Inch Directional Lamp Module for PAR Lamp 	M5P30	• Accepts up to 75W PAR30S lamp • Translating center beam optics rotates 365°, tilts 35° and locks into position • Lamp socket uses quick disconnects for ease of service • 120 Volt input
5/7-Inch Lamp Module for A21 & PAR Lamp 	M120	• Accepts up to 150W A21 and 250W PAR38 lamp • Module consists of nickel plated porcelain socket and mounting bracket • Lamp socket uses quick disconnects for ease of service • 120 Volt input
5/7-Inch Lamp Module for T4 E11 Lamp 	MQT4	• Accepts up to 150W T4 E11 (mini can) lamp • Module consists of nickel plated porcelain socket and mounting bracket • Lamp socket uses quick disconnects for ease of service • 120 Volt input

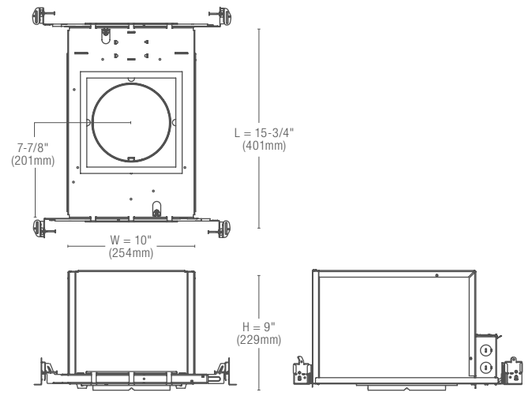


5" Platforms

IRiS 5" Platforms provide modular flexibility between various lamp sources and a complete range of optical distributions.
This modular concept, while simple, provides the broadest selection of lamp and distribution choices in the industry with a consistent 5.25" aperture.

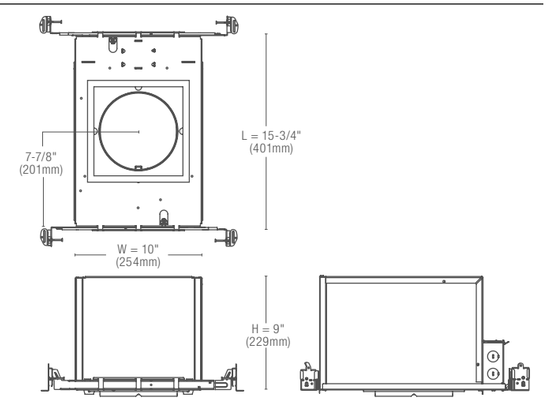
The **Housing Platform + Lamp Module + Optical Element** combination supports various lamp types and a complete range of optical distributions.

The P5 and PN5 Platforms accept various Lamp Modules for fluorescent, low-voltage halogen and line-voltage sources, as well as Optical Elements (see pages 65-69) for downlighting, accenting, wall washing and shower applications. Lamp Modules and Optical Elements can be changed after installation to adapt fixture as artwork, furniture or other features of a home are changed.



5-Inch Aperture Modular IC, Housing Platform

P5	LENGTH 15-3/4"	WIDTH 10"	HEIGHT 9"	CUTOUT 6-1/4"
A specification-grade housing platform that accepts fluorescent, low-voltage halogen and line-voltage incandescent lamp modules. Platform is airtight and may be use in direct contact with insulation. A complete fixture requires an IRiS lamp module and optical element.				

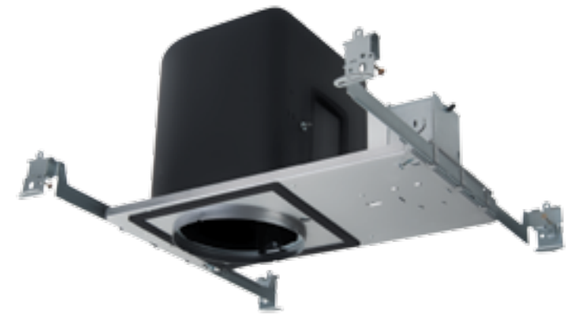


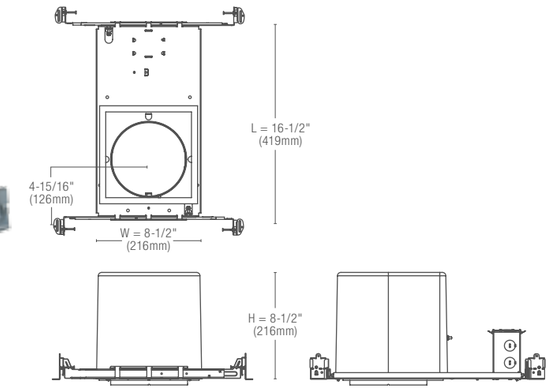
5-Inch Aperture Modular IC, Housing Platform

P532ICAT	LENGTH 15-3/4"	WIDTH 10"	HEIGHT 9"	CUTOUT 6-1/4"
A specification-grade dedicated compact fluorescent 26/32W airtight platform for use in direct contact with insulation. Complete fixture requires an IRiS optical element. IRiS 5" platforms rated for direct contact with insulation are available with several element choices. The airtight housing prevents airflow between attic and living areas. The electronic compact fluorescent ballast meets stringent requirements including FCC Title 47 CFR part 18 for consumer equipment.				

5-Inch Aperture Modular IC, Housing Platform

P532LUTRON®	LENGTH 15-3/4"	WIDTH 10"	HEIGHT 9"	CUTOUT 6-1/4"
A specification-grade dedicated compact fluorescent 26/32W airtight platform for use in direct contact with insulation. Complete fixture requires an IRiS optical element. IRiS 5" platforms rated for direct contact with insulation are available with several element choices. The airtight housing prevents airflow between attic and living areas. The electronic compact fluorescent and dimming ballast meets stringent requirements including FCC Title 47 CFR part 18 for consumer equipment. Use with controls compatable with LUTRON® Tu-Wire® dimming.				





5-Inch Aperture Modular NON-IC, Housing Platform

PN5	LENGTH 16-1/2"	WIDTH 8-1/2"	HEIGHT 8-1/2"	CUTOUT 6-1/4"
A specification-grade housing platform for use with narrow joist spacing that accepts fluorescent, low-voltage halogen and line-voltage incandescent lamp modules. Platform is airtight, but insulation must be kept 3" away from fixture. A complete fixture requires an IRiS lamp module and optical element.				

5-Inch Aperture Modular NON-IC, Housing Platform

PN532	LENGTH 16-1/2"	WIDTH 8-1/2"	HEIGHT 8-1/2"	CUTOUT 6-1/4"
A specification-grade dedicated compact fluorescent 26/32W airtight housing platform suitable foe use in commercial applications. Insulation must be kept 3" away from fixture. The electronic compact fluorescent ballast meets stringent requirements including FCC, Title 47 CFR part 18 for non-consumer requirements.				

HOUSING PLATFORM CATALOG NUMBER EXPLANATION

HOUSING PLATFORM	LAMP TYPE/WATTAGE	BALLAST	ACCESSORIES
PN5 = 5" aperture, NON-IC, AT CFL	**26** = 26W TTT CFL (derated label) **32** = 26/32W TTT CFL	**E** = UNV 120 – 277V electronic, 50/60Hz **3E** = 347V electronic, 50/60Hz **ED26/32ES** = 120 – 277V 26/32W electronic 5% 3-wire & **Eco System** **1D26HL** = 120V 26W electronic 1% 3-wire dimming **1D32HL** = 120V 32W electronic 1% 3-wire dimming	**PLE5** = Plaster lip extension for ceilings up **FMC5** = Flush mount collar for 5-inch aperture

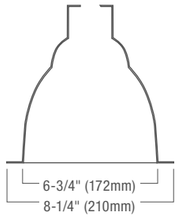
Architecture: One Architects
Photo: Bardagjy Photography

Rounds
Optical Elements: Downlight

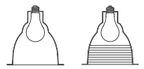
7"

7" Optical Elements

IRiS 7-Inch fixtures are specifically designed for high ceilings. They feature a removable top – allowing re-lamping from above – and high wattage lamps for long throws of light. IRiS optical elements are designed to be glare-free and visibly similar across all optical distributions for a consistent look throughout.



Downlight

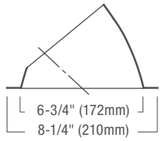
ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
6 3/4-Inch Round Aperture 50º Cutoff Reflector E7T		P7	M42T M32TLUTRON	26W/32W Triple CFL 32W Triple CFL	
		PN7	M42T M32TLUTRON	26W/32W Triple CFL 32W Triple CFL	
		P742ICAT	--	26W/32W Triple CFL	
6 3/4-Inch Round Aperture 50º Cutoff Reflector E7A21 **6 3/4-Inch Round Aperture 50º Cutoff Baffle** E7A21BB E7A21WB		P7	M120	150A21, 72A17, 100BT15	
		PN7	M120	150A21, 72A17, 100BT15	
6 3/4-Inch Round Aperture 50º Cutoff Reflector E7P38 **6 3/4-Inch Round Aperture 50º Cutoff Baffle** E7P38BB E7P38WB		P7	M120	150PAR38, 100HIR38, 125BR40, 100PAR38/HEAT/R	
		PN7	M120	250PAR38, 100HIR38, 125BR40, 175PAR38/HEAT/R	
6 3/4-Inch Round Aperture 50º Cutoff Reflector Wet Location Listed E7QT4		P7	MQT4	Q150T4/MC	
		PN7	MQT4	Q150T4/MC	

Notes: Please add cone color and flange option from page 78.

Rounds
Optical Elements: Adjustable Accent

7"

IRiS offers the widest selection of optical elements for each aperture size and the ability to change from downlights, to adjustables, to wall washers, or to shower elements after ceiling is installed. The reflector aperture is 6-3/4". Outside Diameter of the flange is 8-1/4"; except for the Luna, which is 8-3/4".



Directional / Accent

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
6 3/4-Inch Round Aperture Angle-Cut Reflector E7AA		P7	M7P36	50PAR36, 75AR111	
		P7	M7P38	90PAR38, 80PAR38/HIR	
6 3/4-Inch Round Aperture Angle-Cut Baffle E7AABB E7AAWB		PN7	M7P36	50PAR36, 75AR111	
		PN7	M7P38	250PAR38, 100PAR38/HIR	
6 3/4-Inch Round Aperture Shallow Angle-Cut Reflector AA20 recommended for ceilings over 7/8" thick E7AA20		P7	M7P36	50PAR36, 75AR111	
		P7	M7P38	90PAR38, 80PAR38/HIR	
		PN7	M7P36	50PAR36, 75AR111	
		PN7	M7P38	250PAR38, 100PAR38/HIR	
6 3/4-Inch Round Aperture Angle-Cut Reflector 15°–45° tilt for sloped ceilings E7AA45		P7	M7P3845	90PAR38, 60PAR38/HIR	
		PN7	M7P3845	150PAR38, 60PAR38/HIR	

Notes: Please add cone color and flange option from page 78.

Rounds
Optical Elements: Wall Wash

7"

Wall Wash

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
6 3/4-Inch Round Aperture Single Open Wall Wash E7TWW		P7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		P742ICAT	--	26W/32W/42W Triple CFL	
		PN7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
6 3/4-Inch Round Aperture Double Open Wall Wash E7TDWW		P7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		P742ICAT	--	26W/32W/42W Triple CFL	
		PN7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
6 3/4-Inch Round Aperture Corner Open Wall Wash E7TCWW		P7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		P742ICAT	--	26W/32W/42W Triple CFL	
		PN7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
6 3/4-Inch Round Aperture Half Open Wall Wash E7THWW		P7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		P742ICAT	--	26W/32W/42W Triple CFL	
		PN7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
6 3/4-Inch Round Aperture Single Open Wall Wash E7A21WW		P7	M120	150A21, 72A17, 100BT15	
		PN7	M120	150A21, 72A17, 100BT15	
6 3/4-Inch Round Aperture Double Open Wall Wash E7A21DWW		P7	M120	150A21, 72A17, 100BT15	
		PN7	M120	150A21, 72A17, 100BT15	

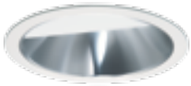
Rounds
Optical Elements: Lens / Wall Wash

7"

Wall Wash

ELEMENT					
6 3/4-Inch Round Aperture Corner Open Wall Wash E7A21CWW		P7	M120	150A21, 72A17, 100BT15	
		PN7	M120	150A21, 72A17, 100BT15	
6 3/4-Inch Round Aperture Half Open Wall Wash E7A21HWW		P7	M120	150A21, 72A17, 100BT15	
		PN7	M120	150A21, 72A17, 100BT15	

Lens Wall Wash

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
6 3/4-Inch Round Aperture Lensed Wall Wash E7LWW		P7	M120	90PAR38, 60PAR38/HIR	
		PN7	M120	150PAR38, 100PAR38/HIR	
6 3/4-Inch Round Aperture Wide Spread Lensed Wall Wash E7QT4WW		P7	MQT4	Q100T4/MC	
		PN7	MQT4	Q100T4/MC	

OPTICAL ELEMENT CATALOG NUMBER EXPLANATION

ELEMENT	REFLECTOR FINISHES			FLANGE STYLE AND FINISH
E7A21, E7P38, E7AA	Alzak® Finishes **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	 **H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	Painted Finishes **W** = Gloss White **MW** = Matte White **MB** = Matte Black **BB** = Black Baffle **WB** = White Baffle	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting **RAW** = Raw die-cast flange ring with clear coat, not recommended for field painting **SF** = Self-flanged, flange finish matches reflector, not available with Black Baffle (BB) or White Baffle (WB) **SFWF** = Self-flanged, Matte White painted flange

ELEMENT	REFLECTOR FINISHES			FLANGE STYLE AND FINISH
E7T, E7QT4, E7TWW, E7A21WW, E7AA20, E7AA45, E7LWN, E7QT4WW, E7SR	Alzak® Finishes **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	 **H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	Painted Finishes **W** = Gloss White **MW** = Matte White **MB** = Matte Black	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting. **RAW** = Raw die-cast flange ring with clear, coat not recommended for field painting **SF** = Self-flanged, flange finish matches reflector **SFWF** = Self-flanged, Matte White painted flange

Rounds
Optical Elements: Lens / Shower Rated

7"

Lens / Shower Rated

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
7-Inch Round Aperture Blown Veined Glass E7LUNA		P7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		P742ICAT	--	26W/32W/42W Triple CFL	
		P7	M120	150A21, 72A17, 100BT15	
		PN7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		PN7	M120	150A21, 72A17, 100BT15	
6 3/4-Inch Round Aperture Regressed Lens E7SR		P7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		P742ICAT	--	26W/32W/42W Triple CFL	
		P7	M120	100A21, 72A17, 75BT15	
		PN7	M42T M32TLUTRON	26W/32W/42W Triple CFL 32W Triple CFL	
		PN7	M120	100A21, 72A17, 75BT15	
6 3/4-Inch Round Aperture 50º Cutoff Reflector E7QT4		P7	MQT4	Q150T4/MC	
		PN7	MQT4	Q150T4/MC	

Notes: Please add cone color and flange option from page 78.

Rounds
Lamp Modules

IRiS lamp modules for 7" platforms are required to complete the housing and can be installed during the electrical rough-in or during the final trim-out. They are available in a broad range of lamp choices and a full vocabulary of distributions.
IRiS lamp modules can be installed through the aperture without tools and changed during or after construction, adapting to any lighting need.

7"

MODULE	MODULE	DESCRIPTION
7-Inch Vertical Lamp Module for Compact Fluorescent Lamp	M42T	• Accepts 26/32/42W TTT compact fluorescent lamp • Two position GX24 q-3+q-4 lamp socket optimizes lamp position • Meets EMI & RFI per FCC Part 18 for consumer limits • 120 Volt input
5/7-Inch Vertical Lamp Module for Compact Fluorescent Lamp	M32TLUTRON	• Accepts 32W TTT compact fluorescent lamp • Use with controls compatible with Lutron® Tu-Wire® dimming ballast • Two position GX24 q-3+q-4 lamp socket optimizes lamp position • Meets EMI & RFI per FCC Part 18 for consumer limits • 120 Volt input
7-Inch Directional Lamp Module for PAR36 and AR111 Lamp	M7P36	• Accepts up to 50W PAR36 and 75W AR111 lamp • Translating center beam optics rotates 365°, tilts 35° and locks into position • Lamp module and lamp socket use quick disconnects for ease of service • Dual output TruvoltTM toroidal transformer compensates for dimmer losses • Epoxy encapsulated transformer is extremely low noise • 120 Volt input
7-Inch Lamp Module for PAR38 Lamp	M7P38	• Accepts up to 250W PAR38 lamp • Translating center beam optics rotates 365°, tilts 30° and locks into position • Lamp socket uses quick disconnects for ease of service • 120 Volt input

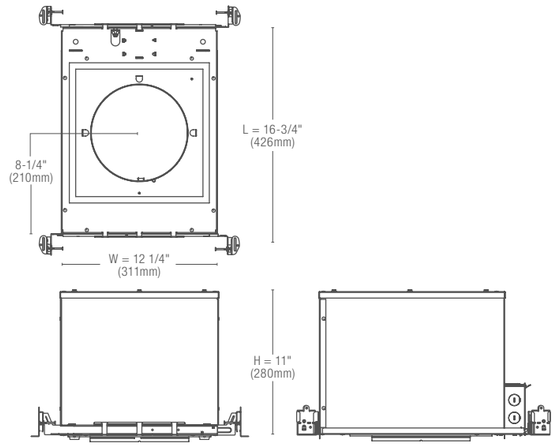
7"

MODULE	MODULE	DESCRIPTION
7-Inch Lamp Module for PAR38 Lamp	M7P3845	• Use with sloped ceiling applications • Accepts up to 150W PAR38 lamp • Translating center beam optics rotates ±40°, tilts 15 - 45° and locks into position • Lamp socket uses quick disconnects for ease of service • 120 Volt input
5/7-Inch Lamp Module for A21 & PAR Lamp	M120	• Accepts up to 150W A21 and 250W PAR38 lamp • Module consists of nickel- plated porcelain socket and mounting bracket • Lamp socket uses quick disconnects for ease of service • 120 Volt input
5/7-Inch Lamp Module for T4 E11 Lamp	MQT4	• Accepts up to 150W T4 E11 (mini can) lamp • Module consists of nickel-plated porcelain socket and mounting bracket • Lamp socket uses quick disconnects for ease of service • 120 Volt input

Rounds
Housing Platforms

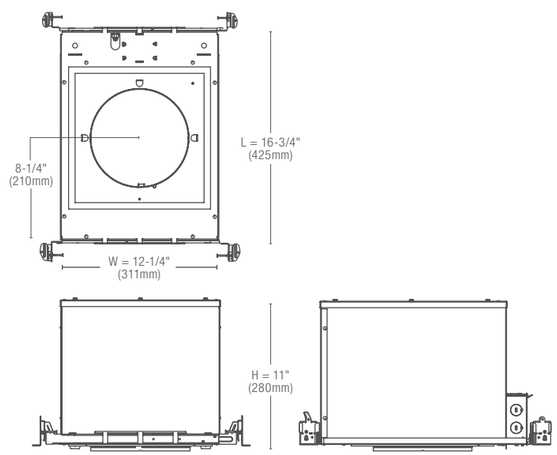
7"

The **Housing Platform + Lamp Module + Optical Element** combination supports various lamp types and a complete range of optical distributions.



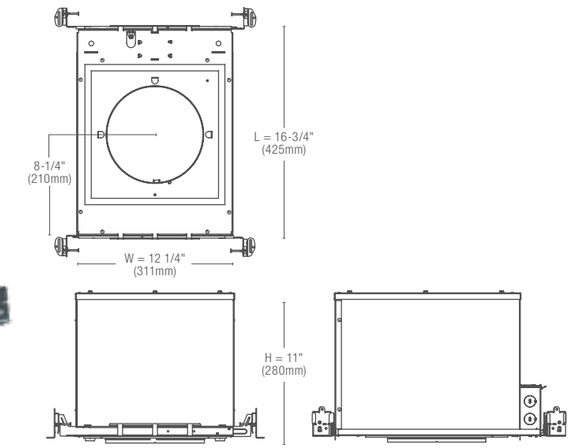
7-Inch Aperture Modular IC, Housing Platform

P7	LENGTH 16-3/4"	WIDTH 12-1/4"	HEIGHT 11"	CUTOUT 7-3/4"
A specification-grade housing platform that accepts fluorescent, low-voltage halogen and line-voltage incandescent lamp modules; with a removable top to allow re-lamping from above. Platform is airtight and may be used in direct contact with insulation. A complete fixture requires an IRiS lamp module and optical element.				



7-Inch Aperture Modular NON-IC, Housing Platform

PN7	LENGTH 16-3/4"	WIDTH 12-1/4"	HEIGHT 11"	CUTOUT 7-3/4"
A specification-grade housing platform that accepts fluorescent, low-voltage halogen and line-voltage incandescent lamp modules; with a removable top to allow re-lamping from above. Platform is airtight, but insulation must be kept 3" away from fixture. A complete fixture requires an IRiS lamp module and optical element.				



7-Inch Aperture Modular IC, Housing Platform

P742ICAT	LENGTH 16-3/4"	WIDTH 12-1/4"	HEIGHT 11"	CUTOUT 7-3/4"
A specification-grade dedicated compact fluorescent 26/32/42W airtight platform for use in direct contact with insulation. Complete fixture requires an IRiS optical element. IRiS 7" platforms rated for direct contact with insulation are available with several element choices. The airtight housing prevents airflow between attic and living areas. The electronic compact fluorescent ballast meets stringent requirements including FCC Title 47 CFR part 18 for consumer equipment.				

Rounds
Accessories

Lenses

L-Series Filter Media: Lenses are available in either MR16 size or PAR36/AR111 size, for use with all IRiS products.

Optical: Optically clear lenses are used to modify the beam of light. For proper installation, the textured side is placed away from the lamp.

LLNR: Linear spread lenses fan the light out 55˚ in one axis, providing a very asymmetric beam. These lenses are most effective when used with spot-type lamp distributions.

LSF: Soft-focus lenses soften beam striations while maintaining the beam spread of the lamp. These lenses are useful with MR16 lamps, which have horizontally mounted filaments. Included with MR16 platforms and lamp modules.

LSPD: Spread lenses symmetrically widen the beam spread 55˚ along both axes. These lenses are most effective when used with spot-type lamp distributions.

LUV: Ultraviolet reducing lens.

LHEX: Matte Black hex cell louver provides 45˚ cutoff to lamp.

Flush Mount Collar

A field installed Flush Mount Collar allows the element flange to sit flush with the finished ceiling rather than on top of it. Collar installs onto plaster lip when platform is mounted. After ceiling is installed finish contractor adjusts collar to proper height and applies skim coat up to edge of collar. Collar adjusts for any ceiling thickness between 5/8" to 1". Lensed Wall Wash and Shower elements should not be used with FMC as they will be difficult to remove for re-lamping.

FMC3: Fits P3120, PN3120, P3MR, and PN3MR. Not for use with RPN3MR.

FMC5: Fits P5, PN5, P532ICAT and P532LUTRON® platforms.

Lens, Louver, and Filter Parts Numbers

MR16 (2" Dia.)	PAR36/AR111 (4-1/4" Dia.)	FC Multiplier
LLNR	L4LNR	.30
LSF	L4SF	.60
LSPD	L4SPD	.20
LUV	L4UV	.99
LHEX	L4HEX	.85
L27K	N/A	.95
LLPINK	L4LPINK	.60
LLSTRAW	L4LSTRAW	.94
LDAY	L4DAY	.60
LPLAV	L4PLAV	.50
LSPINK	L4SPINK	.20

Theatrical Tinting Colors

Warming tints
L27K: 2700K dichroic filter warms an MR16 tungsten halogen 3000˚K light source to a warmer incandescent color temperature without dimming.
LLPINK: Light pink
LLSTRAW: Light straw
Cooling tints
LDAY: Daylight filter
LPLAV: Pale lavender
LSPINK: Surprise pink

Bar Hangers

No-flex mounting bars with unique interlocking shape provide sturdy installation and are included with all new construction platforms. An integral nail and locator lip provide the consistent and proper platform installation height, and can be used for solid wood, engineered lumber, and metal stud construction. Mounting bars allow platforms to be positioned at any point between joists and will span up to 22.5" (joist spacing of 24" O.C.). For joist spacing of 12" or less, bars snap off to the required distance without needing to be removed from the platform. Integral tee-grid clip attaches directly to most tee-grid systems and spans up to 24".

MB22: Two piece bar hanger for 24" maximum joist spacing. Set of two. For replacement order one MB22 per fixture.

Plaster Lip Extensions

Plaster lip extensions allow IRiS Platforms to be installed in ceilings up to 2" thick. Available in three aperture sizes, they are field installed onto the platform. For ceilings less than 2" thick, PLE's are easily field cut for optimal installation and are suitable for all Elements. Made from one-piece spun steel 22 gauge) for true round aperture. All surfaces are Black polyester powder coated. Ideal for plaster or skim coat ceilings.

PLE3: Plaster lip extension fits P3120, PN3120, P3MR, and PN3MR platforms.

PLE5: Plaster lip extension fits P5, PN5, P532ICAT and P532TLUTRON® platforms.

PLE7: Plaster lip extension fits P7, PN7, P742ICAT platforms.

Snoot

For use with MR16 lamps. Reduces glare and spill light. Ideal for accent lighting.

LSA16: Snoot accessory for MR16 lamps. Matte Black finish.

Lighting Designer: Martin van Koolbergen, Kaplan Gehring McCarroll Architectural Lighting
Photo: Courtesy Audiovisions

Square Aperture Platforms

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Kitchen

Lighting Design: Paul Hixson, Helius Lighting Group
Photo: Paul Bardagjy Photography

Daring Design

IRiS offers a complete vocabulary of square aperture housing platforms suitable for residential or commercial construction.

These carefully designed lighting instruments provide a timeless form that seamlessly integrates with contemporary architecture without sacrificing lighting performance.

Our 4-inch and 6-inch square aperture products are incredibly flexible, accepting line or low-voltage tungsten-halogen, compact fluorescent or ceramic metal halide lamps. Many of the 4-inch housing platforms can be reconfigured and relamped from above or below the ceiling during or after the construction process.

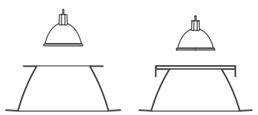
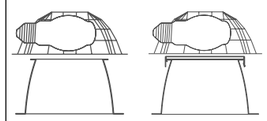
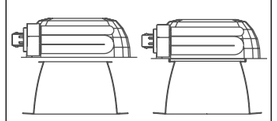
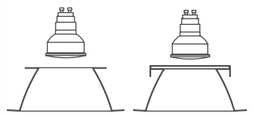
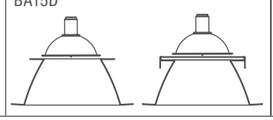
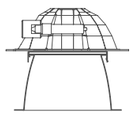
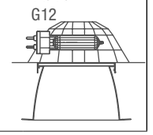
In addition, IRiS square aperture fixtures are modular, consisting of a housing platform, lamp module and optical element that can be changed anytime as your design changes.

Squares
Table of Contents

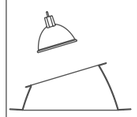
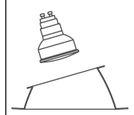
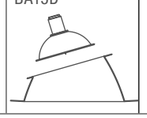
Product Matrix

Use the squares product matrix to quickly locate detailed product information based on desired aperture, lamp type and optical distribution.

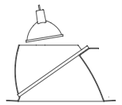
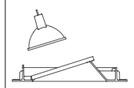
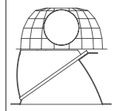
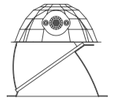
DOWNLIGHT

	LOW VOLTAGE TUNGSTEN-HALOGEN		TUNGSTEN-HALOGEN		CFL		CERAMIC METAL HALIDE	
	OPEN	LENS	OPEN	LENS	OPEN	LENS	OPEN	LENS
Page	100	103	100	103	100	103	100	103
4" PLATFORMS	MR16 GX5.3 		A17/BT15 E26 		DTT/TTT GX24Q-3/Q-4 		CMH MR16 GX10 	
	AR70 BA15D 		T4 E11 				T4/T6 G12 	

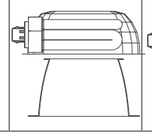
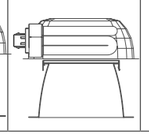
DIRECTIONAL / ACCENT

	LOW VOLTAGE TUNGSTEN-HALOGEN		TUNGSTEN-HALOGEN		CFL		CERAMIC METAL HALIDE	
	OPEN	LENS	OPEN	LENS	OPEN	LENS	OPEN	LENS
Page	101	106					101	106
4" PLATFORMS	MR16 GX5.3 						CMH MR16 GX10 	
	AR70 BA15D 							

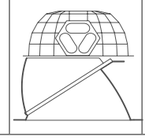
WALL WASH

	LOW VOLTAGE TUNGSTEN-HALOGEN		TUNGSTEN-HALOGEN		CFL		CERAMIC METAL HALIDE	
	OPEN	LENS	OPEN	LENS	OPEN	LENS	OPEN	LENS
Page	102	102	102		102		102	
4" PLATFORMS	MR16 GX5.3 		A17/BT15 E26  T4 E11 		DTT/TTT GX24Q-3/Q-4 		T4/T6 G12 	

DOWNLIGHT

	LOW VOLTAGE TUNGSTEN-HALOGEN		TUNGSTEN-HALOGEN		CFL		CERAMIC METAL HALIDE	
	OPEN	LENS	OPEN	LENS	OPEN	LENS	OPEN	LENS
Page					112	113		
6" PLATFORMS					DTT/TTT GX24Q-3/Q-4 			

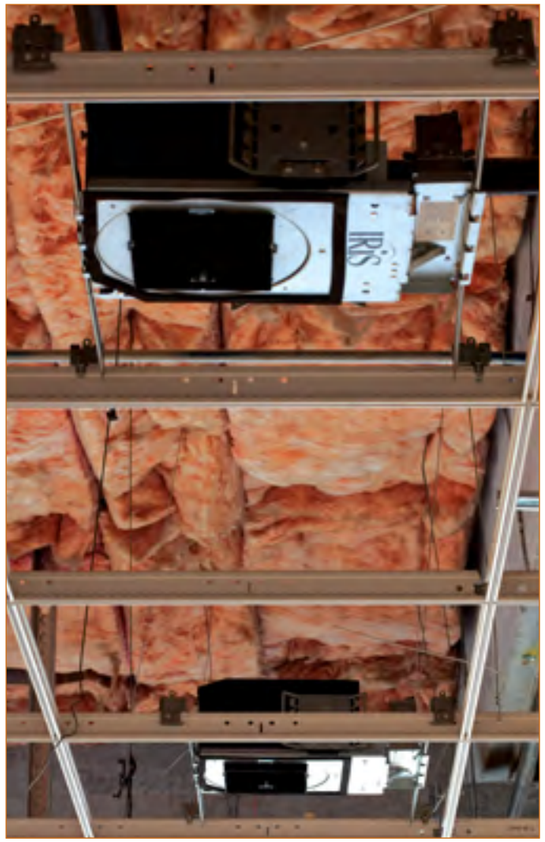
WALL WASH

	LOW VOLTAGE TUNGSTEN-HALOGEN		TUNGSTEN-HALOGEN		CFL		CERAMIC METAL HALIDE	
	OPEN	LENS	OPEN	LENS	OPEN	LENS	OPEN	LENS
Page					112			
6" PLATFORMS					DTT/TTT GX24Q-3/Q-4 			

Housing/Platform Features

The successful execution of any lighting design depends heavily on the tradesperson responsible for installation. Square aperture recessed luminaires pose special challenges to the installer. The aperatures must align visually with other apertures as well as with the architectural elements of the space. Any misalignments will be more apparent and more annoying than with round apertures. To ensure a successful installation, several helpful features have been included in the design of the platforms, lamp modules and elements.

Commercial Installation



Residential Installation

For minimal ceiling presence. optical elements can be installed in a “rimless” style with the ceiling material. Use rimless accessory.

The “rimless” look can even be achieved with solid ceiling materials such as wood or tile with rimless accessory.

Bar Hanger Feautures

- Pre-installed and captive.
- Pre-installed nail easily penetrates traditional framing, engineered joists, laminate lumber, even frozen lumber.
- Adapts to steel framing.
- Integral clip installs to tee grid ceiling members. No additional clips required.
- Bar hangers can be shortened for tight joist spacing without removing hangers from plaster frame.
- NON-IC platforms include butterfly brackets for 1/2" EMT, C-Channels or commercial grade bar hangers. Brackets adjust 3" vertically.
- Bar hangers include alternate mounting holes including bottom slot for fine tuning platform position.
- If necessary, bar hangers can be removed from joist with a claw hammer and reused. Bar hanger and nail will not be damaged.
- Fixture is locked in position on hanger bars with locking screw.

Junction Box

- Quick Connect Wago wiring connectors in junction box.
- Seven conveniently located pryouts on junction box.
- cULus listed for through branch wiring.

Mounting Collar

- Integral "gun sights" on housing collar facilitate the use of guide strings or laser lines for positioning the housing.
- Collar adjusts vertically to accommodate 1/2" to 1" thick ceiling material.
- Collar can be rotated ±7.5° through the aperture to fine tune alignment.

Lamp Holder/Lamp Module

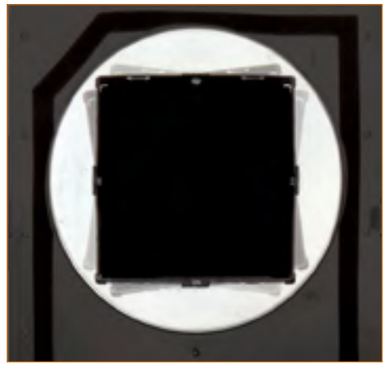
- Can be installed or removed through the aperture or from the top without tools.
- Can be oriented at 0°, 90°, 180° and 270°. Lamp module position is independent of the platform orientation.
- Optical screws provided to lock module in collar.

Optical Elements

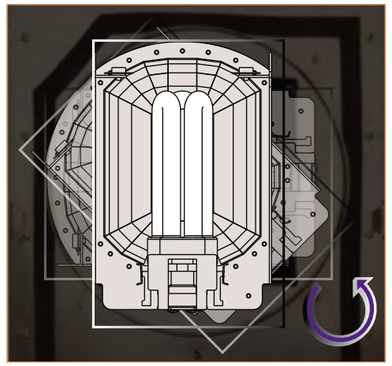
- "Mouse-trap" springs pull element tight against ceiling material.
- Alignment springs insure positive alignment.

IC Air-Tight Construction

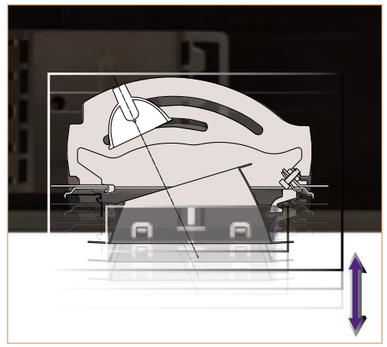
- All platforms are airtight rated and meet ASTM-E283 requirements for restricted air flow.
- Pre-installed closed cell gaskets achieve restrictive air flow requirements without additional caulking.
- Airtight feature prevents air flow between conditioned spaces and attic areas, reduces heating and air conditioning losses, minimizes drafts and eliminates condensation damage in attic areas.
- IC construction: platforms can be completely covered with insulation to maintain an unbroken barrier, helping maintain heating and air conditioning.



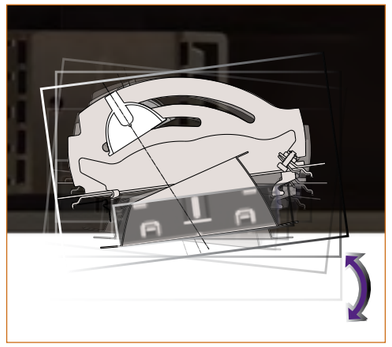
Collar rotates independent from housing and allows for ±7.5° adjustment through the aperture.



Optics can be installed at 0°, 90°, 180° and 270°. Element orientation is independent of platform orientation. Trim and collar rotate together to insure maximum performance.



Trim and collar adjust vertically as one piece to adapt to varying ceiling thicknesses of 1/2" and 1". Optional extended depth collar accommodates ceiling thicknesses up to 2".



Trim and collar also adjust together to accommodate out-of-line ceiling material.

Optical Design

Beam Forming Lamps

LAMP	DESCRIPTION

MR16 Lamps

A. Lamp Socket with Integral Heat Sink: Ceramic GX5.3 socket in die-cast aluminum multi-finned heat sink. Keyed design aids relamping.

B. MR16 Lamp: 12V MR16 tungsten halogen lamp up to 75 watts—available in a wide variety of beam patterns (by others)).

C. Lampholder Body: Die-cast aluminum body holds lamp securely and assures proper alignment. Integral slots provide lamp cooling.

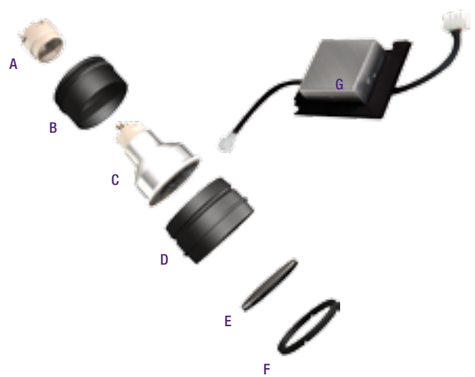
D. Lens: 2-inch diameter flat glass lens and soft focus lens provided with module.

E. Lens Holder: Die-cast aluminum screw-in lens holder allows use of up to two media. Ridges provide positive finger grip.

F. Snoot: Matte Black Lamp Snoot Accessory tightens beam and provides sharper lamp cutoff (order separately).

G. Transformer: Integral dual output toroidal magnetic transformer, 120V 50/60Hz input, highly efficient, low noise 12V nominal 75W max output. Separate output for circuits controlled by dimmers compensates for losses in dimmers, improves color temperature and lumen output.

CMH Lamps



A. Lamp Socket: Pulse rated GX10 socket for ceramic metal halide MR16 lamps.

B. Lamp Locking Ring: Machined aluminum locking ring holds lamp securely and accommodates variations in lamp maximum overall length.

C. CMH MR16 Lamp: Ceramic metal halide lamp with integral reflector. Available in various beam patterns (by others).

D. Lampholder Body: Machined aluminum lampholder body provides positive lamp alignment. Allows use of one media.

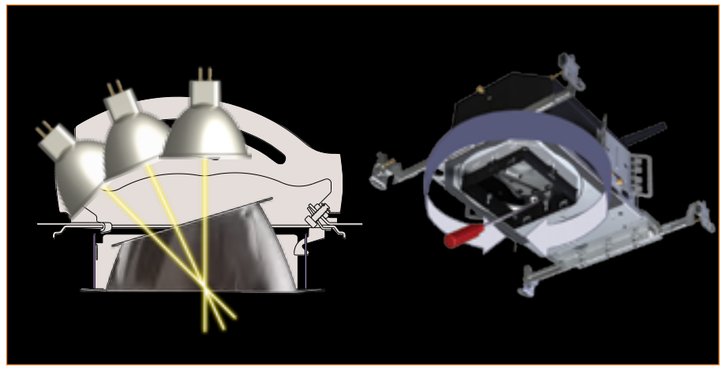
E. Glass Lens: 2-inch diameter clear and soft focus glass lens provided with module. May be replaced by beam modifying or color filter.

F. Lens Holder: Aluminum locking ring secures media.

G. Ballast: Universal input electronic ballast provides full light output and rated lamp life. Provides noise-free operation and starting. Offers excellent voltage regulation resulting in increased color stability and flicker-free operation.

Translating Center Beam Optics

Ensure glare-free performance at all adjustment angles. Translating the lamp forward allows maximum light out of the aperture at nadir.



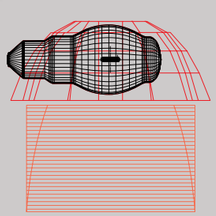
Hot Aiming

- Allows rapid and accurate aiming from below the aperture without blocking the beam.
- Screwdriver is used to change rotation and tilt
- Allows accurate 0° to 45° tilt and maintains any adjustment angle during relamping.
- The entire lamp module rotates 365° allowing full coverage of the area to be illuminated.
- Degree markings allow for consistent tilt from fixture to fixture.

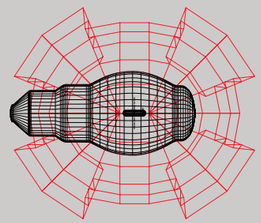
Optical Design

Non-Beam Forming Lamps

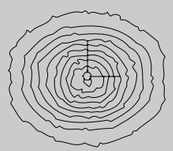
LAMP	DESCRIPTION
T4/6 Ceramic Metal Halide Lamps	**A. Primary Reflector:** Miro® segmented upper reflector creates a smooth square beam with medium distribution. **B. Ceramic Metal Halide Lamp:** Accepts 20, 39 or 70W T4 or T6 G12 ceramic metal halide lamps. Will not accept lower CRI lamps (by others). **C. Ballast:** Universal input electronic ballast provides full light output and rated lamp life. Provides noise free operation and starting. Offers excellent line voltage regulation resulting in increased color stability and flicker free operation.
Tungsten-Halogen T4 E11 Lamps	**A. Primary Reflector:** Miro® segmented upper reflector creates a smooth square beam with medium distribution. **B. Tungsten–Halogen Lamp:** Accepts up to 150W T4 E11 (mini-can) tungsten-halogen lamp providing long life, bright White light and good efficiency.
Tungsten-Halogen BT15/A17 Lamps	**A. Primary Reflector:** Miro® segmented upper reflector creates a smooth square beam with medium distribution. **B. Tungsten–Halogen Lamp:** Accepts 150W maximum BT15/A17 tungsten halogen lamps (by others). Will not accept a lower efficacy A19 type.



BT15 Side View



BT15 Bottom View



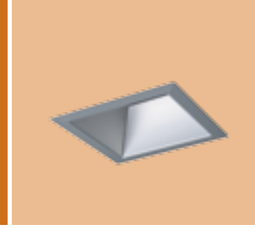
Square Distribution

LAMP	DESCRIPTION
Compact Fluorescent Lamps	**A. Primary Reflector:** Miro® segmented upper reflector creates a smooth square beam with medium distribution. Equipped with turn and lock GX24q-3q socket. Two position socket accommodates either 26W DTT / 42W TTT or 26 / 32 TTT. **B. Compact Fluorescent Lamp:** Accepts 4-pin 26W DTT and 26 / 32 / 42W TTT compact fluorescent lamps (by others). **C. Ballast:** Available with the following ballast options. • Universal input 120-277V electronic ballast features multi-watt 26 / 32 / 42W DTT / TTT capability. • 347V input electronic ballast with multi-watt 26 / 32 / 42W DTT / TTT capability. • 120V input electronic dimming ballast for 26W DTT / TTT, dims down to 5% and compatible with two wire control systems. • 120V input electronic dimming ballast for 32W TTT, dims down to 5% and compatible with two wire control systems.

Compact fluorescent configuration offers Two position lamp socket. Simply press tabs and entire socket assembly slides to accommodate 26 / 32W TTT or 26W DTT / 42W TTT lamps.

Squares

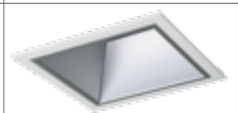
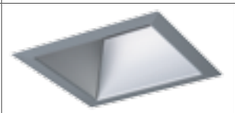
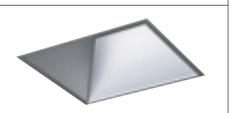
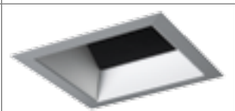
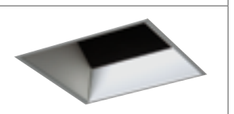
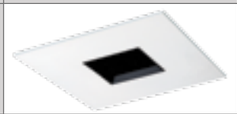
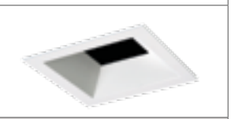
Optical Elements: Reflectors and Flange Styles



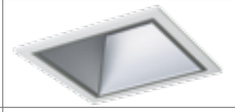
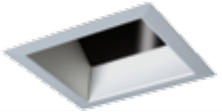
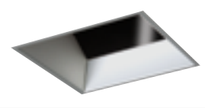
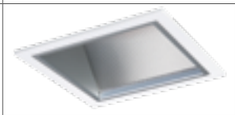
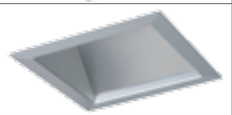
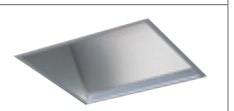
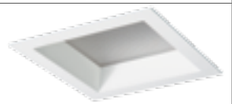
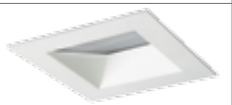
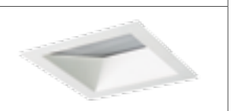
IRiS square optical elements are designed to be glare-free and visually similar across all optical distributions for a consistent look throughout an installation. There are three basic styles of flanges available for optical elements:

1. Matte White Die-cast metal trim ring that can be removed in the field and finished to match any decor or replace with the optional painted or plated trim rings.
2. Self-flanged with precision mitered corners. The flange finish matches the reflector finish unless the White flange option is specified.
3. Rimless for a minimal ceiling presence. Specify the RL option to install the pinhole, regressed pinhole or regressed lens wall wash rimless. Remove the metal trim ring to install the downlight, angle-cut or lens wall wash rimless.

Reflector and Flange Styles: Open

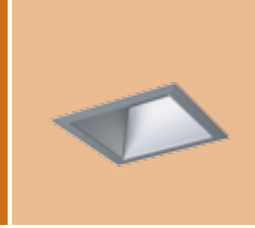
ELEMENT	METAL TRIM RING	SELF-FLANGED	RIMLESS
55% Cutoff Downlight Prismatoid E4DL E6DL			
Shallow Downlight Prismatoid E4MR			
Angle-Cut Prismatoid E4AA			
Pinhole E4PIN			
Regressed Pinhole E4RPIN			

Reflector and Flange Styles: Lens

ELEMENT	METAL TRIM RING	SELF-FLANGED	RIMLESS
55% Cutoff Downlight Primatoid E4DLSR E6DLSR			
Shallow Downlight Prismatoid E4MRSR			
Angle-Cut Prismatoid E4AASR			
Lens Wall Wash E4LWW E6LWW			
Shallow Lens E4SL			
E6SL			
Pinhole E4PINSR			
Regressed Pinhole E4RPINSR			
Regressed Lens Wall Wash E4RLWW			

Squares

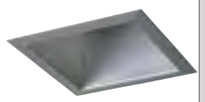
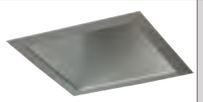
Optical Elements: Finish and Texture Options

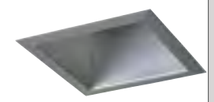
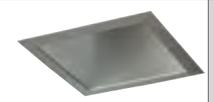
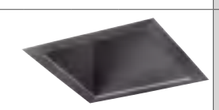


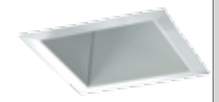
IRiS offers more finish choices than any manufacturer, giving the designer the ability to match any color scheme imagined. These durable anodized finishes are available in specular and semi-specular surfaces as well as semi-gloss and matte painted finishes.

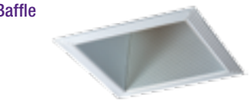
Specify semi-specular for a matte surface to reduce aperture brightness and iridescence for an understated elegance. Use specular for full light output.

Finishes for 4 and 6-Inch Square Reflectors (Only)

Specular Alzak® Reflector Finishes		DESCRIPTION
Clear Low Iridescent (LI)		A clear specular Alzak® finish which delivers full light output with low iridescence.
Gold (G)		A Gold specular Alzak® finish with champagne tones.
Wheat (WH)		A robust Gold specular Alzak® finish that adds significant warmth.
Cognac (K)		A warm Copper color in a specular Alzak® finish. A good choice for wood ceilings or anywhere that a rich look is diesired. Similar to 'Bronze' by other manufacturers.
Chocolate (CC)		A warm dark color similar to architectural Bronze in a specular Alzak® finish.
Graphite (GP)		A gun metal Gray in a specular Alzak® finish. An alternative for Black Alzak® and does not show dust as much.
Black (B)		A specular Alzak® finish providing maximum aperture darkness.

Semi-Specular Alzak® Reflector Finishes		DESCRIPTION
Clear Haze (H)		A clear semi-specular Alzak® finish to provide visual identity.
Warm Haze (WMH)		A semi-specular Alzak® finish with a hint of Gold to provide visual warmth.
Wheat Haze (WHH)		A robust Gold semi-specular Alzak® finish that adds significant warmth.
Cognac Haze (KH)		A warm Copper color in a semi-specular Alzak® finish.
Chocolate Haze (CCH)		A warm dark color similar to architectural Bronze in a semi-specular Alzak® finish.
Graphite Haze (GPH)		A gun metal Gray in a semi-specular Alzak® finish.

Painted Finishes		DESCRIPTION
Gloss White (W)		Painted White finish for a neutral daytime ceiling look.
Matte White (MW)		Painted diffuse White finish for a neutral daytime ceiling look.
Matte Black (MB)		Painted diffuse Black finish for maximum aperture darkness.

Textures		DESCRIPTION
Corrugated Baffle (CB)		Optical elements are available in an asymmetrical corrugated texture that reduces brightness and adds visual interest. The corrugated reflector segments are book matched in the corners and held in precise alignment by the frame.

Reflector Construction

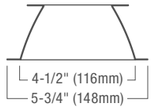
Reflector segments are die-formed into repeatable parabolic contours from high purity aluminum sheet. The segments are held in precise alignment by a frame. Seams are machine crimped into U channels eliminating light leaks between segments. Retention springs hold the element tight to the ceiling and spring clips align optic with collar. A closed cell foam gasket eliminates light leaks.

Squares
Optical Elements: Downlight

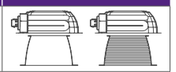
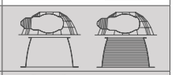
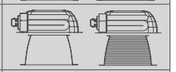
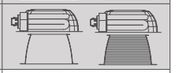
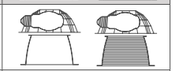
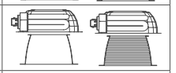
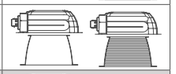
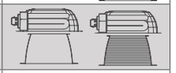
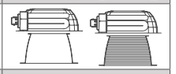
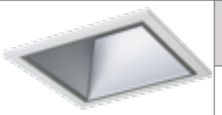
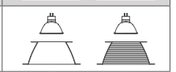
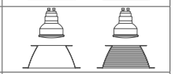
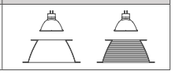
4"

4" Optical Elements

IRiS 4-inch square aperture optical elements when combined with lamp modules and housing platforms create a two piece optical system designed to be glare-free and visibly similar across all optical distributions for a consistent look throughout. IRiS offers coordinated apertures across the squares family and are available in downlight, directional / accent, wall wash and lens / shower rated adapting to any lighting need.



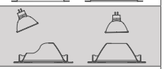
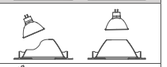
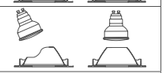
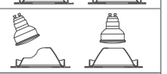
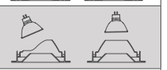
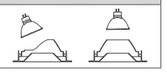
Downlight

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
4-Inch Square Downlight Reflector Use with horizontal burn tungsten-halogen and compact fluorescent lamps E4DL **4-Inch Square Corrugated Downlight Reflector** Use with horizontal burn tungsten-halogen and compact fluorescent lamps E4DLCB		PN41H42 PN4CP1H42	None	26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
		P406TAT P406TCP	MH4BT	150W A17/BT15 E26	
			MH4CFL42E MH4CFL423E	26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
			MH4CFL1D26 MH4CFL1D32	26W DTT/TTT 32W TTT GX24 q-3+q-4 CFL	
		P408ICAT	MH4BT	100W A17/BT15 E26	
			MH4CFL42E	26W DTT, 26/32W TTT GX24 q-3+q-4 CFL	
			MH4CFL1D26 MH4CFL1D32	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		P40832ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		P4081D26ICAT P4081D32ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
4-Inch Square Downlight Reflector Use with reflector type lamps E4MR **4-Inch Square Shallow Corrugated Downlight Reflector** Use with reflector type lamps E4MRCB		P4MRTAT	None	75W MR16 GX5.3 Tungsten-Halogen	
		P406TAT P406TCP	MA4MR MV4MR	75W MR16 GX5.3 Tungsten-Halogen	
			MA4CMH20MRE MV4CMH20MRE	20W MR16 GX10 Ceramic Metal Halide	
			MA4CMH39MRE MV4CMH39MRE	39W MR16 GX10 Ceramic Metal Halide	
		P4MRICAT	None	50W MR16 GX5.3 Tungsten-Halogen	
		P408ICAT	MA4MR MV4MR	50W MR16 GX5.3 Tungsten-Halogen	

Squares
Optical Elements: Directional / Accent

4"

Directional / Accent

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
4-Inch Square Angle-Cut Reflector Use with reflector type lamps E4AA **4-Inch Square Corrugated Angle-Cut Reflector** Use with reflector type lamps E4AACB		P4MRTAT	None	75W MR16 GX5.3 Tungsten-Halogen	
		P406TAT P406TCP	MA4MR	75W MR16 GX5.3 Tungsten-Halogen	
			MA4CMH20MRE MA4CMH39MRE	20W MR16 GX10 CMH 39W MR16 GX10 CMH	
		P4MRICAT	None	50W MR16 GX5.3 Tungsten-Halogen	
		P408ICAT	MA4MR	50W MR16 GX5.3 Tungsten-Halogen	
1-3/4 Inch Square Pinhole With Oculus Use with reflector type lamps. Oculus can be removed in the field to create 2-1/4" aperture E4PIN **2-Inch Square Regressed Pinhole** Use with reflector type lamps E4RPIN		P4MRTAT	None	75W MR16 GX5.3 Tungsten-Halogen	
		P406TAT P406TCP	MA4MR MV4MR	75W MR16 GX5.3 Tungsten-Halogen	
			MA4CMH20MRE MV4CMH20MRE	20W MR16 GX10 Ceramic Metal Halide	
			MA4CMH39MRE MV4CMH39MRE	39W MR16 GX10 Ceramic Metal Halide	
		P4MRICAT	None	50W MR16 GX5.3 Tungsten-Halogen	
		P408ICAT	MA4MR MV4MR	50W MR16 GX5.3 Tungsten-Halogen	

OPTICAL ELEMENT CATALOG NUMBER EXPLANATION

ELEMENT	SHIELDING MEDIA	REFLECTOR TEXTURE	REFLECTOR FINISHES			FLANGE STYLE AND FINISH OPTIONS
E4DL, E4CMH, E4MR, E4AA, E4LWW	**[Blank]** = None **SR** = Clear Glass **SR1G** = Prismatic Glass **SR2G** = Diffuse Glass **SR3G** = Clear Glass **SR5G** = Opal White Glass (E4CMH with diffuse lens only, E4LWW with linear spread lens only, leave blank)	**[Blank]** = Smooth **CB** = Corrugated Baffle Corrugated Baffle not availabe with E4LWW)	**Alzak® Finishes** **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	**H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	**Painted Finishes** **W** = Gloss White **MW** = Matte White **MB** = Matte Black	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting **SF** = Self-flanged, flange finish matches reflector **SFWF** = Self-flanged, Matte White painted flange **RL** = Rimless
ELEMENT	**REFLECTOR FINISHES**		**FLANGE STYLE AND FINISH OPTIONS**			
E4PIN	Unless otherwise stated, shipped with Black Alzak® upper reflector to control aperture brightness		**[Blank]** = Matte White Die-cast Flange with Black Oculus **RL** = Matte White Die-cast Flange with Black Oculus, for Rimless Installations			
ELEMENT	**TEXTURE**		**FLANGE STYLE AND FINISH OPTIONS**			
E4PINSR, E4RPIN, E4RPINSR	Unless otherwise stated, shipped with Black Alzak® upper reflector to control aperture brightness		**[Blank]** = Matte White Die-cast Flange **RL** = Matte White Die-cast Flange, for Rimless Installations			

Squares
Optical Elements: Lens Wall Wash

4"

Lens Wall Wash

ELEMENT	PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
4-Inch Square Lens Wall Wash Use with horizontal burn tungsten-halogen, compact fluorescent and ceramic metal halide lamps. Use also with reflector type lamps E4LWW	PN41H42 PN4CP1H42	None	26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
	P406TAT P406TCP	MH4BT	150W A17/BT15 E26	
		MH4CFL42E MH4CFL423E	26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
		MH4CFL1D26 MH4CFL1D32	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		MH4CMH20T6E MH4CMH39T6E MH4CMH70T6E	20W T4 G12 Ceramic Metal Halide 39W T6 G12 Ceramic Metal Halide 70W T6 G12 Ceramic Metal Halide	
		MH4QT	100W T4 E11 Tungsten-Halogen	
		MV4MR	75W MR16 GX5.3 Tungsten-Halogen	
	P408ICAT	MH4BT	100W A17/BT15 E26	
		MH4CFL42E	26W DTT, 26/32W TTT GX24 q-3+q-4 CFL	
		MH4CFL1D26 MH4CFL1D32	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		MH4QT	75W T4 E11 Tungsten-Halogen	
		MV4MR	50W MR16 GX5.3 Tungsten-Halogen	
	P40832ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
	P4081D26ICAT P4081D32ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
4-Inch Square Regressed Lens Wall Wash Use with reflector type lamps E4RLWW	P406TAT P406TCP	MV4MR	75W MR16 GX5.3 Tungsten-Halogen	
	P408ICAT	MV4MR	50W MR16 GX5.3 Tungsten-Halogen	

Squares
Optical Elements: Lens / Shower Rated

4"

Lens / Shower Rated

ELEMENT	PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
4-Inch Square Lens Downlight Reflector Use with horizontal burn tungsten-halogen and compact fluorescent lamps E4DLSR **4-Inch Square Lens Corrugated Downlight Reflector** Use with horizontal burn tungsten-halogen and compact fluorescent lamps E4DLSRCB	PN41H42 PN4CP1H42	None	26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
	P406TAT P406TCP	MH4BT	150W A17/BT15 E26	
		MH4CFL42E MH4CFL423E	26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
		MH4CFL1D26 MH4CFL1D32	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		MH4QT	100W T4 E11 Tungsten-Halogen	
	P408ICAT	MH4BT	100W A17/BT15 E26	
		MH4CFL42E	26W DTT, 26/32W TTT GX24 q-3+q-4 CFL	
		MH4CFL1D26 MH4CFL1D32	26W DTT/TTT 32W TTT GX24 q-3+q-4 CFL	
		MH4QT	100W T4 E11 Tungsten-Halogen	
	P40832ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
	P4081D26ICAT P4081D32ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
4-Inch Square Shallow Lens Downlight Reflector Use reflector type lamps E4MRSR **4-Inch Square Shallow Lens Corrugated Downlight Reflector** Use reflector type lamps E4MRSRCB	P4MRTAT	None	75W MR16 GX5.3 Tungsten-Halogen	
	P406TAT P406TCP	MA4MR MV4MR	75W MR16 GX5.3 Tungsten-Halogen	
		MA4CMH20MRE MV4CMH20MRE	20W MR16 GX10 Ceramic Metal Halide	
		MA4CMH39MRE MV4CMH39MRE	39W MR16 GX10 Ceramic Metal Halide	
	P4MRICAT	None	50W MR16 GX5.3 Tungsten-Halogen	
	P408ICAT	MA4MR MV4MR	50W MR16 GX5.3 Tungsten-Halogen	

Notes: Please add cone color and flange option from page 101.

Squares
Optical Elements: Lens / Shower Rated

4"

Lens / Shower Rated

ELEMENT	PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
4-Inch Square Diffuse Lens Downlight Reflector Use with horizontal burn ceramic metal halide lamps E4CMH **4-Inch Square Diffuse Lens Corrugated Downlight Reflector** Diffuse lens for horizontal burn ceramic metal halide lamps E4CMHCB	P406TAT P406TCP	MH4CMH20T6E MH4CMH39T6E MH4CMH70T6E	20W T4 G12 Ceramic Metal Halide 39W T6 G12 Ceramic Metal Halide 70W T6 G12 Ceramic Metal Halide	
4-Inch Square Shallow Lens Downlight Use with horizontal burn tungsten-halogen, compact fluorescent and ceramic metal halide lamps E4SL	PN41H42 PN4CP1H42	None	26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
	P406TAT P406TCP	MH4BT	150W A17/BT15	
		MH4CFL42E MH4CFL423E	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		MH4CFL1D26 MH4CFL1D32	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		MH4CMH20T6E MH4CMH39T6E MH4CMH70T6E	20W T4 G12 Ceramic Metal Halide 39W T6 G12 Ceramic Metal Halide 70W T6 G12 Ceramic Metal Halide	
		MH4QT	100W T4 E11 Tungsten-Halogen	
	P408ICAT	MH4BT	100W A17/BT15 E26	
		MH4CFL42E MH4CFL423E	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		MH4CFL1D26 MH4CFL1D32	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
		MH4QT	75W T4 E11 Tungsten-Halogen	
	P40832ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	
	P4081D26ICAT P4081D32ICAT	None	26W DTT/TTT, 32W TTT GX24 q-3+q-4 CFL	

Notes: Please add cone color and flange option from page 101.

Squares
Optical Elements: Lens / Shower Rated / Adjustable

4"

Lens / Shower Rated / Adjustable

ELEMENT	PLATFORM	LAMP MODULE	MAX LAMP
4-Inch Square Lens Angle-Cut Reflector Use with reflector type lamps E4AASR **4-Inch Square Lens Angle-Cut Corrugated Reflector** Use with reflector type lamps E4AASRCB	P4MRTAT	None	75W MR16 GX5.3 Tungsten-Halogen
	P406TAT P406TCP	MA4MR	75W MR16 GX5.3 Tungsten-Halogen
		MA4CMH20MRE MA4CMH39MRE	20W MR16 GX10 CMH 39W MR16 GX10 CMH
	P4MRICAT	None	50W MR16 GX5.3 Tungsten-Halogen
	P408ICAT	MA4MR	50W MR16 GX5.3 Tungsten-Halogen
2-1/4 Inch Square Lens Pinhole with Oculus Use with reflector type lamps E4PINSR	P4MRTAT	None	75W MR16 GX5.3 Tungsten-Halogen
	P406TAT P406TCP	MA4MR MV4MR	75W MR16 GX5.3 Tungsten-Halogen
		MA4CMH20MRE MV4CMH20MRE	20W MR16 GX10 Ceramic Metal Halide
		MA4CMH39MRE MV4CMH39MRE	39W MR16 GX10 Ceramic Metal Halide
2-Inch Square Lens Regressed Pinhole Use with reflector type lamps E4RPINSR	P4MRICAT	None	50W MR16 GX5.3 Tungsten-Halogen
	P406TAT P406TCP	MA4MR MV4MR	75W MR16 GX5.3 Tungsten-Halogen
		MA4CMH20MRE MV4CMH20MRE	20W MR16 GX10 Ceramic Metal Halide
	P408ICAT	MA4MR MV4MR	50W MR16 GX5.3 Tungsten-Halogen

OPTICAL ELEMENT CATALOG NUMBER EXPLANATION

ELEMENT	FINISHES		FLANGE STYLE
E4RLWW	**Painted Finishes** **W** = Gloss White **MW** = Matte White **MB** = Matte Black	**Plated Finishes** **SAL** = Satin Aluminum **SN** = Satin Nickel	**[Blank]** = Self Flanged **RL** = Rimless

ELEMENT	SHIELDING MEDIA	FINISHES		FLANGE STYLE
E4SL	**1G** = Prismatic Glass **2G** = Diffuse Glass **5G** = Opal White Glass	**Painted Finishes** **W** = Gloss White **MW** = Matte White **MB** = Matte Black	**Plated Finishes** **SAL** = Satin Aluminum **SN** = Satin Nickel	**[Blank]** = Self Flanged **RL** = Rimless

Squares
Lamp Modules

IRiS square lamp modules when combined with the lower shielding prismatoid create a two-piece optical system with good efficiency and excellent light control. They are available in a broad range of lamp choices and a full vocabulary of distributions. IRiS lamp modules can be installed though the aperture or by top access without tools and changed during or after construction adapting to any lighting need.

Common lamp module features include the following:

- Horizontal lamp modules feature a Miro® segmented reflector which yields a smooth square beam with medium distribution
- Ballast and transformers can be serviced through the aperture
- Integral electrical quick connector for one handed connection to the housing platform

4" Horizontal

MODULE	MODULE	DESCRIPTION
4-Inch Horizontal Module for A17/BT15 Tungsten-Halogen Lamp	MH4BT	• Accepts up to 150W A17 or BT15 tungsten-halogen lamp providing long life, bright White light and good efficiency • Does not accept lower efficiency A19 incandescent type lamps • Ceramic E11 lamp holder with nickel plated brass contacts eliminate 'lamp freeze' • 120V input
4-Inch Horizontal Module for T4 E11 Tungsten-Halogen Lamp	MH4QT	• Accepts up to 150W T4 E11 (mini-can) tungsten-halogen lamp providing long life, bright White light and good efficiency • Use with lens optical elements • Ceramic E11 lamp holder with nickel plated brass contacts eliminate 'lamp freeze' • 120V input
4-Inch Horizontal Module for Compact Fluorescent Lamp	MH4CFL42E MH4CFL423E	• Accepts up to 26W DTT or 26/32/42W TTT compact fluorescent lamp • Two position turn and lock GX24 q-3+q-4 lamp socket optimizes lamp position • Universal input electronic ballast features multi-watt capability, programmed rapid start allow use with occupancy sensors and building control systems • Meets EMI & RFI per FCC Part 18 for consumer limits when operated at 120VAC, and non-consumer limits at 277VAC • Available in 347V input version (3E option) • Also available integral with a dedicated housing platform T24 requirements
4-Inch Horizontal Dimming Module for Compact Fluorescent Lamp	MH4CFL1D26 MH4CFL1D32	• Accepts 26W DTT/TTT or 32W TTT compact fluorescent lamp depending on model • Two position turn and lock GX24 q-3+q-4 lamp socket optimizes lamp position • Lutron® Tu-Wire® electronic ballast allows dimming down to 5% • 120V input • Meets EMI & RFI per FCC Part 18 for consumer limits at 120VAC • Also available integral with a dedicated housing platform meeting T24 requirements
4-Inch Horizontal Module for Ceramic Metal Halide Lamp	MH4CMH20T6E MH4CMH39T6E MH4CMH70T6E	• Accepts 20, 39 or 70W T4 or T6 G12 ceramic metal halide lamp depending on model • Universal input electronic ballast meets EMI & RFI per FCC Part 18 for non-consumer limits • Suitable for non-residential applications only

4" Vertical / Directional

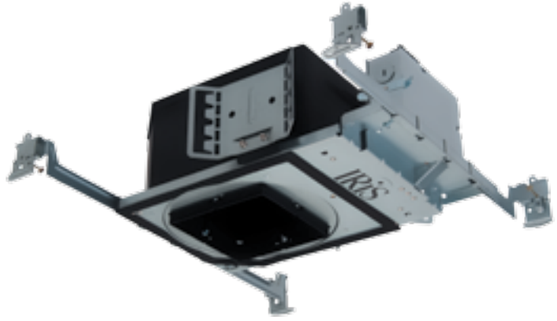
MODULE	MODULE	DESCRIPTION
4-Inch Vertical Module for Low Voltage MR16 Lamp	MV4MR	• Accepts up to 75W Max, MR16 GX5.3 tungsten-halogen lamp • 120V input • Die-cast lamp capsule with robust heat sink operates critical lamp seal below rated maximum temperature • Accepts up to two lens or filters and optional reverse taper snoot • Epoxy encapsulated toroidal transformer is extremely low noise • Locking three position mechanism for downlight and lens wall wash
4-Inch Directional Module for Low Voltage MR16 Lamp	MA4MR	• Accepts up to 75W Max, MR16 GX5.3 tungsten-halogen lamp • 120V input • Hot aiming rotates 365°, tilts 45° and locks into position using a #2 Phillips screwdriver • Translating center beam optics aligns axis of lamp with aperture as lamp translates from nadir through 45° • Die-cast lamp capsule with robust heat sink operates critical lamp seal below rated maximum temperature • Accepts up to two lens or filters and optional reverse taper snoot • Epoxy encapsulated toroidal transformer is extremely low noise • Also available integral with a dedicated housing platform
4-Inch Vertical Module for Ceramic Metal Halide MR16 Lamp	MV4CMH20MRE MV4CMH39MRE	• Accepts 20/39W MR16 GX10 ceramic metal halide lamp • Accepts one lens or filter • Universal input electronic ballast meets EMI & RFI per FCC Part 18 for non-consumer limits • Suitable for non-residential applications
4-Inch Directional Module for Ceramic Metal Halide MR16 Lamp	MA4CMH20MRE MA4CMH39MRE	• Accepts 20/39W MR16 GX10 ceramic metal halide lamp • Hot aiming rotates 365°, tilts 45° and locks into position using a #2 Phillips screwdriver • Translating center beam optics aligns axis of lamp with aperture as lamp translates from nadir through 45° • Accepts 1 lens or filter • Universal input electronic ballast meets EMI & RFI per FCC Part 18 for non-consumer limits • Suitable for non-residential applications

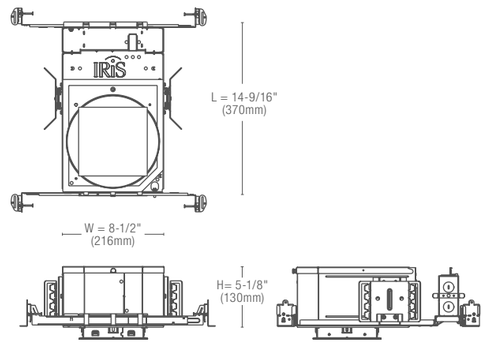
Squares
Housing Platforms

4"

Housing Specifications:

IRiS square aperture housing platforms are suitable for residential or commercial constructions. Accepts line or low voltage tungsten-halogen, compact fluorescent or ceramic metal halide lamp modules and can be reconfigured from above or below the ceiling during or after the construction process.
The **Housing Platform + Lamp Module + Optical Element** combination supports various lamp types and a complete range of optical distributions.





4-Inch Square Aperture Shallow NON-IC, AT Housing Platform

P406TAT	LENGTH 14-9/16"	WIDTH 8-1/2"	HEIGHT 5-1/8"	CUTOUT 5-1/4"

- Modular housing platform, requires lamp module to complete rough-in
- Suitable for 2x6 residential or shallow plenum commercial installations
- Butterfly mounting brackets provide 3" of vertical adjustment and accept 1/2" EMT, C-channel, or commercial grade bar hangers
- Butterfly mounting brackets can be removed in the field to allow tight joist spacing
- Rated for (8) #12 through branch
- Insulation must be kept 3" away from housing

4-Inch Square Aperture MR16 Directional NON-IC, AT Housing Platform

P4MRTAT	LENGTH 14-9/16"	WIDTH 8-1/2"	HEIGHT 5-1/8"	CUTOUT 5-1/4"

- Shipped with MR16 directional lamp module and transformer installed
- Suitable for 2x6 residential or shallow plenum commercial installations
- Butterfly mounting brackets provide 3" of vertical adjustment and accept 1/2" EMT, C-channel or commercial grade bar hangers
- Butterfly mounting brackets can be removed in the field to allow tight joist spacing
- Rated for (8) #12 through branch
- 120V 60Hz input
- Insulation must be kept 3" away from housing

4-Inch Square Aperture Shallow NON-IC, Chicago Plenum Housing

P406TCP	LENGTH 14-9/16"	WIDTH 8-1/2"	HEIGHT 5-1/8"	CUTOUT 5-1/4"

- Modular housing platform, requires lamp module to complete rough-in
- Suitable for Chicago plenum commercial installations
- Butterfly mounting brackets provide 3" of vertical adjustment and accept 1/2" EMT, C-channel, or commercial grade bar hangers
- (7) 1/2" trade size knockouts
- Rated for (8) #12 through branch
- Insulation must be kept 3" away from housing

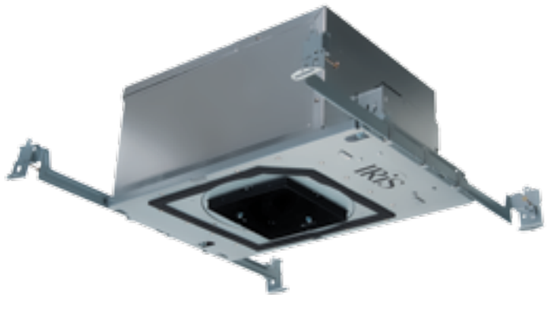
4-Inch Square Aperture MR16 Directional NON-IC, Chicago Plenum Housing

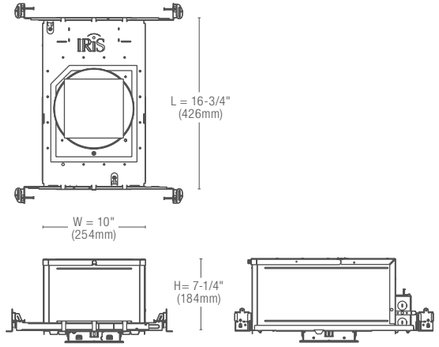
P4MRTCP	LENGTH 14-9/16"	WIDTH 8-1/2"	HEIGHT 5-1/8"	CUTOUT 5-1/4"

- Shipped with MR16 directional lamp module and transformer installed
- Suitable for Chicago plenum commercial installations
- Butterfly mounting brackets provide 3" of vertical adjustment and accept 1/2" EMT, C-channel, or commercial grade bar hangers
- (7) 1/2" trade size knockouts
- Rated for (8) #12 through branch
- 120V 60Hz input
- Insulation must be kept 3" away from housing

Common Platform Features:

- Galvanized steel plaster frame with integral bar hanger receivers
- Captive pre-installed bar hangers with integral nail
- All fasteners are captive
- Housing interior painted flat Black for a visually dark interior
- Top access
- Junction box has (7) 1/2" trade size pry outs & three integral clamps for non-metallic cable
- Push wire connectors for line, neutral and ground field wiring
- Collar adjusts vertically 1/2" – 1" and rotates ± 7.5° through the aperture
- Thermally protected, cULus Listed for ASTM-E283 air-tight





4-Inch Square Aperture MR16 Directional IC & AT Housing Platform

P4MRICAT	LENGTH 16-3/4"	WIDTH 10"	HEIGHT 7-1/4"	CUTOUT 5-1/4"

- Shipped with MR16 directional lamp module and transformer installed
- Suitable for 2x8 residential or commercial installations
- Rated for (4) #12 through branch
- May be used in direct contact with insulation
- 120V 60Hz input

4-Inch Square Aperture IC & AT Housing Platform

P408ICAT	LENGTH 16-3/4"	WIDTH 10"	HEIGHT 7-1/4"	CUTOUT 5-1/4"

- Modular housing platform, requires lamp module to complete rough-in
- Suitable for 2x8 residential or commercial installations
- Rated for (4) #12 through branch
- May be used in direct contact with insulation

4-Inch Square Aperture 26/32W DTT/TTT IC & AT Housing Platform

P40832ICAT	LENGTH 16-3/4"	WIDTH 10"	HEIGHT 7-1/4"	CUTOUT 5-1/4"

- Shipped with 26/32W DTT/TTT horizontal compact fluorescent lamp module and ballast installed
- Suitable for 2x8 residential or commercial installations
- Rated for (4) #12 through branch
- May be used in direct contact with insulation
- 120V 60Hz input
- Meets California Title 24 requirements

4-Inch Square Aperture 32W DTT/TTT Dimming IC & AT Housing Platform

P4081D32ICAT	LENGTH 16-3/4"	WIDTH 10"	HEIGHT 7-1/4"	CUTOUT 5-1/4"

- Shipped with 32W DTT/TTT horizontal compact fluorescent lamp module and Lutron® Tu-Wire® dimming ballast installed
- Suitable for 2x8 residential or commercial installations
- Rated for (4) #12 through branch
- May be used in direct contact with insulation
- 120V 60Hz input
- Meets California Title 24 requirements

4-Inch Square Aperture 26W DTT/TTT Dimming IC & AT Housing Platform

P4081D26ICAT	LENGTH 16-3/4"	WIDTH 10"	HEIGHT 7-1/4"	CUTOUT 5-1/4"

- Shipped with 26W DTT/TTT horizontal compact fluorescent lamp module and Lutron® Tu-Wire® dimming ballast installed
- Suitable for 2x8 residential or commercial installations
- Rated for (4) #12 through branch
- May be used in direct contact with insulation
- 120V 60Hz input
- Meets California Title 24 requirements

Squares
Housing Platforms

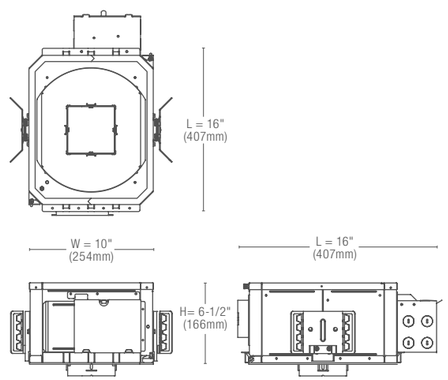
Housing Specifications:

The IRiS PN4 housing platform series was developed for demanding commercial applications. The lamp modules are pre-installed in the housing platform and have a broad range of control gear options including internal emergency operation.

The Housing Platform + Optical Element combination supports various lamp types and a complete range of optical distributions.

Common Platform Features:

- Galvanized steel plaster frame with integral bar hanger receivers
- Universal butterfly mounting bracket
- All fasteners are captive
- Housing painted flat Black for a visually dark interior
- Top access and lamp replacement
- Oversized junction box has (8) 1/2" and (2) 3/4" trade size pry outs
- Separate compartment for line and low voltage field connections
- Push wire connectors for line, neutral and ground connections
- Collar adjusts to accommodate 1/2 - 2" ceiling thickness and rotates ±7.5° through the aperture
- Thermally protected, cULus listed and ASTM-E283 air-tight



4-Inch Square Aperture NON-IC, AT Housing Platform

PN41H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 6-5/8"

- Full vocabulary of distributions including open, lens and wall wash
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2-2"
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip
- Insulation must be kept 3" away from housing

4-Inch Square Aperture NON-IC, Chicago Plenum Housing Platform

PN4CP1H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 6-5/8"

- Full vocabulary of distributions including open, lens and wall wash
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2 -2"
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip
- Insulation must be kept 3" away from housing

Features and Benefits: 4-Inch NON-IC AT Housing Platform

BALLAST

- Removable mounting plate allows for above or below ceiling service
- 120-277V Universal input and multi wattage output standard, 347V optional
- Broad range of dimming options
- Optional Emergency Ballast mounts to outrigger and can be serviced from below the ceiling by removing ballast mounting plate

COLLAR

- Adjusts through aperture
- Locking ±7.5° rotation
- 0.5" – 2.0" height adjustment

OVERSIZED JUNCTION BOX

- Separate factory and field compartments
- Separate low voltage compartment when controls with low voltage control wiring are specified

TOP ACCESS

- Hinged cover can be removed for top access
- Locking screw is captive

HOUSING PLATFORM CATALOG NUMBER EXPLANATION

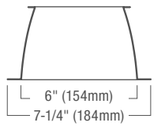
HOUSING PLATFORM	LAMP TYPE/WATTAGE	BALLAST	OPTIONS	ACCESSOIES
PN4 = 4" square aperture, NON-IC, AT **PN4CP** = 4" square aperture, NON-IC, AT CCEA listed for City of Chicago plenum requirements	**1H42** = (1) 26W DTT or 26//32/42W TTT GX24q-3+q-4 CFL lamp	**E** = UNV 120 – 277V electronic, 50/60Hz **3E** = 347V electronic, 50/60Hz **ED26/32ES** = 120 – 277V 26/32W electronic 5% 3-wire & DALI **ED42ES** =120 – 277V 42W electronic 5% 3-wire & DALI **1D26HL** = 120V 26W electronic 1% 3-wire dimming **1D32HL** = 120V 32W electronic 1% 3-wire dimming **2D26HL** = 277V 26W electronic 1% 3-wire dimming **2D32HL** = 277V 32W electronic 1% 3-wire dimming	**IEM** = emergency battery pack with integral test switch **WRT** = wireless remote test switch	**MB24** = 24" long No-Flex™ mounting bars with integral nail and tee grid clip **RA4X4** = Rimless adapter for 4" elements

Squares
Optical Elements: Downlight, Wall Wash

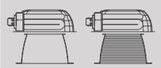
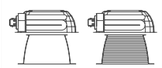
6"

6" Optical Elements

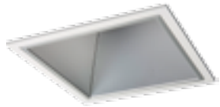
IRiS 6-inch square aperture optical elements when combined with lamp modules and housing platforms create a two piece optical system designed to be glare-free and visibly similar across all optical distributions for a consistent look throughout. IRiS offers coordinated apertures across the squares family and are available in downlight, directional / accent, wall wash and lens / shower rated adapting to any lighting need.



Downlight

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	
6-Inch Square Downlight Reflector Use with horizontal burn compact fluorescent lamps E6DL **6-Inch Square Corrugated Downlight Reflector** Use with horizontal burn compact fluorescent lamps E6DLCB		PN61H42 PN6CP1H42	None	(1) 26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
		PN62H42 PN6CP2H42	None	(2) 26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	

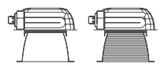
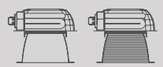
Lens Wall Wash

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
6-Inch Square Lens Wall Wash Use with horizontal burn compact fluorescent lamps E6LWW		PN6L1H42 PN6LCP1H42	None	(1) 26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	

Squares
Optical Elements: Lens / Shower Rated

6"

Lens / Shower Rated

ELEMENT		PLATFORM	LAMP MODULE	MAX LAMP	WET LOCATION LISTED
6-Inch Square Lens Downlight Reflector Use with horizontal burn compact fluorescent lamps E6DLSR **6-Inch Square Lens Corrugated Downlight Reflector** Use with horizontal burn compact fluorescent lamps E6DLSRCB		PN61H42 PN6CP1H42	None	(1) 26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
		PN62H42 PN6CP2H42	None	(2) 26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	
6-Inch Square Shallow Lens Downlight Use with horizontal burn compact fluorescent lamps E6SL		PN6S1H42 PN6SCP1H42	None	(1) 26W DTT, 26/32/42W TTT GX24 q-3+q-4 CFL	

OPTICAL ELEMENT CATALOG NUMBER EXPLANATION

ELEMENT	REFLECTOR FINISHES			FLANGE STYLE AND FINISH OPTIONS
E6DL, E6DLCB, E6LWW, E6DLSR, E6DLSRCB, E6SL	**Alzak® Finishes** **C** = Clear **G** = Gold **WH** = Wheat **K** = Cognac **CC** = Chocolate **GP** = Graphite **B** = Black	**H** = Clear Haze **WMH** = Warm Haze **WHH** = Wheat Haze **KH** = Cognac Haze **CCH** = Chocolate Haze **GPH** = Graphite Haze	**Painted Finishes** **W** = Gloss White **MW** = Matte White **MB** = Matte Black	**(Blank)** = Matte White painted die-cast flange ring, removable for field painting **SF** = Self-flanged, flange finish matches reflector **SFWF** = Self-flanged, Matte White painted flange **RL** = Rimless

Squares
Housing Platforms

6"

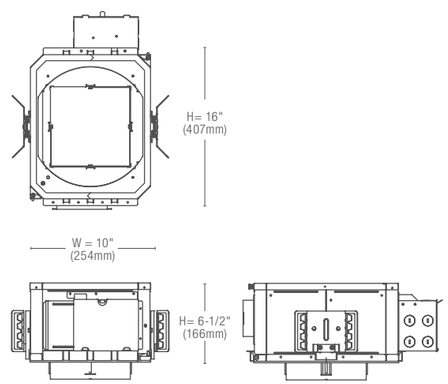
Housing Specifications:

The IRiS PN6 housing platform series was developed for demanding commercial applications. The lamp modules are pre-installed in the housing platform and have a broad range of control gear options including internal emergency operation.

The **Housing Platform + Optical Element** combination supports various lamp types and a complete range of optical distributions.

Common Platform Features:

- Galvanized steel plaster frame with integral bar hanger receivers
- Universal butterfly mounting bracket
- All fasteners are captive
- Housing painted flat Black for a visually dark interior
- Top access and lamp replacement
- Oversized junction box has (8) 1/2" and (2) 3/4" trade size pry outs
- Separate compartment for line and low voltage field connections
- Push wire connectors for line, supply and dimming controls
- Collar adjusts to accommodate 1/2 - 2" ceiling thickness and rotates ±7.5° through the aperture
- Thermally protected, cULus listed and ASTM-E283 air tight
- Keep insulation 3" away from top and sides of housing



6-Inch Square Aperture NON-IC, AT Housing Platform

PN61H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 6-5/8"

- Accepts (1) 26W DTT or 26/32/42W TTT Lamp
- Use with open or lens elements, wet location listed with lens
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

6-Inch Square Aperture NON-IC, Chicago Plenum Housing

PN6CP1H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 6-5/8"

- Accepts (1) 26W DTT or 26/32/42W TTT Lamp
- Use with open or lens elements, wet location listed with lens
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

6-Inch Square Aperture NON-IC, AT Housing Platform

PN62H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 5-1/4"

- Accepts (2) 26W DTT or 26/32/42W TTT Lamp
- Use with open or lens elements, wet location listed with lens
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

6-Inch Square Aperture NON-IC, AT Housing Platform

PN6CP2H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 5-1/4"

- Accepts (2) 26W DTT or 26/32/42W TTT Lamp
- Use with open or lens elements, wet location listed with lens
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

6-Inch Square Aperture NON-IC, AT Housing Platform

PN6L1H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 5-1/4"

- Accepts (1) 26W DTT or 26/32/42W TTT Lamp
- Use with lens wall wash elements, wet location listed
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

6-Inch Square Aperture NON-IC, AT Housing Platform

PN6LCP1H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 5-1/4"

- Accepts (1) 26W DTT or 26/32/42W TTT Lamp
- Use with lens wall wash elements, wet location listed
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

6-Inch Square Aperture NON-IC, AT Housing Platform

PN6S1H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 5-1/4"

- Accepts (1) 26W DTT or 26/32/42W TTT Lamp
- Use with shallow lens elements, wet location listed
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

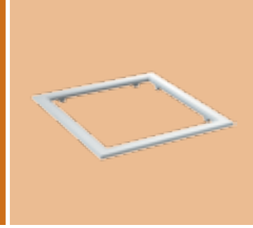
6-Inch Square Aperture NON-IC, AT Housing Platform

PN6SCP1H42	LENGTH 16"	WIDTH 10"	HEIGHT 6-1/2"	CUTOUT 5-1/4"

- Accepts (1) 26W DTT or 26/32/42W TTT Lamp
- Use with shallow lens elements, wet location listed
- Housing interior painted flat Black for a visually dark interior
- Two-stage optics provide high efficiency with low aperture brightness
- Broad range of dimming and internal emergency options
- Collar adjusts 1/2" -2" deep and rotates ±7.5° from below the ceiling
- Top access for service and lamp replacement
- Universal butterfly brackets accept bar hangers and 1/2" EMT
- Optional bar hangers adjust up to 24" and have integral nail and tee grid clip

6"

Squares
Accessories



Features and Benefits: 6-Inch NON-IC AT Housing Platform

BALLAST

- Removable mounting plate allows for above or below ceiling service.
- 120-277V Universal input and Multi wattage output standard, 347V optional.
- Broad range of dimming options.
- Optional Emergency Ballast mounts to outrigger and can be serviced from below. the ceiling by removing ballast mounting plate.

COLLAR

- Adjusts through aperture.
- Locking ±7.5° rotation.
- 0.5" – 2.0" height adjustment.

OVERSIZED JUNCTION BOX

- Separate factory and field compartments.
- Separate low voltage compartment when controls with low voltage control wiring are specified.

TOP ACCESS

- Hinged cover can be removed for top access.
- Locking screw is captive.

HOUSING PLATFORM CATALOG NUMBER EXPLANATION

HOUSING PLATFORM	LAMP TYPE/WATTAGE	BALLAST	OPTIONS	ACCESSOIES
PN6 = 6" square aperture, NON-IC, AT **PN6CP** = 6" square aperture, NON-IC, AT CCEA listed for City of Chicago plenum requirements **PN6S** = 6" square aperture, NON-IC, AT, for shallow lens **PN6SCP** = 6" square aperture, NON-IC, AT, for shallow lens, CCEA listed for City of Chicago plenum requirements **PN6L** = 6" square aperture, NON-IC, AT, for lens wall wash **PN6LCP** = 6" square aperture, NON-IC, AT, for lens wall washCCEA listed for City of Chicago plenum requirements	**1H42** = (1) 26//32/42W DTT/TTT GX24 q-3+q-4 CFL lamp **2H42** = (2) 26//32/42W DTT/ TTT GX24 q-3+q-4 CFL lamp (2H42 is only available with PN6/ PN6CP)	**E** = UNV 120 – 277V electronic, 50/60Hz 3E = 347V electronic, 50/60Hz **ED26/32ES** = 120 – 277V 26/32W electronic 5% 3-wire & DALI **ED42ES** =120 – 277V 42W electronic 5% 3-wire & DALI **1D26HL** = 120V 26W electronic 1% 3-wire dimming **1D32HL** = 120V 32W electronic 1% 3-wire dimming **2D26HL** = 277V 26W electronic 1% 3-wire dimming **2D32HL** = 277V 32W electronic 1% 3-wire dimming	**IEM** = emergency battery pack with integral test switch **WRT** = wireless remote test switch	**MB22** = 24" long No-Flex™ mounting bars with integral nail and tee grid clip **RA6X6** = Rimless adapter for 6" elements **L6X6HEX** = 6" Matte Black hex cell louver with mounting frame **MTR6MW** = 6" metal trim ring, Matte White **MTR6MB** = 6" metal trim ring, Matte Black **MTR6SN** = 6" metal trim ring, Satin Nickel **MTR6TBZ** = 6" metal trim ring, Tuscan Bronze

2" Diameter Theatrical Tinting Colors for MR16 Lamps

WARMING TINTS
L27K = 2,700°K dichroic filter warms an MR16 tungsten-halogen 3,000°K light source to a warmer incandescent color temperature without dimming.

LLPINK = Light Pink
LLSTRAW = Light Straw

COOLING TINTS
LDAY = Daylight Filter
LPLAV = Pale Lavender
LSPINK = Surprise Pink

2" Diameter Filter Media for MR16 Lamps

Optically clear lenses are used to modify the beam of light. For proper installation, the textured side is placed away from the lamp.

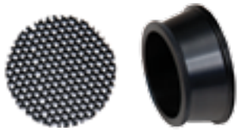
LLNR = Skytek linear spread lens fans the light out 55° in one axis providing a very asymmetric beam. These lenses are most effective when used with spot distribution lamps.

LSF = Solite lens softens beam striations while maintaining the beam spread of the lamp. These lenses are useful with MR16 lamps with horizontally mounted filaments. Included with MR16 lamp modules.

LSPD = Crystal #73 prismatic spread lens symmetrically widens the beam spread 55° along both axis. These lenses are most effective when used with spot distribution lamps.

LUV = Ultraviolet reducing lens.

2" Diameter Louvers and Snoots



LHEX = 2" diameter Matte Black hex cell louver provides 45° cutoff, 50W maximum use limit.

LSA16 = Matte Black lamp snoot accessory for use with die-cast lamp capsule.

4" Square Filter Media for Lens Trims

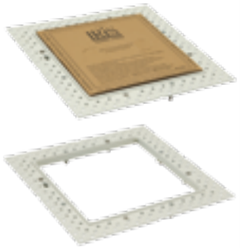
L4X4LNR = Skytek linear spread lens fans the light out 55° in one axis providing a very asymmetric beam.

L4X4SF = Solite lens softens beam striations while maintaining the beam spread of the lamp.

L4X4SPD = Crystal #73 prismatic spread lens symmetrically widens the beam spread 55° along both axis.

L4X4HEX = Matte Black hex cell louver provides 45° cutoff, supplied with mounting ring and can be used with E4DL_, E4MR_, and E4AA.

Rimless Adapters



Rimless adapters for 4" and 6" square Aperture housing platforms provide means to install optical elements flush with the finished ceiling surface with a minimal visual presence.

RA4X4 = 4" rimless adapter for skim coat and plaster ceilings.
RLA4X4 = 4" rimless adapter for solid ceiling surfaces.
RA6X6 = 6" rimless adapter for skim coat and plaster ceilings.
PLR4X4 = 4" Plaster lathing ring for rimless.

Square Metal Trim Ring

Metallic finishes bring drama to a lighting installation. Use these trims to either complement kitchen and bath accessories or to add a decorative touch on their own. Choose from a palette of finishes ranging from the understated Satin Nickel to bold Antique Copper to lustrous Tuscan Bronze. Also available in the traditional Matte White and Matte Black painted finishes.

MTR4MW = 4" MATTE WHITE painted metal.
MTR4MB = 4" MATTE BLACK painted metal.
MTR4SN = 4" SATIN NICKEL plated metal.
MTR4TBZ = 4" TUSCAN BRONZE plated metal.
MTR6MW = 6" MATTE WHITE painted metal.
MTR6MB = 6" MATTE BLACK painted metal.
MTR6SN = 6" SATIN NICKEL plated metal.
MTR6TBZ = 6" TUSCAN BRONZE plated metal.

Mounting Bars

MB22 = 24" long No-Flex™ mounting bars with integral nail and tee grid clip. Use with plaster frames with integral bar hanger receivers. Set of two. Order one MB22 per fixture.

4" Square Extended Depth Collars

Extended depth collars are used to replace standard depth collars provided on housing platform to allow use with thicker ceilings. Use with P406 and P408 Series housing platforms.

EDC4X41 = Extended depth collar for 1"–1-1/2" thick ceilings.
EDC4X42 = Extended depth collar for 1-1/2"–2" thick ceilings.

The beauty of ordering a complete unit

Housing Platform + Lamp Module + Optical Element = Complete Fixture

IRiS combines a brilliant range of products with the ease of ordering a single fixture

We assemble our optical solutions and test their optical performance with our own engineers in our own laboratories.

You can be assured that the complete assembly, lamp module, housing platform, optical element and accessories, will perform as specified.

Round Units

A complete 3-inch fixture requires a platform and an optical element.

3" Ordering Example

PLATFORM	+	ELEMENT
P3MR	+	E3AAC

Please add cone color and flange choice to element number.

A complete 5 or 7-inch fixture requires a platform, a lamp module and an optical element.

5" Modular Ordering Example

PLATFORM	+	MODULE	+	ELEMENT
P5	+	M120	+	E5AA

5" Non-Modular Ordering Example

PLATFORM	+	ELEMENT
P532ICAT	+	E5T

Please add cone color and flange choice to element number.

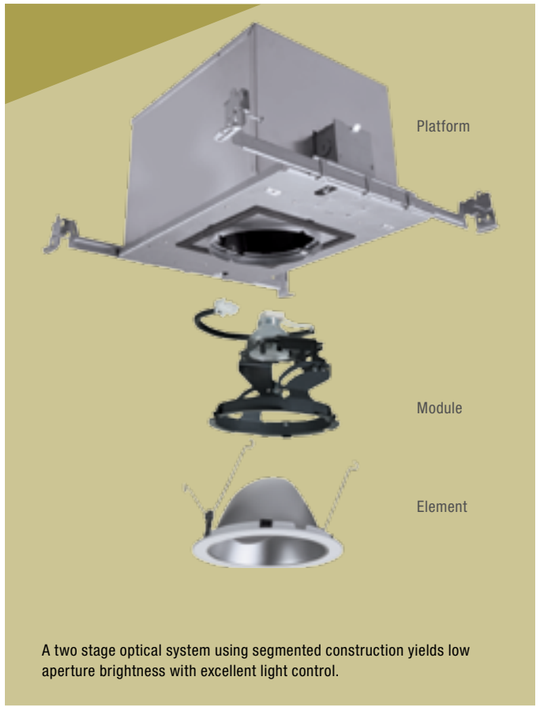
7" Modular Ordering Example

PLATFORM	+	MODULE	+	ELEMENT
P7	+	M7P38	+	E7AA

7" Non-Modular Ordering Example

PLATFORM	+	ELEMENT
P742ICAT	+	E7T

Please add cone color and flange choice to element number.



A two stage optical system using segmented construction yields low aperture brightness with excellent light control.

Square Units

A complete 4-inch fixture requires a platform and an optical element.

4" Modular Ordering Example

PLATFORM	+	MODULE	+	ELEMENT
P406TAT	+	MH4BT	+	E4DL

4" Non-Modular Ordering Example

PLATFORM	+	ELEMENT
PN41H42E	+	E4DLHSF

The most popular 4-inch square housing platforms are available with the MR16 directional or compact fluorescent lamp modules, factory installed.

EXAMPLES:
P406TAT + MA4MR = P4MRTAT
P408ICAT + MA4MR = P4MRICAT
P408ICAT + MH4CFL42E = P40832ICAT

A complete 6-inch fixture requires a platform and an optical element.

6" Ordering Example

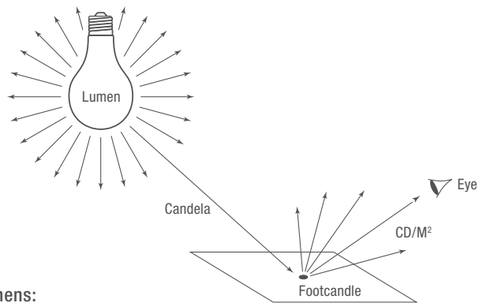
PLATFORM	+	ELEMENT
PN61H42	+	E6DL

Please add cone color and flange choice to element number.

A two stage optical system using segmented construction yields low aperture brightness with excellent light control.

How to Read Photometrics

Photometric Terms:



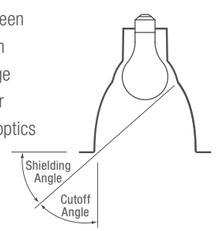
Lumens:
Luminous flux, measured in lumens (LM), is the total amount of light produced by a source without regard to direction. The luminous flux is provided by lamp manufacturers and common lumen values are included in the lamp matrix.

Candela:
Luminous intensity, measured in candela (CD), is the amount of light produced in a specific direction. Graphically, this information is compiled into polar formatted charts that indicate the intensity of light at each angle away from 0˚ lamp axis (nadir). The numeric information is also available in tabular form.

Foot-candles:
Illuminance, measured in foot-candles (FC), is the measure of the quantity of light that arrives on a surface. Three factors that affect illuminance are the intensity of the luminaire in the direction of the surface, the distance from the luminaire to the surface and the angle of incidence of the arriving light. Although illuminance cannot be detected by our eyes, it is a common criterion used in specifying designs.

Candelas/Meter2:
Luminance measured in candelas/meter2 (CD/M²) is the quantity of light that leaves a surface. It is what the eye perceives. Luminance will reveal more about the quality and comfort of a design than illuminance alone.

Cutoff:
The cutoff angle of a luminaire is the angle between the vertical axis (nadir) and the line of sight when the brightness of the source or its reflected image is no longer visible. This is the deciding factor for visual comfort in a lighting system. Deep cutoff optics provide low brightness luminaires, allowing the eye to see more effectively. The shielding angle is the complementary angle to the cutoff angle.



Photometric Information:

Test Number:
The photometric test number identifies the specific lamp and luminaire combination tested.

Lamp Information:
Identifies the lamp designation and initial lumen output.

Beam Spread:
Lamp beam spread to 50% maximum candlepower.

Center Beam Candle Power (CBCP):
Maximum candlepower of lamp at nadir.

Cutoff:
Cutoff of lamp and lamp image angle as given from nadir.

Spacing Criterion (SC):
Mathematically classifies the maximum spacing allowed in order to maintain reasonably even illumination.

Luminaire Spacing = SC x Height to Illuminated Plane

Efficiency:
Compares how much light is emitted from a luminaire, however, efficiency does not indicate the quality of light or visual comfort of a luminaire.

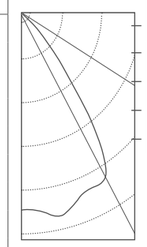
$$\text{Efficiency \%} = \frac{\text{Luminaire Lumens}}{\text{Lamp Lumens}}$$

Unit LPW:
Indicates total system efficacy, however, unit LPW provides no indication of the light's direction or quality. Some luminaires with a lower LPW may produce a more desirable lighting effect than a luminaire with a higher LPW.

$$\text{LPW} = \frac{\text{Lamp Lumens x Luminaire Efficiency}}{\text{Luminaire Watts}}$$

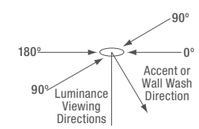
Candela Distribution Curve:
Polar candela diagrams graphically illustrate the light intensity at specific directions from nadir. Intensity is on the vertical axis and radial lines indicate elevation angles at 30˚, 60˚ and 90˚ from nadir. For symmetrical downlights, only one half of a plane of data is shown, for wall washers, both wall and downlight data are shown. Consult specification sheets for full diagrams of non-rotationally symmetric units.

CANDELAS	
Vertical Angle	CD
90˚	0
85˚	0
75˚	0
65˚	0
55˚	0
45˚	112
35˚	413
25˚	547
15˚	583
5˚	566
0˚	562



LUMINANCE	
Degree	CD/M²
85˚	0
75˚	0
65˚	0
55˚	0
45˚	11286

Luminance:
Average luminance numerically indicates the brightness of the aperture. Luminance is provided for various viewing directions, the 0˚ direction being where the wall wash or accent light is aimed. To convert the preferred cd/m2 measure to the older foot lamberts, multiply by 3.462. Typically, luminance reveals more about the quality and comfort of a lighting system than illuminance alone.



Bare Lamp Data:
Manufacturer's photometric data based on bare lamp overstate performance of reflector type lamps and require the lighting designer to estimate losses within the fixture. Additional losses from actual versus nominal operating voltage and actual versus designed filament position within the reflector further reduce light output.

Recognizing these losses IRiS publishes 'real world' photometrics for low voltage fixtures using lamps selected off the shelf, installed in fixtures with a clear lens and operated at nominal rated input voltage.

Cone of Light:
Useful tools for rapid lighting comparisons and calculations, cones of light calculate initial foot-candle levels for a single unit based upon point calculation techniques. Beam diameters are rounded to the nearest half-foot.

CONE OF LIGHT		
DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
4.5'	83	2.0'
5.5'	56	2.5'
6.5'	40	3.0'
8.0'	26	4.0'
10.0'	17	5.0'
12.0'	12	6.0'

Beam diameter is to 50% of maximum footcandles

Downlight:
These cones of light provide single-unit performance with no inter-reflections from surfaces. Data listed is for mounting height, foot-candle values at nadir, and resulting beam diameter. Please note:

1. Mounting heights are from the fixture plane to the illuminated work plane (task).
2. Foot-candle values are at nadir (0˚).
3. Beam diameter is defined as 50% maximum foot-candle values. This allows rapid spacing of units for uniform illumination, allowing overlapping of 50% levels. Note: that square apertures may produce square distributions of light.
4. Maximum foot-candle values may not always occur at nadir; batwing distributions produce maximum values surrounding nadir.
5. Proration factors are provided for other reflector finishes.

Beam Aiming:
Beam aiming diagrams allow a designer to easily select the proper distance from a wall to locate a luminaire and get the center beam of the lamp where desired.

For lighting art objects on a wall, the 30˚ aiming is preferred. At this angle, 1/3 of the beam's length will be above the CB point, and 2/3 will be below it. Thus, if a painting is three feet tall, plan for the CB to be aimed 1 foot below the top of the painting.

For increased modeling of three-dimensional objects, two lights are typically used, a key light and fill light. Both are aimed at least 30˚ elevation and are located 45˚ off axis.

How to Read Photometics Continued

Accent:
Patterns of light from adjustable accent luminaires are dependent upon the Aperture shape, lamp type, wattage, lamp tilt and location of illuminated plane. Single-unit performance data is provided. Round apertures tend to project curved or oval patterns of light on adjacent walls, while square apertures tend to project truncated or squared-off patterns of light.

1. Aiming angle is measured from nadir.
2. D is distance from the floor or wall.
3. Foot-candle values are maximum values.
4. Effective Visual Beam (EVB) is determined by 50% of the maximum foot-candle level.
5. Beam length and width based upon the EVB.
6. CB is the distance at which center beam of the lamp occurs either from the ceiling or nadir.

Wall Wash Data:
Asymmetric wall wash distributions are provided with two types of performance charts. A single-unit performance chart plots the illuminance levels at one-foot increments along and down a wall.

Multiple-unit performance charts report the performance of the middle units computed from a four unit layout. Illuminance values are plotted centerline of unit and centered between units.

1. Illuminance values are cosine-corrected initial values.
2. No room surface inter-reflections contribute to illuminance values.
3. Changing unit spacing will affect the illumination level.

New FC = Existing Spacing x Average Table FC Level / New Spacing

Light Loss Factors:
Many variables affect the illumination level after installation. Two of the greatest factors are Lamp Lumen Depreciation (LLD) and Luminaire Dirt Depreciation (LDD). Additional light loss factors affect the illumination level over time. It is the designer's responsibility to understand and apply the appropriate factors.

Lamp lumen depreciation accounts for the reduction in lumen output that all lamps experience as they age. Typical factors are listed in the following chart.

SOURCE	LLD
Standard Incandescent	0.87
Quartz Halogen Incandescent	0.95
Compact Fluorescent	0.95

Luminaire dirt depreciation accounts for the reduction in light output of a fixture due to accumulation of dirt on the surfaces of the fixture. The three factors that determine the luminaire dirt depreciation are the optical distribution, cleanliness of the environment and its cleaning cycle.

SOURCE	LLD OPEN	LDD LENS
Very Clean	0.97	0.85
Clean	0.85	0.79

Effects of Lower Operating Voltage on Lumen Output:

Any incandescent or tungsten-halogen lamp operating at less than its designed voltage will produce less lumens and a lower color temperature than stated. This effect can be of great magnitude with low voltage lamps.

The formulas below will create the multipliers to apply to photometric calculations and predictably plan the light levels of a given space.

The formula to correct output for lower secondary voltage is given below.

(Actual Xfr Output/Lamp Voltage) 3.6 = % of published output
(10.6 / 12.0)3.6 = 64%

Note: If using Excel simply enter = POWER((10.6/12.0),3.6)

The formula to correct color temp for lower secondary voltage is:

(Volts Running / Volts Rated).42 = % of rated color temperature
(10.6 / 12.0).42 = 95%

Note: If using Excel simply enter = POWER((10.6/12.0),.42)

Reflector Finish Multipliers

The finish of a reflector has a greater effect on non-directional lamps like the triple twin tube compact fluorescent lamp as compared to a directional lamp like the MR16. IRiS has tested all of our finishes with both lamp types for better accuracy. These finish multipliers are listed below each finish and should be used to modify the published photometrics for our Clear Haze Alzak® reflectors to another finish.

FINISH	NON-DIRECTIONAL
H = Clear Haze	100%
GH = Warm Haze	89%
WHH = Wheat Haze	83%
KH = Cognac Haze	77%
GPH = Graphite Haze	80%
CCH = Chocolate Haze	74%
CTH = Cobalt Haze	79%
BH = Black Haze	76%
MW = Matte White	80%
MB = Matte Black	70%

Lens, Louver and Color Filter Multipliers

The appropriate multiplier to apply with each type of media upon the photometric foot-candle charts is given below.

2" DIAMETER	4" SQUARE	FOOT-CANDLE MULTIPLIER
LLNR	L4X4LNR	.30
LSF	L4X4LSF	.60
LSPD	L4X4SPD	.20
LHEX	L4X4HEX	.85
LUV		.99
L27K		.95
LLPINK		.60
LLSTRAW		.94
LDAY		.60
LPLAV		.50
LSPINK		.20

Pitch to Degree Conversion

2/12	3/12	4/12	5/12	6/12	7/12	8/12	9/12	10/12	11/12	12/12
10°	14°	18.5°	22.5°	26.5°	30°	33.5°	36.8°	39.8°	42.5°	45°

Point-to-Point Calculations:

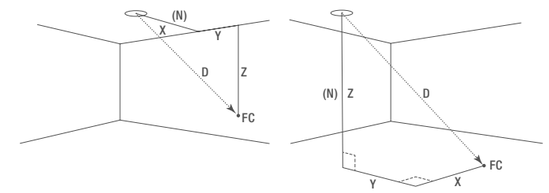
The calculation of foot-candles at a point, no matter if it is on a horizontal, vertical or tilted surface, can be accomplished with the inverse square law. The law states that the illuminance is proportional to the candlepower of the source in the given direction and inversely proportional to the square of the distance from the source. In addition, as a surface is tilted away from the source, illuminance will decrease in a ratio equal to the cosine of the angle of incidence.

The inverse square law formula can be expressed in various ways; the two most useful follow. Version 1 is ideal for the complexities of three-dimensional space as no trigonometry (cosine) is needed, just the simple X, Y and Z coordinates of the layout. It is also very useful in calculating foot-candles from the CBCP of accent lights. Version 2 is useful for calculations that can be laid out in two dimensions and when it is easy to find the cosine of the aiming angle. Insert your data into either easy-to-use formula to calculate the initial foot-candle level at a point.

VERSION 1

$$FC = \frac{I \times N}{D^3}$$

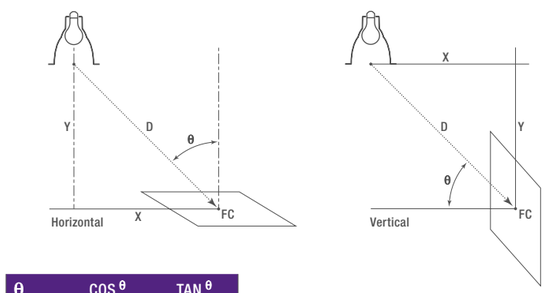
Where: **I** = CD towards Point
D = Distance to Point (square root of $X^2 + Y^2 + Z^2$)
N = Distance Normal to the Surface



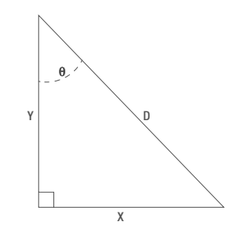
VERSION 2

$$FC = \frac{I \times \cos\theta}{D^2}$$

Where: **I** = CD towards Point
D = Distance to Point (square root of $X^2 + Y^2$)
θ = Angle between incident light ray and normal to the surface



θ	COS θ	TAN θ
0°	1.0	.000
5°	.996	.087
10°	.985	.176
15°	.966	.268
20°	.940	.364
25°	.906	.466
30°	.866	.577
35°	.819	.700
40°	.766	.889
45°	.707	1.0



To find distance D: $D = X2 + Y2$ or $D = \frac{Y}{\cos\theta}$

To find aiming angle θ: $\tan\theta = \frac{X}{Y}$ or $\cos\theta = \frac{Y}{D}$

Rounds
Photometrics: Downlight

A, Triple CFL & QT4 Lamps

P3120-E3A19C

LAMP	60 A19/IF		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	890	4'	25	3.4'
	Cutoff	50˚	6'	11	5.1'
	Spacing Criteria	0.8	7'	8	5.9'
	Efficiency	48.5%	8'	6	6.7'
	Unit LPW:	7.2	10'	4	8.4'

PN3120-E3A19C

LAMP	100A19/IF		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1750	4'	52	2.5'
	Cutoff	50˚	6'	23	4.0'
	Spacing Criteria	0.7	7'	17	4.5'
	Efficiency	46.9%	8'	13	5.3'
	Unit LPW:	8.2	10'	8	6.5'

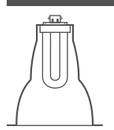
P5-M120-E5A19C

LAMP	100A19/IF				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1720	4.5'	54	4.5'
	Cutoff	50˚	5.5'	36	5.5'
	Spacing Criteria	1.0	6.5'	26	6.5'
	Efficiency	71.1%	8.0'	17	8.0'
	Unit LPW:	12.2	10.0'	11	10.0'
			12.0'	8	12.0'

P7-M120-E7A21C

LAMP	150A21/IF				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	2850	4.5'	63	6.5'
	Cutoff	50˚	5.5'	42	7.5'
	Spacing Criteria	1.2	6.5'	30	9.0'
	Efficiency	74.8%	8.0'	20	11.0'
	Unit LPW:	14.2	10.0'	13	14.0'
			12.0'	9	16.5'

P5-M42T-E5TC

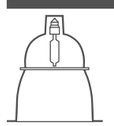


LAMP	PH 32WPLT 3000˚K				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	2400	4.5'	29	5.0'
	Cutoff	50˚	5.5'	19	6.5'
	Spacing Criteria	1.1	6.5'	14	7.5'
	Efficiency	33.7%	8.0'	9	9.5'
	Unit LPW:	23.1	10.0'	6	11.5'
			12.0'	4	14.0'

P7-M42T-E7TC

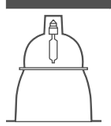
LAMP	PH 42WPLT 3000˚K				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	3200	4.5'	72	4.5'
	Cutoff	50˚	5.5'	48	5.5'
	Spacing Criteria	1.0	6.5'	35	6.5'
	Efficiency	49.2%	8.0'	23	8.0'
	Unit LPW:	34.2	10.0'	15	10.0'
			12.0'	10	12.0'

P5-MQT4-E5QT4C



LAMP	GE Q100T4/MC FROSTED				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1800	4.5'	60	3.0'
	Cutoff	50˚	5.5'	40	3.6'
	Spacing Criteria	0.7	6.5'	29	4.0'
	Efficiency	61.2%	8.0'	19	5.0'
	Unit LPW:	11.0	10.0'	12	6.5'
			12.0'	8	7.5'

P7-MQT4-E7QT4C



LAMP	GE Q150T4/MC FROSTED				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	2700	4.5'	143	2.5'
	Cutoff	50˚	5.5'	96	3.0'
	Spacing Criteria	0.6	6.5'	69	3.5'
	Efficiency	60.1%	8.0'	45	4.0'
	Unit LPW:	10.8	10.0'	29	5.0'
			12.0'	20	6.0'

Notes:
Beam diameter is to 50% of maximum footcandles.
See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

Rounds
Photometrics: Downlight

PAR Lamps

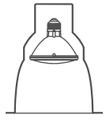
P3120-E3P20C

LAMP	GE 50PAR20/H/NFL		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	560	4.5'	83	2.0'
	Cutoff	50˚	5.5'	56	2.5'
	Spacing Criteria	0.5	6.5'	40	3.0'
	Efficiency	95%	8.0'	26	4.0'
	Unit LPW:	10.6	10.0'	17	5.0'
			12.0'	12	6.0'

P5-M120-E5P30C

LAMP	GE 75PAR30/FL		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	4.5'	136	3.0'
	Cutoff	50˚	5.5'	91	3.5'
	Spacing Criteria	0.5	6.5'	65	4.0'
	Efficiency	94.1%	8.0'	43	5.0'
	Unit LPW:	13.9	10.0'	28	6.0'
			12.0'	19	7.6'

P5-M120-E5P30C



LAMP	GE 65BR30/FL				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	770	4.5'	38	4.0'
	Cutoff	50˚	5.5'	25	5.0'
	Spacing Criteria	0.8	6.5'	18	5.5'
	Efficiency	81.6%	8.0'	12	7.0'
	Unit LPW:	9.7	10.0'	8	9.0'
			12.0'	5	10.5'

P7-M120-E7P38C

LAMP	GE Q150PAR38/FL				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1725	4.5'	208	2.5'
	Cutoff	50˚	5.5'	140	3.5'
	Spacing Criteria	0.6	6.5'	100	4.0'
	Efficiency	94.5%	8.0'	66	5.0'
	Unit LPW:	10.9	10.0'	42	6.0'
			12.0'	29	7.0'

P7-M120-E7P38C

LAMP	GE 100PAR38/FL/HIR				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	2070	4.5'	293	2.5'
	Cutoff	50˚	5.5'	196	3.0'
	Spacing Criteria	0.5	6.5'	140	3.5'
	Efficiency	84.4%	8.0'	93	4.5'
	Unit LPW:	17.5	10.0'	59	5.5'
			12.0'	41	6.5'

P7-M120-E7P38C

LAMP	GE 100PAR38/SP/HIR				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	2070	8.0'	369	2.0'
	Cutoff	50˚	10.0'	240	2.0'
	Spacing Criteria	0.2	12.0'	167	2.5'
	Efficiency	97.5%	15.0'	107	3.0'
	Unit LPW:	20.2	20.0'	60	4.0'
			25.0'	38	5.3'

PN7-M120-E7P38C

LAMP	GE Q250PAR38/SP10				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	3600	6'	1003	1.0'
	Cutoff	50˚	8'	564	1.3'
	Spacing Criteria	0.2	10'	361	1.7'
	Efficiency	95.8%	13'	214	2.2'
	Unit LPW:	13.8	15'	160	2.5'
			18'	111	3.0'
			20'	90	3.4'
			25'	58	4.2'

PN7-M120-E7P38C

LAMP	GE Q250PAR38/FL30				
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	3600	6'	489	1.1'
	Cutoff	50˚	8'	275	1.3'
	Spacing Criteria	0.2	10'	176	1.8'
	Efficiency	94.5%	12'	122	2.2'
	Unit LPW:	13.6	13'	104	2.4'
			15'	78	2.7'
			18'	54	3.3'
			20'	44	3.6'

Rounds
Photometrics: Downlight

LED & MR16 Lamps

P3MR-E3MRC

LAMP	OS 37MR161R/40/FL		CONE OF LIGHT: DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	900	4.0'	201	1.4'
	Cutoff	50˚	6.0'	90	2.0'
	Spacing Criteria	0.3	7.0'	66	2.4'
	Efficiency	72.1%	8.0'	50	2.7'
	Unit LPW:	15.8	10.0'	32	3.4'
			12.5'	21	4.2'

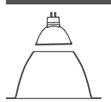
P3MR-E3MRC

LAMP	GE 50MR16/C/NFL		CONE OF LIGHT: DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1045	4.5'	162	1.5'
	Cutoff	50˚	5.5'	108	2.0'
	Spacing Criteria	0.4	6.5'	78	2.5'
	Efficiency	72.5%	8.0'	51	3.0'
	Unit LPW:	13.8	10.0'	33	3.5'
			12.0'	23	4.5'

P3MR-E3MRC

LAMP	GE 50MR16/C/FL		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1080	4.5'	123	2.0'
	Cutoff	50˚	5.5'	82	2.0'
	Spacing Criteria	0.4	6.5'	59	2.5'
	Efficiency	78.1%	8.0'	39	3.0'
	Unit LPW:	15.3	10.0'	25	4.0'
			12.0'	17	5.0'

P5-M5MR-E5MRC

LAMP	GE 50MR16/C/FL		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1080	4.5'	122	2.5'
	Cutoff	50˚	5.5'	82	3.0'
	Spacing Criteria	0.5	6.5'	58	3.5'
	Efficiency	78.3%	8.0'	39	4.0'
	Unit LPW:	15.4	10.0'	25	5.0'
			12.0'	17	6.0'

PN3MR-E3MRC

LAMP	OS 65MR16T/40/FL		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	4.0'	216	1.5'
	Cutoff	50˚	6.0'	96	2.0'
	Spacing Criteria	0.3	7.0'	71	2.0'
	Efficiency	75%	8.0'	54	2.5'
	Unit LPW:	11.8	10.0'	35	3.0'
			12.5'	22	4.0'

PN3MR-E3MRC

LAMP	GE Q71MR16/C/FL		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1200	4.5'	185	2.0'
	Cutoff	50˚	5.5'	124	2.5'
	Spacing Criteria	0.4	6.5'	89	3.0'
	Efficiency	93.9%	8.0'	59	3.5'
	Unit LPW:	14.8	10.0'	38	4.5'
			12.0'	26	5.0'

P3LED-E3MRC

LAMP	RG50NFL25		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	951	6.0'	122	2.6'
	Spacing Criteria	0.42	7.0'	90	3.1'
	Efficacy Lm/W	49.5	8.0'	69	3.5'
			10.0'	44	4.4'
			12.0'	31	5.2'

P3LED-E3MRC

LAMP	RG50FL40		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	967	6.0'	76	4.0'
	Spacing Criteria	0.58	7.0'	56	4.6'
	Efficacy Lm/W	50.4	8.0'	43	5.3'
			10.0'	27	6.6'
			12.0'	19	8.0'

P3LED-E3MRWB

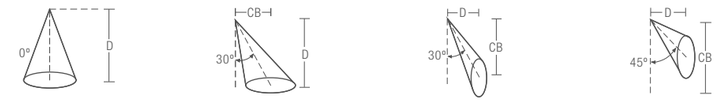
LAMP	RG50FL40		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	976	6.0'	77	3.9'
	Spacing Criteria	0.56	7.0'	56	4.5'
	Efficacy Lm/W	50.6	8.0'	43	5.2'
			10.0'	28	6.5'
			12.0'	19	7.8'

P3LED-E3MRBB

LAMP	RG50FL40		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	940	6.0'	77	3.9'
	Spacing Criteria	0.56	7.0'	56	4.5'
	Efficacy Lm/W	49.0	8.0'	43	5.2'
			10.0'	28	6.5'
			12.0'	19	7.7'

Rounds
Photometrics: Adjustable Accent Pinhole Element

MR16 Lamps



P3MR-E3PIN

LAMP	GE Q20MR16C/VNSP7		30° HORIZONTAL PLANE									45° VERTICAL PLANE									
			D	FC	BD	D	FC	L	W	CB		D	FC	L	W	CB		D	FC	L	W	CB
	Beam Spread	7° x 7°	4'	195	0.5'	4'	87	0.6'	0.6'	2.3'		2'	79	0.7'	0.6'	3.5'		2'	172	0.4'	0.4'	2.0'
	Lumens	200	6'	87	0.7'	6'	38	0.8'	0.9'	3.5'		3'	35	1.1'	0.8'	5.2'		3'	76	0.6'	0.6'	3.0'
	Published CBCP	7,400	7'	64	0.8'	7'	28	1.0'	1.0'	4.0'		4'	20	1.5'	1.1'	6.9'		4'	43	0.8'	0.7'	4.0'
	Cutoff	50º	8'	49	0.9'	8'	22	1.1'	1.2'	4.6'		5'	13	1.8'	1.4'	8.7'		5'	28	1.0'	0.9'	5.0'
			9'	39	1.0'	9'	17	1.2'	1.3'	5.2'		6'	9	2.2'	1.7'	10.4'		6'	19	1.2'	1.1'	6.0'
			10'	31	1.1'	10'	14	1.4'	1.5'	5.8'		8'	5	2.9'	2.2'	13.9'		8'	11	1.6'	1.5'	8.0'
			12.5'	20	1.4'	12.5'	9	1.7'	1.8'	7.2'		10'	3	3.7'	2.8'	17.3'		10'	7	2.0'	1.8'	10.0'

P3MR-E3PIN

LAMP	OS 37MR16/IR/SP10		D	FC	BD	D	FC	L	W	CB		D	FC	L	W	CB		D	FC	L	W	CB
	Beam Spread	10° x 10°	4'	339	0.9'	4'	196	1.2'	1.1'	2.3'		2'	147	1.6'	0.9'	3.5'		2'	329	1.0'	0.7'	2.0'
	Lumens	900	6'	151	1.3'	6'	87	1.8'	1.6'	3.5'		3'	65	2.4'	1.3'	5.2'		3'	146	1.4'	1.0'	3.0'
	Published CBCP	13,100	7'	111	1.6'	7'	64	2.1'	1.9'	4.0'		4'	37	3.1'	1.8'	6.9'		4'	82	1.9'	1.3'	4.0'
	Cutoff	50º	8'	85	1.8'	8'	49	2.4'	2.2'	4.6'		5'	24	3.9'	2.2'	8.7'		5'	53	2.4'	1.7'	5.0'
			9'	67	2.0'	9'	39	2.7'	2.5'	5.2'		6'	16	4.7'	2.6'	10.4'		6'	37	2.9'	2.0'	6.0'
			10'	54	2.2'	10'	31	3.0'	2.7'	5.8'		8'	9	6.3'	3.5'	13.9'		8'	21	3.8'	2.7'	8.0'
			12.5'	35	2.8'	12.5'	20	3.8'	3.4'	7.2'		10'	6	7.8'	4.4'	17.3'		10'	13	4.8'	3.3'	10.0'

P3MR-E3PIN

LAMP	GE Q4MR16C/VNSP9		D	FC	BD	D	FC	L	W	CB		D	FC	L	W	CB		D	FC	L	W	CB
	Beam Spread	9° x 9°	4'	277	0.5'	4'	144	0.8'	0.8'	2.3'		2'	121	1.1'	0.8'	3.5'		2'	246	0.6'	0.6'	2.0'
	Lumens	575	6'	123	0.8'	6'	64	1.3'	1.3'	3.5'		3'	54	1.6'	1.1'	5.2'		3'	109	0.9'	0.9'	3.0'
	Published CBCP	12,500	7'	90	0.9'	7'	47	1.5'	1.5'	4.0'		4'	30	2.2'	1.5'	6.9'		4'	61	1.2'	1.2'	4.0'
	Cutoff	50º	8'	69	1.0'	8'	36	1.7'	1.7'	4.6'		5'	19	2.7'	1.9'	8.7'		5'	39	1.5'	1.5'	5.0'
			9'	55	1.1'	9'	28	1.9'	1.9'	5.2'		6'	13	3.3'	2.3'	10.4'		6'	27	1.8'	1.9'	6.0'
			10'	44	1.3'	10'	23	2.1'	2.1'	5.8'		8'	8	4.4'	3.0'	13.9'		8'	15	2.4'	2.5'	8.0'
			12.5'	28	1.6'	12.5'	15	2.6'	2.7'	7.2'		10'	5	5.5'	3.8'	17.3'		10'	10	3.0'	3.1'	10.0'

P3MR-E3PIN

LAMP	GE Q50MR16/C/NSP15		D	FC	BD	D	FC	L	W	CB		D	FC	L	W	CB		D	FC	L	W	CB
	Beam Spread	15° x 15°	4'	374	0.9'	4'	184	1.1'	1.1'	2.3'		2'	171	1.4'	0.9'	3.5'		2'	345	0.8'	0.7'	2.0'
	Lumens	750	6'	154	1.3'	6'	82	1.7'	1.7'	3.5'		3'	76	2.1'	1.4'	5.2'		3'	153	1.2'	1.0'	3.0'
	Published CBCP	9,500	7'	113	1.5'	7'	60	2.0'	2.0'	4.0'		4'	43	2.8'	1.8'	6.9'		4'	86	1.6'	1.3'	4.0'
	Cutoff	50º	8'	87	1.8'	8'	46	2.3'	2.3'	4.6'		5'	27	3.5'	2.3'	8.7'		5'	55	2.0'	1.7'	5.0'
			9'	69	2.0'	9'	36	2.6'	2.5'	5.2'		6'	19	4.2'	2.7'	10.4'		6'	38	2.4'	2.0'	6.0'
			10'	56	2.2'	10'	30	2.8'	2.8'	5.8'		8'	11	5.6'	3.6'	13.9'		8'	22	3.2'	2.6'	8.0'
			12.5'	36	2.8'	12.5'	19	3.5'	3.5'	7.2'		10'	7	7.0'	4.5'	17.3'		10'	14	4.0'	3.3'	10.0'

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Rounds

Photometrics: Adjustable Accent Element

PN3MR-E3PIN

LAMP	GE Q50MR16/C/NFL25		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	25° x 25°	4'	164	1.2'	4'	86	1.7'	1.6'	2.3'	2'	78	2.1'	1.3'	3.5'	2'	148	1.1'	1.0'	2.0'
	Lumens	884	6'	73	1.8'	6'	38	2.6'	2.3'	3.5'	3'	35	3.2'	1.9'	5.2'	3'	66	1.7'	1.5'	3.0'
	Published CBCP	3,000	7'	54	2.1'	7'	28	3.0'	2.7'	4.0'	4'	20	4.3'	2.5'	6.9'	4'	37	2.3'	1.9'	4.0'
	Cutoff	50°	8'	41	2.4'	8'	22	3.4'	3.1'	4.6'	5'	13	5.3'	3.2'	8.7'	5'	24	2.8'	2.4'	5.0'
			9'	32	2.7'	9'	17	3.9'	3.5'	5.2'	6'	9	6.4'	3.8'	10.4'	6'	16	3.4'	2.9'	6.0'
			10'	32	2.7'	10'	14	4.3'	3.9'	5.8'	8'	5	8.5'	5.1'	13.9'	8'	9	4.6'	3.9'	8.0'
			12.5'	17	3.8'	12.5'	9	5.4'	4.9'	7.2'	10'	3	10.6'	6.3'	17.3'	10'	6	5.7'	4.9'	10.0'

PN3MR-E3PIN

LAMP	OS 65MR16T/10/NSP/B		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	10° x 10°	4'	200	1.0'	4'	114	1.0'	1.1'	2.3'	2'	99	1.3'	0.8'	3.5'	2'	209	0.6'	0.7'	2.0'
	Lumens	1100	6'	89	1.4'	6'	51	1.6'	1.7'	3.5'	3'	44	1.9'	1.3'	5.2'	3'	93	1.0'	1.0'	3.0'
	Published CBCP	14,000	7'	65	1.7'	7'	37	1.8'	2.0'	4.0'	4'	25	2.5'	1.7'	6.9'	4'	52	1.3'	1.3'	4.0'
	Cutoff	50°	8'	50	1.9'	8'	28	2.1'	2.3'	4.6'	5'	16	3.2'	2.1'	8.7'	5'	33	1.6'	1.7'	5.0'
			9'	40	2.1'	9'	23	2.4'	2.6'	5.2'	6'	11	3.8'	2.5'	10.4'	6'	23	1.9'	2.0'	6.0'
			10'	32	2.4'	10'	18	2.6'	2.9'	5.8'	8'	6	5.1'	3.3'	13.9'	8'	13	2.6'	2.7'	8.0'
			12.5'	20	3.0'	12.5'	12	3.3'	3.6'	7.2'	10'	4	6.4'	4.2'	17.3'	10'	8	3.2'	3.3'	10.0'

P3MR-E3AAC

LAMP	OS 37MR16/IR/SP10		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	10° x 10°	4'	722	0.6'	4'	408	1.0'	0.7'	2.3'	2'	355	1.3'	0.7'	3.5'	2'	986	0.6'	0.5'	2.0'
	Lumens	900	6'	321	0.9'	6'	181	1.5'	1.1'	3.5'	3'	158	1.9'	1.0'	5.2'	3'	438	1.0'	0.7'	3.0'
	Published CBCP	13,100	7'	236	1.1'	7'	133	1.7'	1.3'	4.0'	4'	89	2.5'	1.3'	6.9'	4'	247	1.3'	1.0'	4.0'
	Cutoff	50°	8'	180	1.3'	8'	102	1.9'	1.5'	4.6'	5'	57	3.1'	1.7'	8.7'	5'	158	1.6'	1.2'	5.0'
			9'	143	1.4'	9'	81	2.2'	1.7'	5.2'	6'	39	3.8'	2.0'	10.4'	6'	110	1.9'	1.4'	6.0'
			10'	115	1.6'	10'	65	2.4'	1.9'	5.8'	8'	22	5.0'	2.7'	13.9'	8'	62	2.6'	1.9'	8.0'
			12.5'	74	2.0'	12.5'	42	3.0'	2.3'	7.2'	10'	14	6.3'	3.3'	17.3'	10'	39	3.2'	2.4'	10.0'

P3MR-E3AAC

LAMP	GE Q50MR16/C/NSP15		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	15° x 15°	4'	496	1.0'	4'	321	1.1'	1.2'	2.3'	2'	252	1.5'	1.0'	3.5'	2'	690	0.8'	0.7'	2.0'
	Lumens	750	6'	220	1.5'	6'	143	1.7'	1.7'	3.5'	3'	112	2.3'	1.5'	5.2'	3'	306	1.2'	1.1'	3.0'
	Published CBCP	9,500	7'	162	1.8'	7'	105	2.0'	2.0'	4.0'	4'	63	3.0'	2.0'	6.9'	4'	172	1.6'	1.5'	4.0'
	Cutoff	50°	8'	124	2.0'	8'	80	2.2'	2.3'	4.6'	5'	40	3.8'	2.5'	8.7'	5'	110	2.0'	1.8'	5.0'
			9'	98	2.3'	9'	63	2.5'	2.6'	5.2'	6'	28	4.5'	3.0'	10.4'	6'	77	2.4'	2.2'	6.0'
			10'	79	2.5'	10'	51	2.8'	2.9'	5.8'	8'	16	6.0'	4.0'	13.9'	8'	43	3.2'	3.0'	8.0'
			12.5'	51	3.1'	12.5'	33	3.5'	3.6'	7.2'	10'	10	7.5'	4.9'	17.3'	10'	28	4.0'	3.7'	10.0'

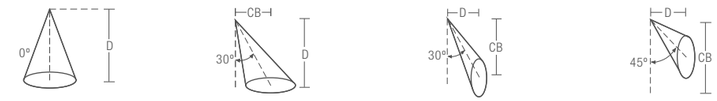
Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."



P3MR-E3AAC

LAMP	GE Q50MR16/C/NFL25		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	25° x 25°	4'	193	1.6'	4'	113	2.0'	2.2'	2.3'	2'	115	2.2'	1.7'	3.5'	2'	269	1.3'	1.3'	2.0'
	Lumens	884	6'	86	2.4'	6'	50	3.0'	3.2'	3.5'	3'	51	3.3'	2.5'	5.2'	3'	119	1.9'	1.9'	3.0'
	Published CBCP	3,000	7'	63	2.7'	7'	37	3.5'	3.8'	4.0'	4'	29	4.5'	3.4'	6.9'	4'	67	2.6'	2.5'	4.0'
	Cutoff	50°	8'	48	3.1'	8'	28	4.0'	4.3'	4.6'	5'	18	5.6'	4.2'	8.7'	5'	43	3.2'	3.2'	5.0'
			9'	38	3.5'	9'	22	4.5'	4.8'	5.2'	6'	13	6.7'	5.0'	10.4'	6'	30	3.8'	3.8'	6.0'
			10'	31	3.9'	10'	18	5.0'	5.4'	5.8'	8'	7	8.9'	6.7'	13.9'	8'	17	5.1'	5.1'	8.0'
			12.5'	20	4.9'	12.5'	12	6.2'	6.7'	7.2'	10'	5	11.1'	8.4'	17.3'	10'	11	6.4'	6.3'	10.0'

P5-M5MR-E5SLOTC

LAMP	GE Q50MR16/C/FL40		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	40° x 40°	4'	110	2.3'	4'	69	2.7'	2.7'	2.3'	2'	111	1.8'	1.5'	3.5'	2'	181	1.6'	1.4'	2.0'
	Lumens	800	6'	49	3.4'	6'	31	4.1'	4.0'	3.5'	3'	49	2.7'	2.3'	5.2'	3'	81	2.3'	2.1'	3.0'
	Published CBCP	17,000	7'	36	4.0'	7'	23	4.8'	4.7'	4.0'	4'	28	3.6'	3.1'	6.9'	4'	45	3.1'	2.8'	4.0'
	Cutoff	50°	8'	28	4.5'	8'	17	5.5'	5.3'	4.6'	5'	18	4.5'	3.8'	8.7'	5'	29	3.9'	3.5'	5.0'
			9'	38	3.5'	9'	14	6.2'	6.0'	5.2'	6'	12	5.4'	4.6'	10.4'	6'	20	4.7'	4.2'	6.0'
			10'	18	5.7'	10'	11	6.9'	6.7'	5.8'	8'	7	7.1'	6.1'	13.9'	8'	11	6.3'	5.7'	8.0'
			12.5'	11	7.1'	13'	7	8.6'	8.3'	7.2'	10'	4	8.9'	7.7'	17.3'	10'	7	7.8'	7.1'	10.0'

PN3MR-E3AAC

LAMP	OS 65MR16T/10/NSP/B		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	10° x 10°	4'	721	0.6'	4'	274	0.9'	1.1'	2.3'	2'	236	1.2'	0.9'	3.5'	2'	770	0.6'	0.5'	2.0'
	Lumens	1100	6'	320	1.0'	6'	122	1.4'	1.6'	3.5'	3'	105	1.9'	1.3'	5.2'	3'	342	0.9'	0.7'	3.0'
	Published CBCP	14,000	7'	235	1.1'	7'	89	1.6'	1.9'	4.0'	4'	59	2.5'	1.8'	6.9'	4'	193	1.2'	0.9'	4.0'
	Cutoff	50°	8'	180	1.3'	8'	68	1.9'	2.2'	4.6'	5'	38	3.1'	2.2'	8.7'	5'	123	1.5'	1.2'	5.0'
			9'	142	1.5'	9'	54	2.1'	2.4'	5.2'	6'	26	3.7'	2.7'	10.4'	6'	86	1.8'	1.4'	6.0'
			10'	115	1.6'	10'	44	2.4'	2.7'	5.8'	8'	15	5.0'	3.6'	13.9'	8'	48	2.4'	1.9'	8.0'
			12.5'	74	2.0'	13'	28	2.9'	3.4'	7.2'	10'	9	6.2'	4.5'	17.3'	10'	31	3.0'	2.4'	10.0'

PN3MR-E3AAC

LAMP	OS 65MR16T/FL40		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	40° x 40°	4'	149	2.2'	4'	91	2.8'	2.6'	2.3'	2'	110	2.1'	1.9'	3.5'	2'	207	1.5'	1.7'	2.0'
	Lumens	1100	6'	66	3.3'	6'	40	4.2'	3.9'	3.5'	3'	49	3.2'	2.9'	5.2'	3'	92	2.3'	2.5'	3.0'
	Published CBCP	2,100	7'	49	3.8'	7'	30	4.9'	4.6'	4.0'	4'	27	4.3'	3.8'	6.9'	4'	52	3.1'	3.3'	4.0'
	Cutoff	50°	8'	37	4.4'	8'	23	5.7'	5.3'	4.6'	5'	18	5.3'	4.8'	8.7'	5'	33	3.8'	4.1'	5.0'
			9'	29	4.9'	9'	18	6.4'	5.9'	5.2'	6'	12	6.4'	5.7'	10.4'	6'	23	4.6'	5.0'	6.0'
			10'	24	5.4'	10'	15	7.1'	6.6'	5.8'	8'	7	8.6'	7.6'	13.9'	8'	13	6.1'	6.6'	8.0'
			12.5'	15	6.8'	13'	9	8.8'	8.2'	7.2'	10'	4	10.7'	9.5'	17.3'	10'	8	7.7'	8.3'	10.0'

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Rounds

Photometrics: Adjustable Accent Element

LED

P3LED-E3AAC

LAMP	RG50FL40		30º HORIZONTAL PLANE					30º VERTICAL PLANE				
			D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	981	6'	70	4.0'	3.4'	3.5'	4'	38	3.8'	3.6'	6.9'
	Efficacy Lm/W	51.1	7'	52	4.6'	4.0'	4.0'	6'	17	5.7'	5.4'	10.4'
			8'	39	5.3'	4.6'	4.6'	8'	10	7.5'	7.2'	13.9'
			10'	25	6.6'	5.7'	5.8'	10'	6	9.4'	9.0'	17.3'
			12'	18	8.0'	6.9'	6.9'	12'	4	11.3'	10.8'	20.8'

P3LED-E3AAC

LAMP	RG50NF25		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	934	6'	90	2.9'	2.7'	3.5'	6'	52	3.6'	2.7'	6.9'
	Efficacy Lm/W	48.6	7'	66	3.4'	3.1'	4.0'	7'	23	5.4'	4.0'	10.4'
			8'	50	3.9'	3.6'	4.6'	8'	13	7.2'	5.4'	13.9'
			10'	32	4.9'	4.5'	5.8'	10'	8	9.0'	6.7'	17.3'
			12'	22	5.9'	5.4'	6.9'	12'	6	10.8'	8.1'	20.8'

P3LED-E3AAC

LAMP	RG50SP15		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1020	6'	169	2.2'	1.9'	3.5'	4'	92	3.3'	1.9'	6.9'
	Efficacy Lm/W	53.3	7'	124	2.6'	2.2'	4.0'	6'	41	5.0'	2.8'	10.4'
			8'	95	2.9'	2.5'	4.6'	8'	23	6.6'	3.7'	13.9'
			10'	61	3.7'	3.1'	5.8'	10'	15	8.3'	4.7'	17.3'
			12'	42	4.4'	3.7'	6.9'	12'	10	10.0'	5.6'	20.8'

P3LED-E3AAC

LAMP	RG50NSP10		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1011	6'	209	1.6'	1.5'	3.5'	4'	109	2.6'	1.4'	6.9'
	Efficacy Lm/W	52.7	7'	154	1.9'	1.7'	4.0'	6'	48	4.0'	2.2'	10.4'
			8'	118	2.2'	1.9'	4.6'	8'	27	5.3'	2.9'	13.9'
			10'	75	2.7'	2.4'	5.8'	10'	17	6.6'	3.6'	17.3'
			12'	52	3.3'	2.9'	6.9'	12'	12	7.9'	4.3'	20.8'

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

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W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

P3LED-E3SLOTC

LAMP	RG50FL40		30º HORIZONTAL PLANE					30º VERTICAL PLANE				
			D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	942	6'	59	4.2'	4.0'	3.5'	4'	44	3.6'	3.5'	6.9'
	Efficacy Lm/W	49.1	7'	44	4.9'	4.7'	4.0'	6'	19	5.4'	5.3'	10.4'
			8'	33	5.6'	5.4'	4.6'	8'	11	7.2'	7.1'	13.9'
			10'	21	7.0'	6.7'	5.8'	10'	7	9.0'	8.8'	17.3'
			12'	15	8.3'	8.1'	6.9'	12'	4	10.8'	10.6'	20.8'

P3LED-E3SLOTC

LAMP	RG50NF25		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	916	6'	89	3.0'	2.6'	3.5'	4'	52	3.6'	2.6'	6.9'
	Efficacy Lm/W	47.7	7'	65	3.5'	3.1'	4.0'	6'	23	5.4'	3.9'	10.4'
			8'	50	3.9'	3.5'	4.6'	8'	13	7.2'	5.3'	13.9'
			10'	32	4.9'	4.4'	5.8'	10'	8	9.0'	6.6'	17.3'
			12'	22	5.9'	5.3'	6.9'	12'	6	10.8'	7.9'	20.8'

P3LED-E3SLOTC

LAMP	RG50SP15		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1012	6'	171	2.2'	1.8'	3.5'	4'	92	3.3'	1.9'	6.9'
	Efficacy Lm/W	52.7	7'	126	2.6'	2.1'	4.0'	6'	41	5.0'	2.8'	10.4'
			8'	96	2.9'	2.5'	4.6'	8'	23	6.6'	3.7'	13.9'
			10'	62	3.7'	3.1'	5.8'	10'	15	8.3'	4.7'	17.3'
			12'	43	4.4'	3.7'	6.9'	12'	10	9.9'	5.6'	20.8'

P3LED-E3SLOTC

LAMP	RG50NSP10		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	985	6'	206	1.6'	1.5'	3.5'	4'	108	2.6'	1.4'	6.9'
	Efficacy Lm/W	51.3	7'	152	1.9'	1.7'	4.0'	6'	48	4.0'	2.1'	10.4'
			8'	116	2.2'	1.9'	4.6'	8'	27	5.4'	2.8'	13.9'
			10'	74	2.7'	2.4'	5.8'	10'	17	6.7'	3.6'	17.3'
			12'	52	3.2'	2.9'	6.9'	12'	12	8.0'	4.3'	20.8'

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

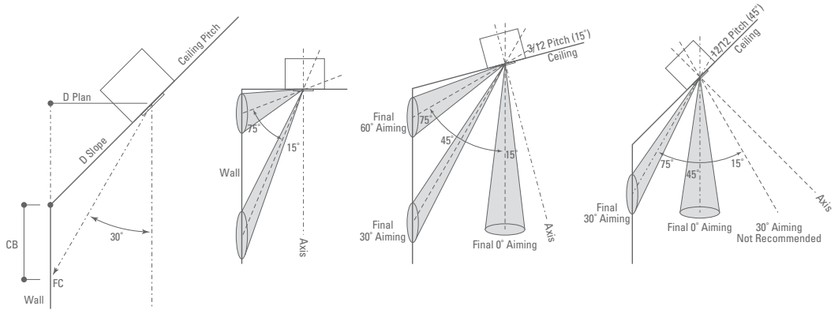
Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Rounds
Photometrics: Adjustable Accent Element

MR16 Lamps

Fixture	P3MR-E3SA					P3MR-E3SA				P3MR-E3SA				P3MR-E3SA			
Lamp	OS 37MR16/IR/SP10					GE Q42MR16/VNSP				OS 50MR16/IR/SP/10				OS 65MR16Q/10/NSP			
Beam Spread	10° x 10°					9° x 9°				10° x 10°				10° x 10°			
Lumens	200					200				200				200			
Published CBCP	13,100					12,500				15,700				14,000			
Pitch / Tilt of Element	12/12 75°																
D Plan	D Slope	FC	L	W	CB	FC	L	W	CB	FC	L	W	CB	FC	L	W	CB
2'0"	2'9"	179	1'9"	1'0"	1'6"	129	1'3"	0'9"	1'6"	199	1'6"	9"	1'6"	196	1'6"	1'0"	1'6"
2'6"	3'6"	114	2'0"	1'3"	2'0"	83	1'6"	1'0"	2'0"	127	2'0"	1'3"	2'0"	126	2'0"	1'3"	2'0"
3'0"	4'3"	79	2'6"	1'6"	2'3"	57	1'9"	1'3"	2'3"	86	2'3"	1'6"	2'3"	87	2'3"	1'6"	2'3"
4'0"	5'6"	45	3'3"	1'9"	3'0"	32	2'6"	1'6"	3'0"	50	3'0"	1'9"	3'0"	49	2'9"	2'0"	3'0"
Pitch / Tilt of Element	9/12 37°																
D Plan	D Slope	FC	L	W	CB	FC	L	W	CB	FC	L	W	CB	FC	L	W	CB
2'0"	2'6"	193	1'9"	1'0"	2'0"	152	1'3"	9"	2'0"	240	1'6"	1'0"	2'0"	263	1'3"	9"	2'0"
2'6"	3'0"	123	2'0"	1'3"	2'6"	97	1'6"	1'0"	2'6"	154	2'0"	1'3"	2'6"	168	1'9"	1'0"	2'6"
3'0"	3'9"	86	2'6"	1'6"	3'0"	68	2'0"	1'3"	3'0"	107	2'3"	1'6"	3'0"	117	2'0"	1'3"	3'0"
4'0"	5'0"	48	3'3"	1'9"	4'0"	38	2'6"	1'6"	4'0"	60	3'0"	2'0"	4'0"	65	2'9"	1'9"	4'0"
Pitch / Tilt of Element	6/12 27°																
D Plan	D Slope	FC	L	W	CB	FC	L	W	CB	FC	L	W	CB	FC	L	W	CB
2'0"	2'3"	227	1'6"	9"	2'6"	147	1'3"	9"	2'6"	284	1'5"	1'0"	2'6"	312	1'3"	9"	2'6"
2'6"	2'9"	145	2'0"	1'0"	3'0"	94	1'6"	1'0"	3'0"	182	2'0"	1'3"	3'0"	200	1'9"	1'0"	3'0"
3'0"	3'4"	101	2'3"	1'3"	3'9"	66	2'0"	1'3"	3'9"	126	2'3"	1'6"	3'9"	139	2'0"	1'3"	3'9"
4'0"	4'5"	57	3'0"	1'9"	5'0"	37	2'6"	1'6"	5'0"	71	3'0"	2'0"	5'0"	78	2'9"	1'9"	5'0"



Notes:

The following diagrams represent the aiming of the unit for an effective 30° tilt angle from nadir in ceilings of different pitches; e.g. 75°-12/12 pitch (or 45°) = 30°. For optimal performance it is recommended that fixture is used for illuminating vertical surfaces. The E3SA "Super Adjustable" element is capable of tilting the lamp's center beam from 15° to 75°; 361° in rotation. The spread of the lamp's beam will fill higher than 75° at maximum tilt. The E3SA includes an LHEX louver for maximum conrol of glare if used where mirror is in view.

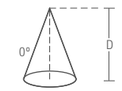
Definitions:

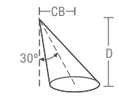
D Plan = Distance in plan view from wall.
D Slope = Distance as actually measured along slope of ceiling from corner.
FC = Maximum footcandles on wall within effective visual beam. (EVB = 50% of max. FC)
L = Length of effective visual beam
W = Width of effective visual beam
CB = Distance down wall from corner to center of beam location.

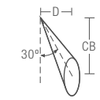
See pages 120-123 "How to Read Photometrics."

Rounds
Photometrics: Adjustable Accent Element

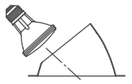
PAR36 & AR111 Lamps





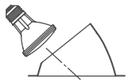


P5-M5P36-E5AAC



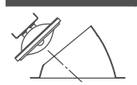
LAMP	GE 50PAR36/VNSP	0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE				
		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
Beam Spread	5° x 5°	4'	915	0.4'	4'	450	0.6'	0.5'	2.3'	2'	444	0.6'	0.5'	3.5'
Lumens	330	6'	407	0.6'	6'	200	0.9'	0.7'	3.5'	3'	197	0.9'	0.7'	5.2'
Published CBCP	19,000	7'	299	0.7'	7'	147	1.1'	0.8'	4.0'	4'	111	1.3'	0.9'	6.9'
Cutoff	50°	8'	229	0.8'	8'	113	1.2'	0.9'	4.6'	5'	71	1.6'	1.2'	8.7'
		9'	181	0.9'	9'	89	1.4'	1.1'	5.2'	6'	49	1.9'	1.4'	10.4'
		10'	146	1.1'	10'	72	1.5'	1.2'	5.8'	8'	28	2.5'	1.9'	13.9'
		12.5'	94	1.3'	12.5'	46	1.9'	1.5'	7.2'	10'	18	3.1'	2.4'	17.3'
		13'	87	1.4'	15'	32	2.3'	1.8'	8.7'	12'	12	3.8'	2.8'	20.8

P5-M5P36-E5AAC



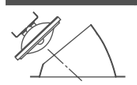
LAMP	GE 50PAR36/NSP	D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
Beam Spread	8° x 8°	4'	503	0.6'	4'	293	1.4'	1.5'	2.3'	2'	257	1.8'	1.2'	3.5'
Lumens	400	6'	223	0.9'	6'	130	2.1'	2.2'	3.5'	3'	114	2.7'	1.8'	5.2'
Published CBCP	11,000	7'	164	1.1'	7'	96	2.5'	2.6'	4.0'	4'	64	3.6'	2.4'	6.9'
Cutoff	50°	8'	126	1.3'	8'	73	2.9'	2.9'	4.6'	5'	41	4.5'	3.1'	8.7'
		9'	99	1.4'	9'	58	3.2'	3.3'	5.2'	6'	29	5.4'	3.7'	10.4'
		10'	80	1.6'	10'	47	3.6'	3.7'	5.8'	8'	16	7.2'	4.9'	13.9'
		12.5'	51	2.0'	12.5'	30	4.5'	4.6'	7.2'	10'	10	9.0'	6.1'	17.3'
		15'	36	2.3'	15'	21	5.4'	5.5'	8.7'	12'	7	10.8'	7.3'	20.8

P5-M5P36-E5AAC



LAMP	OS 50AR111/4/SSP	D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
Beam Spread	4° x 4°	4'	1895	0.4'	4'	1158	0.5'	0.4'	2.3'	2'	1087	0.7'	0.3'	3.5'
Lumens	550	6'	842	0.7'	6'	515	0.8'	0.7'	3.5'	3'	483	1.0'	0.4'	5.2'
Published CBCP	50,000	7'	619	0.8'	7'	378	0.9'	0.8'	4.0'	4'	272	1.4'	0.6'	6.9'
Cutoff	50°	8'	474	0.9'	8'	290	1.1'	0.9'	4.6'	5'	174	1.7'	0.7'	8.7'
		9'	374	1.0'	9'	229	1.2'	1.0'	5.2'	6'	121	2.0'	0.9'	10.4'
		10'	303	1.1'	10'	185	1.3'	1.1'	5.8'	8'	68	2.7'	1.1'	13.9'
		12.5'	194	1.4'	12.5'	119	1.7'	1.4'	7.2'	10'	43	3.4'	1.4'	17.3'
		15'	135	1.6'	15'	82	2.0'	1.6'	8.7'	12'	30	4.1'	1.7'	20.8

P5-M5P36-E5AAC



LAMP	OS 50AR111/4/SSP	D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
Beam Spread	25° x 25°	4'	163	1.8'	4'	117	2.2'	1.9'	2.3'	2'	140	1.7'	1.2'	3.5'
Lumens	550	6'	72	2.6'	6'	52	3.3'	2.9'	3.5'	3'	62	2.5'	1.8'	5.2'
Published CBCP	4,000	7'	53	3.1'	7'	38	3.8'	3.4'	4.0'	4'	35	3.3'	2.3'	6.9'
Cutoff	50°	8'	41	3.5'	8'	29	4.4'	3.9'	4.6'	5'	22	4.1'	2.9'	8.7'
		9'	32	3.9'	9'	23	4.9'	4.4'	5.2'	6'	16	5.0'	3.5'	10.4'
		10'	26	4.4'	10'	19	5.5'	4.9'	5.8'	8'	9	6.6'	4.7'	13.9'
		12.5'	17	5.5'	12.5'	12	6.9'	6.1'	7.2'	10'	6	8.3'	5.9'	17.3'
		15'	12	6.6'	15'	8	8.2'	7.3'	8.7'	12'	4	10.0'	7.0'	20.8

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

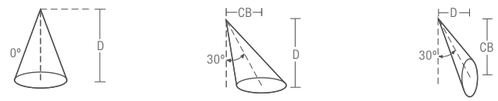
See pages 120-123 "How to Read Photometrics."

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from-off-the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Rounds
Photometrics: Adjustable Accent Element

AR111 Lamps



P5-M5P36-E5AAC

LAMP	OS 75AR111/8/SP		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	8° x 8°	4'	1489	0.5'	4'	901	0.8'	0.5'	2.3'	2'	803	1.0'	0.5'	3.5'
	Lumens	750	6'	662	0.8'	6'	401	1.2'	0.8'	3.5'	3'	357	1.5'	0.7'	5.2'
	Published CBCP	30,000	7'	486	0.9'	7'	294	1.4'	0.9'	4.0'	4'	201	2.0'	0.9'	6.9'
	Cutoff	50º	8'	372	1.0'	8'	225	1.6'	1.1'	4.6'	5'	128	2.5'	1.2'	8.7'
			9'	294	1.2'	9'	178	1.8'	1.2'	5.2'	6'	89	3.0'	1.4'	10.4'
			10'	238	1.3'	10'	144	2.0'	1.3'	5.8'	8'	50	4.0'	1.9'	13.9'
			12.5'	152	1.6'	12.5'	92	2.6'	1.6'	7.2'	10'	32	5.1'	2.4'	17.3'
			13'	106	1.9'	15'	64	3.1'	2.0'	8.7'	12'	22	6.1'	2.8'	20.8'

P5-M5P36-E5AAC

LAMP	OS 75AR111/45/WFL		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	45° x 45°	4'	100	2.4'	4'	63	2.9'	3.5'	2.3'	2'	115	1.9'	1.9'	3.5'
	Lumens	750	6'	45	3.6'	6'	28	4.3'	5.3'	3.5'	3'	51	2.8'	2.9'	5.2'
	Published CBCP	1,700	7'	33	4.2'	7'	20	5.0'	6.2'	4.0'	4'	29	3.7'	3.8'	6.9'
	Cutoff	50º	8'	25	4.8'	8'	16	5.7'	7.0'	4.6'	5'	18	4.6'	4.8'	8.7'
			9'	20	5.5'	9'	12	6.5'	7.9'	5.2'	6'	13	5.6'	5.7'	10.4'
			10'	16	6.1'	10'	10	7.2'	8.8'	5.8'	8'	7	7.4'	7.6'	13.9'
			12.5'	10	7.6'	12.5'	6	9.0'	11.0'	7.2'	10'	5	9.3'	9.6'	17.3'
			15'	7	9.1'	15'	4	10.8'	13.2'	8.7'	12'	3	11.1'	11.5'	20.8'

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

Rounds
Photometrics: Adjustable Accent Element

PAR Lamps

PN3120-E3AAC

LAMP	GE 50PAR20H/SP10		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB					
	Beam Spread	10° x 10°	4'	375	0.6'	4'	244	0.8'	0.7'	2.3'	2'	191	1.2'	0.6'	3.5'					
	Lumens	570	6'	167	0.9'	6'	108	1.2'	1.0'	3.5'	3'	85	1.8'	0.9'	5.2'					
	Published CBCP	6,000	7'	122	1.1'	7'	80	1.4'	1.2'	4.0'	4'	48	2.4'	1.2'	6.9'					
	Cutoff	50º	8'	94	1.2'	8'	61	1.6'	1.3'	4.6'	5'	31	3.0'	1.5'	8.7'					
			9'	74	1.4'	9'	48	1.8'	1.5'	5.2'	6'	21	3.6'	1.9'	10.4'					
			10'	60	1.5'	10'	39	2.0'	1.7'	5.8'	8'	12	4.9'	2.5'	13.9'					
			12.5'	38	1.9'	12.5'	25	2.5'	2.1'	7.2'	10'	8	6.1'	3.1'	17.3'					

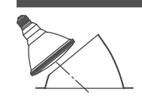
P5-M5P30-E5AAC

LAMP	GE 75PAR30/H/FL35		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	35° x 35°	4'	125	2.5'	4'	92	2.8'	2.7'	2.3'	2'	125	2.0'	1.8'	3.5'
	Lumens	1030	6'	56	3.8'	6'	41	4.2'	4.0'	3.5'	3'	55	3.0'	2.6'	5.2'
	Published CBCP	2,000	7'	41	4.4'	7'	30	4.9'	4.7'	4.0'	4'	31	4.0'	3.5'	6.9'
	Cutoff	50º	8'	31	5.0'	8'	23	5.6'	5.4'	4.6'	5'	20	5.0'	4.4'	8.7'
			9'	25	5.7'	9'	18	6.3'	6.0'	5.2'	6'	14	6.0'	5.3'	10.4'
			10'	20	6.3'	10'	15	7.0'	6.7'	5.8'	8'	8	8.0'	7.0'	13.9'
			12.5'	13	7.9'	12.5'	9	8.8'	8.4'	7.2'	10'	5	10.0'	8.8'	17.3'

P5-M5P30-E5AAC

LAMP	GE 75PAR30/H/SP10		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	10° x 10°	6'	361	0.9'	6'	235	1.1'	0.9'	3.5'	2'	406	1.1'	0.6'	3.5'
	Lumens	1030	7'	265	1.0'	7'	172	1.3'	1.1'	4.0'	3'	181	1.7'	0.9'	5.2'
	Published CBCP	13,000	8'	203	1.2'	8'	132	1.4'	1.3'	4.6'	4'	102	2.2'	1.2'	6.9'
	Cutoff	50º	10'	130	1.4'	10'	84	1.8'	1.6'	5.8'	5'	65	2.8'	1.4'	8.7'
			12.5'	83	1.8'	12.5'	54	2.2'	2.0'	7.2'	6'	45	3.4'	1.7'	10.4'
			15'	58	2.2'	15'	38	2.7'	2.4'	8.7'	8'	25	4.5'	2.3'	13.9'
			20'	32	2.9'	20'	21	3.6'	3.1'	11.5'	10'	16	5.6'	2.9'	17.3'

P7-M7P38-E7AAC

LAMP	GE 90PAR38/H/FL25		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	25° x 25°	6'	114	2.8'	6'	76	3.5'	3.2'	3.5'	2'	193	2.1'	1.6'	3.5'	2'	407	1.5'	1.3'	2.0'
	Lumens	1260	7'	84	3.3'	7'	56	4.1'	3.7'	4.0'	3'	86	3.2'	2.4'	5.2'	3'	181	2.2'	1.9'	3.0'
	Published CBCP	4,100	8'	64	3.8'	8'	43	4.7'	4.3'	4.6'	4'	48	4.3'	3.1'	6.9'	4'	102	3.0'	2.6'	4.0'
	Cutoff	50º	10'	41	4.7'	10'	28	5.8'	5.4'	5.8'	5'	31	5.4'	3.9'	8.7'	5'	65	3.7'	3.2'	5.0'
			12.5'	26	5.9'	12.5'	18	7.3'	6.7'	7.2'	6'	21	6.4'	4.7'	10.4'	6'	45	4.5'	3.9'	6.0'
			15'	18	7.1'	15'	12	8.8'	8.0'	8.7'	8'	12	8.6'	6.3'	13.9'	8'	25	6.0'	5.2'	8.0'
	Requires M7P3845 and E7AA45_ for 45º tilt		20'	10	9.5'	20'	7	11.7'	10.7'	11.5'	10'	8	10.7'	7.8'	17.3'	10'	16	7.5'	6.5'	10.0'

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

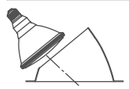
Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Rounds
Photometrics: Adjustable Accent Element

PAR Lamps

P7-M7P38-E7AAC



LAMP	GE 90PAR38/H/SP10		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	10° x 10°	6'	444	1.1'	6'	289	1.5'	1.3'	3.5'	2'	541	1.4'	0.7'	3.5'	2'	1414	0.7'	0.5'	2.0'
	Lumens	1260	7'	327	1.3'	7'	212	1.8'	1.5'	4.0'	3'	241	2.0'	1.1'	5.2'	3'	629	1.1'	0.8'	3.0'
	Published CBCP	16,000	8'	250	1.4'	8'	162	2.0'	1.7'	4.6'	4'	135	2.7'	1.4'	6.9'	4'	354	1.5'	1.1'	4.0'
	Cutoff	50°	10'	160	1.8'	10'	104	2.6'	2.2'	5.8'	5'	87	3.4'	1.8'	8.7'	5'	226	1.8'	1.4'	5.0'
			12.5'	102	2.3'	12.5'	67	3.2'	2.7'	7.2'	6'	60	4.1'	2.1'	10.4'	6'	157	2.2'	1.6'	6.0'
			15'	71	2.7'	15'	46	3.8'	3.2'	8.7'	8'	34	5.4'	2.8'	13.9'	8'	88	2.9'	2.2'	8.0'
	Requires M7P3845 and E7AA45_ for 45° tilt		20'	40	3.6'	20'	26	5.1'	4.3'	11.5'	10'	22	6.8'	3.5'	17.3'	10'	57	3.7'	2.7'	10.0'

PN7-M7P38-E7AAC

LAMP	GE Q250PAR38/SP10		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	10° x 10°	6'	1111	1.1'	6'	722	1.6'	1.3'	3.5'	2'	1336	1.4'	0.7'	3.5'	2'	3536	0.8'	0.6'	2.0'
	Lumens	3600	7'	816	1.3'	7'	530	1.8'	1.6'	4.0'	3'	594	2.1'	1.1'	5.2'	3'	1571	1.1'	0.8'	3.0'
	Published CBCP	40,000	8'	625	1.5'	8'	406	2.1'	1.8'	4.6'	4'	334	2.8'	1.5'	6.9'	4'	884	1.5'	1.1'	4.0'
	Cutoff	50°	10'	400	1.9'	10'	260	2.6'	2.2'	5.8'	5'	214	3.5'	1.8'	8.7'	5'	566	1.9'	1.4'	5.0'
			12.5'	256	2.3'	12.5'	166	3.3'	2.8'	7.2'	6'	148	4.2'	2.2'	10.4'	6'	393	2.3'	1.7'	6.0'
			15'	178	2.8'	15'	115	3.9'	3.4'	8.7'	8'	84	5.6'	2.9'	13.9'	8'	221	3.0'	2.2'	8.0'
	Requires M7P3845 and E7AA45_ for 45° tilt		20'	100	3.7'	20'	65	5.2'	4.5'	11.5'	10'	53	7.0'	3.7'	17.3'	10'	141	3.8'	2.8'	10.0'

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

Rounds
Photometrics: Open Wall Wash

A & Triple CFL Lamps

P5-M120-E5A19WWC

LAMP	100A19/IF		SINGLE UNIT FOOTCANDLES							MULTIPLE UNIT FOOTCANDLES					
				SINGLE FIXTURE 2' FROM WALL				2' SETBACK, SPACED 24" O.C.			2'6" SETBACK, SPACED 32" O.C.		
	Lumens	1720	DD	●	1'	2'	3'	●		●	●		●
	Cutoff	50°	1'	14	10	4	1	23	21	23	11	10	11
	Efficiency	68.4%	2'	21	14	5	2	32	30	32	18	15	18
	Unit LPW	11.8	3'	18	14	8	2	34	32	34	20	19	20
			4'	12	10	7	4	27	28	27	20	19	20
			5'	7	7	5	4	20	22	20	17	17	17
			6'	5	5	4	3	15	16	15	13	14	13
			7'	3	3	3	3	11	11	11	10	11	10
			8'	2	2	2	2	8	8	8	8	9	8
			9'	2	2	2	1	6	6	6	7	7	7
			10'	1	1	1	1	5	5	5	5	5	5

P7-M120-E7A21WWC

LAMP	150A21/IF			SINGLE FIXTURE 2' FROM WALL				2' SETBACK, SPACED 24" O.C.			2'6" SETBACK, SPACED 32" O.C.		
	Lumens	2850	DD	●	1'	2'	3'	●		●	●		●
	Cutoff	50°	1'	25	16	6	1	38	36	38	18	17	18
	Efficiency	74.6%	2'	41	26	9	3	60	59	60	32	29	32
	Unit LPW	14.2	3'	35	29	15	4	66	65	66	39	39	39
			4'	22	20	14	7	53	54	53	39	38	39
			5'	13	13	11	8	39	41	39	32	33	32
			6'	9	8	7	6	28	29	28	25	27	25
			7'	6	6	5	5	20	21	20	20	21	20
			8'	4	4	4	3	15	15	15	15	16	15
			9'	3	3	3	3	11	11	11	12	12	12
			10'	2	2	2	2	8	8	8	9	9	9

P5-M42T-E5TWWC

LAMP	PH 32WPLT 3000°K			SINGLE FIXTURE 2' FROM WALL				2' SETBACK, SPACED 24" O.C.			2'6" SETBACK, SPACED 32" O.C.		
	Lumens	2400	DD	●	1'	2'	3'	●		●	●		●
	Cutoff	50°	1'	9	6	2	1	14	14	14	7	7	7
	Efficiency	33.6%	2'	15	9	3	1	21	19	21	11	10	11
	Unit LPW	23.0	3'	14	11	5	1	24	24	24	14	14	14
			4'	9	8	5	3	21	22	21	14	14	14
			5'	6	6	4	3	16	16	16	12	13	12
			6'	4	4	3	2	11	12	11	10	11	10
			7'	3	3	2	2	8	9	8	8	8	8
			8'	2	2	2	1	6	6	6	6	6	6
			9'	1	1	1	1	5	5	5	5	5	5
			10'	1	1	1	1	4	4	4	4	4	4

Definitions:

DD = Distance to floor or wall

See pages 120-123 "How to Read Photometrics."

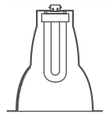
Notes:

Footcandle values for multiple fixtures are based upon a four-unit array. Footcandle values are centerline of fixtures and centered between fixtures. When selecting colored cone option, only downlight cone is colored; the wall wash reflector is specular clear. This allows the color (CRI, K°) of the light source to be unaffected and maximizes lumen output.

Rounds
Photometrics: Open Wall Wash

Triple CFL Lamps

P7-M42T-E7TWWC



LAMP	PH 42WPLT 3000°K
Lumens	3200
Cutoff	50°
Efficiency	48.1%
Unit LPW	33.5

	SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES					
	SINGLE FIXTURE 2' FROM WALL				2' SETBACK, SPACED 24" O.C.			2'6" SETBACK, SPACED 32" O.C.		
DD	●	1'	2'	3'	●		●	●		●
1'	16	11	4	1	24	23	24	12	11	12
2'	26	15	6	2	38	34	38	19	18	19
3'	27	20	9	2	44	45	44	26	25	26
4'	18	16	10	5	39	42	39	27	27	27
5'	12	12	8	5	31	33	31	24	25	24
6'	8	8	6	4	23	24	23	20	22	20
7'	6	6	5	3	18	18	18	16	17	16
8'	4	4	3	3	13	14	13	13	13	13
9'	3	3	3	2	10	10	10	10	11	10
10'	2	2	2	2	8	8	8	8	9	8

Definitions:

DD = Distance to floor or wall

See pages 120-123 "How to Read Photometrics."

Notes:

Footcandle values for multiple fixtures are based upon a four-unit array. Footcandle values are centerline of fixtures and centered between fixtures. When selecting colored cone option, only downlight cone is colored; the wall wash reflector is specular clear. This allows the color (CRI, K°) of the light source to be unaffected and maximizes lumen output.

Rounds
Photometrics: Lensed Wall Wash

LED, MR16 & PAR Lamps

P3LED-E3LWWH

LAMP	RG50NFL25
Lumens	608
Tilt	10°
Efficacy Lm/W	31.2

	SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES											
	3'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						3'0" FROM WALL (Spacing Between Fixtures)					
DD	●	1'	2'	3'	●	2'	●	●	3'	●	●	2'	●	●	3'	●
1'	1.6	1.3	0.5	0.2	3.9	4.0	3.9	3.4	2.4	3.4	2.4	2.6	2.4	2.0	1.7	2.0
2'	2.9	2.2	1.2	0.5	6.7	6.9	6.7	5.8	4.6	5.8	4.1	4.5	4.1	3.4	3.3	3.4
3'	6.3	4.4	1.9	0.8	18.7	18.6	18.7	16.6	10.9	16.6	8.2	8.7	8.2	7.1	5.9	7.1
4'	12.9	9.3	4.1	1.5	24.9	27.6	24.9	20.9	18.8	20.9	17.0	18.6	17.0	14.1	12.9	14.4
5'	12.8	10.4	5.8	2.5	21	23.2	21	17.2	18.0	17.2	18.6	20.8	18.6	15.3	16.3	15.3
6'	10.1	8.6	5.7	3.0	15.4	16.9	15.4	12.9	14.0	12.9	15.7	17.2	15.7	13.1	14.4	13.1
7'	7.4	6.6	4.7	2.9	11	11.9	11	9.3	10.2	9.3	12.1	13.1	12.1	10.3	11.4	10.3
8'	5.3	4.8	3.7	2.5	7.8	8.3	7.8	6.8	7.4	6.8	9.0	9.7	9.0	7.8	8.6	7.8
9'	3.9	3.6	2.9	2.1	5.6	5.9	5.6	4.9	5.4	4.9	6.7	7.1	6.7	5.9	6.5	5.9
10'	2.8	2.7	2.2	1.7	4.1	4.3	4.1	3.7	4.0	3.7	5.0	5.3	5.0	4.5	4.9	4.5

P3MR-E3LWWC

LAMP	GE Q50MR16/C/FL
Lumens	880
Cutoff	50°
Efficiency	29.8%
Unit LPW	5.3

	SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES					
	SINGLE FIXTURE 2' FROM WALL				1'6" SETBACK, SPACED 18" O.C.			2' SETBACK, SPACED 24" O.C.		
DD	●	1'	2'	3'	●		●	●		●
1'	6	3	1	0	20	16	20	7	6	7
2'	15	8	2	1	35	34	35	19	18	19
3'	12	8	4	1	25	25	25	19	19	19
4'	7	6	3	2	16	16	16	14	14	14
5'	5	4	3	1	10	10	10	10	10	10
6'	3	3	2	1	7	7	7	7	7	7
7'	2	2	2	1	5	5	5	5	5	5
8'	2	2	1	1	3	3	3	4	4	4
9'	1	1	1	1	2	2	2	3	3	3
10'	1	1	1	1	2	2	2	2	2	2

P5-M120-E5LWWC

LAMP	GE 75PAR30/FL
Lumens	1100
Cutoff	50°
Efficiency	51.7%
Unit LPW	7.58

	SINGLE FIXTURE 2' FROM WALL				2' SETBACK, SPACED 24" O.C.			2'6" SETBACK, SPACED 32" O.C.		
DD	●	1'	2'	3'	●		●	●		●
1'	8	4	1	0	11	9	11	5	4	5
2'	18	11	3	1	25	24	25	13	11	13
3'	16	12	5	2	26	26	26	17	16	17
4'	11	9	5	2	21	21	21	15	15	15
5'	7	6	4	2	15	15	15	12	13	12
6'	5	4	3	2	11	11	11	10	10	10
7'	4	3	3	2	8	8	8	8	8	8
8'	3	3	2	2	6	6	6	6	6	6
9'	2	2	2	2	5	5	5	5	5	5
10'	2	2	2	1	4	4	4	4	4	4

Definitions:

DD = Distance to floor or wall

See pages 120-123 "How to Read Photometrics."

Notes:

Footcandle values for multiple fixtures are based upon a four-unit array. Footcandle values are centerline of fixtures and centered between fixtures. When selecting colored cone option, only downlight cone is colored; the wall wash reflector is specular clear. This allows the color (CRI, K°) of the light source to be unaffected and maximizes lumen output.

Rounds
Photometrics: Quartz Lensed Wall Wash

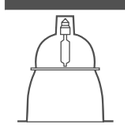
PAR & QT4 Lamps

P7-M120-E7LWWC

LAMP	GE 90PAR38/H/FL
Lumens	1250
Cutoff	50°
Efficiency	54.7%
Unit LPW	7.6

	SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES					
	SINGLE FIXTURE 3' FROM WALL				2'6" SETBACK, SPACED 24" O.C.			3' SETBACK, SPACED 32" O.C.		
DD	⬬	1'	2'	3'	⬬		⬬	⬬		⬬
1'	6	4	2	1	14	14	14	7	7	7
2'	9	7	3	1	21	21	21	13	12	13
3'	10	7	4	2	25	25	25	14	14	14
4'	12	10	5	2	31	32	31	18	18	18
5'	13	10	6	2	29	29	29	20	20	20
6'	11	9	6	3	24	24	24	19	18	19
7'	8	7	5	3	18	19	18	16	16	16
8'	6	5	4	3	14	14	14	13	13	13
9'	4	4	3	2	10	10	10	10	10	10
10'	3	3	3	2	8	8	8	8	8	8
11'					4	5	4	6	6	6
12'					3	4	3	5	5	5
13'					3	3	3	4	4	4
14'					2	2	2	3	3	3
15'					2	2	2	3	3	3

P5-MQT4-E5QT4WWC



LAMP	GE 75Q/CLT4
Lumens	1400
Cutoff	50°
Efficiency	46.4%
Unit LPW	8.7

	SINGLE FIXTURE 3' FROM WALL				2'6" SETBACK, SPACED 36" O.C.			3' SETBACK, SPACED 48" O.C.		
DD	⬬	1'	2'	3'	⬬		⬬	⬬		⬬
1'	19	15	6	2	31	31	31	20	14	20
2'	18	15	9	4	29	29	29	21	19	21
3'	12	10	7	4	20	20	20	16	15	16
4'	7	6	5	3	12	13	13	11	11	11
5'	4	4	3	2	8	8	8	7	8	7
6'	3	2	2	2	5	5	5	5	5	5
7'	1	1	1	1	4	4	4	4	4	4
8'	1	1	1	1	3	3	3	3	3	3
9'	1	1	1	1	2	2	2	2	2	2
10'	1	1	1	1	1	1	1	2	2	2

P7-MQT4-E7QT4WWC

LAMP	GE 100QT4
Lumens	1800
Cutoff	50°
Efficiency	48.0%
Unit LPW	8.6

	SINGLE FIXTURE 3' FROM WALL				3' SETBACK, SPACED 48" O.C.			4' SETBACK, SPACED 64" O.C.		
DD	⬬	1'	2'	3'	⬬		⬬	⬬		⬬
1'	20	15	7	3	21	16	21	5	3	5
2'	19	16	10	5	24	22	24	14	10	14
3'	14	12	8	5	20	19	20	14	12	14
4'	9	8	6	4	15	14	15	12	11	12
5'	5	5	4	3	11	11	11	10	10	10
6'	4	3	3	2	8	8	8	8	8	8
7'	2	2	2	2	6	6	6	6	6	6
8'	2	2	2	1	4	4	4	5	5	5
9'	1	1	1	1	3	3	3	4	4	4
10'	1	1	1	1	3	3	3	3	3	3

Definitions:

DD = Distance to floor or wall

See pages 120-123 "How to Read Photometrics."

Notes:

Footcandle values for multiple fixtures are based upon a four-unit array. Footcandle values are centerline of fixtures and centered between fixtures. When selecting colored cone option, only downlight cone is colored; the wall wash reflector is specular clear. This allows the color (CRI, K°) of the light source to be unaffected and maximizes lumen output.

Rounds
Photometrics: Shower/Lensed Dropped Element

A & Triple CFL Lamps

P3120-E3A19LUNA

LAMP	60A19/IF
Lumens	860
Cutoff	50°
Spacing Criteria	1.3
Efficiency	51.4%
Unit LPW:	7.4

CONE OF LIGHT		
DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
4.5'	6	6.0'
5.5'	4	7.0'
6.5'	3	8.5'
8.0'	2	10.5'
10.0'	1	13.0'
12.0'	1	15.5'

SINGLE FIXTURE 2' FROM WALL					
DD	⬬	1'	2'	3'	4'
1'	11	8	4	2	1
2'	9	7	4	2	1
3'	5	4	3	2	1
4'	3	3	2	2	1
5'	2	2	2	1	1
6'	1	1	1	1	1
7'	1	1	1	1	1
8'	1	1	1	1	1
9'	1	1	1	1	1
10'	1	1	1	1	1

P5-M42T-E5LUNA

LAMP	PH 32WPLT 3000°K
Lumens	2400
Cutoff	50°
Spacing Criteria	1.4
Efficiency	35.9%
Unit LPW:	26.9

DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
4.5'	11	6.0'
5.5'	7	7.5'
6.5'	5	9.0'
8.8'	3	11.0'
10.0'	2	13.5'
12.0'	2	16.5'

DD	⬬	1'	2'	3'	4'
1'	21	15	7	3	2
2'	15	12	7	4	2
3'	8	7	5	3	2
4'	5	4	3	2	2
5'	3	3	2	2	1
6'	2	2	1	1	1
7'	1	1	1	1	1
8'	1	1	1	1	1
9'	1	1	1	0	0
10'	0	0	0	0	0

P5-M120-E5LUNA

LAMP	100A21/IF
Lumens	1690
Cutoff	50°
Spacing Criteria	1.3
Efficiency	49.9%
Unit LPW:	8.4

DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
4.5'	7	6.0'
5.5'	5	7.5'
6.5'	4	9.0'
8.0'	2	11.0'
10.0'	2	13.5'
12.0'	1	16.5'

DD	⬬	1'	2'	3'	4'
1'	14	10	5	2	1
2'	10	8	5	2	1
3'	5	5	3	2	1
4'	3	3	2	1	1
5'	2	2	1	1	1
6'	1	1	1	1	1
7'	1	1	1	1	0
8'	1	0	0	0	0
9'	0	0	0	0	0
10'	0	0	0	0	0

P7-M42T-E7LUNA

LAMP	PH 42WPLT 3000°K
Lumens	3200
Cutoff	50°
Spacing Criteria	1.3
Efficiency	25.0%
Unit LPW:	17.4

DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
4.5'	11	6.0'
5.5'	7	7.0'
6.5'	5	8.5'
8.0'	3	10.5'
10.0'	2	13.0'
12.0'	2	15.5'

DD	⬬	1'	2'	3'	4'
1'	20	14	7	3	2
2'	13	11	6	3	2
3'	8	7	4	3	2
4'	4	4	3	2	1
5'	3	2	2	1	1
6'	2	2	1	1	1
7'	1	1	1	1	1
8'	1	1	1	1	0
9'	1	1	0	0	0
10'	0	0	0	0	0

Notes:

Beam diameter is to 50% of maximum footcandles.

Definitions:

DD = Distance to floor or wall

See pages 120-123 "How to Read Photometrics."

Rounds
Photometrics: Shower/Lensed Dropped Element

A Lamps

P7-M120-E7LUNA

LAMP	150A21/IF		CONE OF LIGHT: DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	2850	4.5'	20	6.0'
	Cutoff	50˚	5.5'	13	7.5'
	Spacing Criteria	1.4	6.5'	9	9.0'
	Efficiency	59.2%	8.0'	6	11.0'
	Unit LPW:	11.3	10.0'	4	14.0'
			12.0'	3	16.5'

SINGLE FIXTURE 2' FROM WALL: DD	1'	2'	3'	4'
1'	46	34	17	9	5
2'	31	25	16	9	6
3'	17	15	11	8	5
4'	10	10	8	6	5
5'	7	7	6	5	4
6'	5	5	4	4	4
7'	4	4	4	3	3
8'	3	3	3	3	3
9'	3	3	2	2	2
10'	2	2	2	2	2

Notes:

Beam diameter is to 50% of maximum footcandles.

Definitions:

DD = Distance to floor or wall

See pages 120-123 "How to Read Photometrics."

Rounds
Photometrics: Shower / Lensed Regressed Element

LED, QT4 & Triple CFL Lamps

P3LED-E3SRC

LAMP	RG50FL40		CONE OF LIGHT: DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	935	6.0'	169	1.0'
	Efficacy Lm/W	48.7	7.0'	124	1.2'
			8.0'	95	1.4'
			10.0'	61	1.7'
			12.0'	42	2.1'

P3LED-E3SRC

LAMP	RG50NFL25		CONE OF LIGHT: DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	912	6.0'	219	1.2'
	Efficacy Lm/W	47.5	7.0'	161	1.5'
			8.0'	123	1.7'
			10.0'	79	2.1'
			12.0'	55	2.5'

P3MR-E3SRC

LAMP	GE Q50MR16/C/FL40		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	880	4.5'	84	2.0'
	Cutoff	60˚	5.5'	56	2.5'
	Spacing Criteria	0.5	6.5'	40	3.0'
	Efficiency	65.9%	8.0'	27	4.0'
	Unit LPW:	10.5	10.0'	17	5.0'
			12.0'	12	6.0'

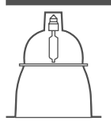
P5-M120-E5SRC

LAMP	75A19/IF		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1180	4.5'	69	2.5'
	Cutoff	75˚	5.5'	46	3.5'
	Spacing Criteria	0.3	6.5'	33	4.0'
	Efficiency	53.0%	8.0'	22	5.0'
	Unit LPW:	8.3	10.0'	14	6.0'
			12.0'	10	7.0'

P5-M42T-E5SRC

LAMP	PH 26PLT 3000°K		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1800	4.5'	15	5.0'
	Cutoff	75˚	5.5'	10	6.5'
	Spacing Criteria	1.1	6.5'	7	7.5'
	Efficiency	32.4%	8.0'	5	9.5'
	Unit LPW:	22.4	10.0'	3	11.5'
			12.0'	2	14.0'

P5-MQT4-E5QT4C



LAMP	GE Q100T4/MC FROSTED		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1800	4.5'	60	3.0'
	Cutoff	50˚	5.5'	40	3.6'
	Spacing Criteria	0.7	6.5'	29	4.0'
	Efficiency	61.2%	8.0'	19	5.0'
	Unit LPW:	11.0	10.0'	12	6.5'
			12.0'	8	7.5'

P7-M42T-E7SRC

LAMP	PH 42WPLT 3000°K		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	3200	4.5'	62	4.0'
	Cutoff	75˚	5.5'	41	5.0'
	Spacing Criteria	0.9	6.5'	30	5.5'
	Efficiency	37.3%	8.0'	20	7.0'
	Unit LPW:	26.0	10.0'	13	9.0'
			12.0'	9	10.5'

P7-M120-E7SRC

LAMP	100A21/IF		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1690	4.5'	17	4.5'
	Cutoff	75˚	5.5'	12	5.5'
	Spacing Criteria	1.0	6.5'	8	6.5'
	Efficiency	34.1%	8.0'	6	8.0'
	Unit LPW:	5.7	10.0'	4	10.0'
			12.0'	2	12.0'

Notes:

Beam diameter is to 50% of maximum footcandles.

Definitions:

DD = Distance to floor or wall

See pages 120-123 "How to Read Photometrics."

Rounds

Photometrics: Directional Shower Element

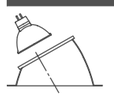
P3MR-E3AASRC

LAMP	GE Q20MR16C/VNSP7		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	7° x 7°	4'	312	0.5'	4'	153	0.8'	0.5'	2.3'	2'	79	0.7'	0.6'	3.5'	2'	172	0.4'	0.4'	2.0'
	Lumens	200	6'	139	0.7'	6'	68	1.2'	0.8'	3.5'	3'	35	1.1'	0.8'	5.2'	3'	76	0.6'	0.6'	3.0'
	Published CBCP	7,400	7'	102	0.8'	7'	50	1.4'	0.9'	4.0'	4'	20	1.5'	1.1'	6.9'	4'	43	0.8'	0.7'	4.0'
	Cutoff	50º	8'	78	1.0'	8'	38	1.6'	1.1'	4.6'	5'	13	1.8'	1.4'	8.7'	5'	28	1.0'	0.9'	5.0'
			9'	62	1.1'	9'	30	1.8'	1.2'	5.2'	6'	9	2.2'	1.7'	10.4'	6'	19	1.2'	1.1'	6.0'
			10'	50	1.2'	10'	24	2.1'	1.3'	5.8'	8'	5	2.9'	2.2'	13.9'	8'	11	1.6'	1.5'	8.0'
			12.5'	32	1.5'	12.5'	16	2.6'	1.7'	7.2'	10'	3	3.7'	2.8'	17.3'	10'	7	2.0'	1.8'	10.0'

P3MR-E3AASRC

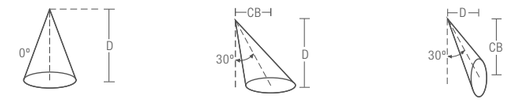
LAMP	PH 45MRC16/IRC/SP8		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	8° x 8°	4'	696	0.6'	4'	342	1.0'	0.9'	2.3'	2'	300	1.3'	0.8'	3.5'	2'	722	0.7'	0.7'	2.0'
	Lumens	1030	6'	309	1.0'	6'	152	1.5'	1.4'	3.5'	3'	133	2.0'	1.2'	5.2'	3'	321	1.0'	1.0'	3.0'
	Published CBCP	16,000	7'	227	1.1'	7'	112	1.8'	1.7'	4.0'	4'	75	2.6'	1.5'	6.9'	4'	181	1.3'	1.3'	4.0'
	Cutoff	50º	8'	174	1.3'	8'	86	2.0'	1.9'	4.6'	5'	48	3.3'	1.9'	8.7'	5'	116	1.7'	1.6'	5.0'
			9'	137	1.5'	9'	68	2.3'	2.1'	5.2'	6'	33	3.9'	2.3'	10.4'	6'	80	2.0'	2.0'	6.0'
			10'	111	1.6'	10'	55	2.5'	2.4'	5.8'	8'	19	5.2'	3.1'	13.9'	8'	45	2.7'	2.6'	8.0'
			12.5'	71	2.0'	13'	32	3.3'	3.1'	7.2'	10'	12	6.5'	3.8'	17.3'	10'	29	3.4'	3.3'	10.0'

P3MR-E3AASRC

LAMP	GE Q50MR16/C/NSP15		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	15° x 15°	4'	445	1.0'	4'	291	1.2'	1.2'	2.3'	2'	252	1.5'	1.0'	3.5'	2'	639	0.8'	0.7'	2.0'
	Lumens	750	6'	198	1.5'	6'	129	1.8'	1.8'	3.5'	3'	112	2.2'	1.5'	5.2'	3'	284	1.2'	1.1'	3.0'
	Published CBCP	9,500	7'	145	1.8'	7'	95	2.1'	2.1'	4.0'	4'	63	2.9'	1.9'	6.9'	4'	160	1.6'	1.5'	4.0'
	Cutoff	50º	8'	111	2.0'	8'	73	2.4'	2.4'	4.6'	5'	40	3.7'	2.4'	8.7'	5'	102	2.1'	1.8'	5.0'
			9'	88	2.3'	9'	57	2.7'	2.7'	5.2'	6'	28	4.4'	2.9'	10.4'	6'	71	2.5'	2.2'	6.0'
			10'	71	2.5'	10'	47	3.0'	3.0'	5.8'	8'	16	5.8'	3.9'	13.9'	8'	40	3.3'	2.9'	8.0'
			12.5'	46	3.1'	12.5'	30	3.7'	3.7'	7.2'	10'	10	7.3'	4.9'	17.3'	10'	26	4.1'	3.6'	10.0'

P3MR-E3AASRC

LAMP	GE Q50MR16/C/NFL25		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	25° x 25°	4'	174	1.6'	4'	108	2.0'	2.2'	2.3'	2'	108	2.2'	1.7'	3.5'	2'	250	1.3'	1.3'	2.0'
	Lumens	884	6'	77	2.5'	6'	48	3.0'	3.2'	3.5'	3'	48	3.4'	2.5'	5.2'	3'	111	1.9'	1.9'	3.0'
	Published CBCP	3,000	7'	57	2.9'	7'	35	3.5'	3.8'	4.0'	4'	27	4.5'	3.4'	6.9'	4'	62	2.6'	2.6'	4.0'
	Cutoff	50º	8'	43	3.3'	8'	27	4.0'	4.3'	4.6'	5'	17	5.6'	4.2'	8.7'	5'	40	3.2'	3.2'	5.0'
			9'	34	3.7'	9'	21	4.5'	4.8'	5.2'	6'	12	6.7'	5.1'	10.4'	6'	28	3.9'	3.8'	6.0'
			10'	28	4.1'	10'	17	5.0'	5.4'	5.8'	8'	7	8.9'	6.8'	13.9'	8'	16	5.2'	5.1'	8.0'
			12.5'	18	5.1'	12.5'	11	6.2'	6.7'	7.2'	10'	4	11.2'	8.5'	17.3'	10'	10	6.5'	6.4'	10.0'



PN3120-E3AASRC

LAMP	GE 50PAR20/H/SP10		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	10° x 10°	4'	375	0.6'	4'	244	0.8'	0.7'	2.3'	2'	191	1.2'	0.6'	3.5'
	Lumens	570	6'	167	0.9'	6'	108	1.2'	1.0'	3.5'	3'	85	1.8'	0.9'	5.2'
	Published CBCP	6,000	7'	122	1.1'	7'	80	1.4'	1.2'	4.0'	4'	48	2.4'	1.2'	6.9'
	Cutoff	50º	8'	94	1.2'	8'	61	1.6'	1.3'	4.6'	5'	31	3.0'	1.5'	8.7'
			9'	74	1.4'	9'	48	1.8'	1.5'	5.2'	6'	21	3.6'	1.9'	10.4'
			10'	60	1.5'	10'	39	2.0'	1.7'	5.8'	8'	12	4.9'	2.5'	13.9'
			12.5'	38	1.9'	12.5'	25	2.5'	2.1'	7.2'	10'	8	6.1'	3.1'	17.3'

PN3120-E3AASRC

LAMP	GE 50PAR20H/FL25		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB
	Beam Spread	25° x 25°	4'	94	1.8'	4'	61	2.3'	2.1'	2.3'	2'	67	2.5'	1.5'	3.5'
	Lumens	570	6'	42	2.7'	6'	27	3.5'	3.1'	3.5'	3'	30	3.7'	2.2'	5.2'
	Published CBCP	1,500	7'	31	3.1'	7'	20	4.1'	3.6'	4.0'	4'	17	5.0'	3.0'	6.9'
	Cutoff	50º	8'	23	3.6'	8'	15	4.7'	4.1'	4.6'	5'	11	6.2'	3.7'	8.7'
			9'	19	4.0'	9'	12	5.3'	4.6'	5.2'	6'	7	7.5'	4.5'	10.4'
			10'	15	4.5'	10'	10	5.9'	5.2'	5.8'	8'	4	10.0'	6.0'	13.9'
			12.5'	10	5.6'	12.5'	6	7.3'	6.4'	7.2'	10'	3	12.5'	7.5'	17.3'

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

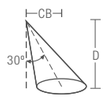
See pages 120-123 "How to Read Photometrics."

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Rounds
Photometrics: Directional Shower Element

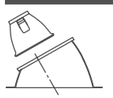
LED



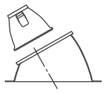
P3LED-E3AASRC

LAMP	RG50FL40		30° HORIZONTAL PLANE					30° VERTICAL PLANE				
			D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	928	6'	55	4.5'	3.9'	3.5'	4'	40	3.6'	3.6'	6.9'
	Efficacy Lm/W	48.3	7'	40	5.2'	4.5'	4.0'	6'	18	5.4'	5.3'	10.4'
			8'	31	5.9'	5.1'	4.6'	8'	10	7.2'	7.1'	13.9'
			10'	20	7.4'	6.4'	5.8'	10'	6	9.0'	8.9'	17.3'
			12'	14	8.9'	7.7'	6.9'	12'	4	10.7'	10.7'	20.8'

P3LED-E3AASRC

LAMP	RG50NFL25		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	894	6'	85	3.0'	2.7'	3.5'	4'	46	3.8'	2.7'	6.9'
	Efficacy Lm/W	46.6	7'	62	3.5'	3.2'	4.0'	6'	20	5.7'	4.1'	10.4'
			8'	48	4.0'	3.6'	4.6'	8'	11	7.6'	5.4'	13.9'
			10'	31	5.0'	4.5'	5.8'	10'	7	9.5'	6.8'	17.3'
			12'	21	6.0'	5.5'	6.9'	12'	5	11.4'	8.1'	20.8'

P3LED-E3AASRC

LAMP	RG50SP15		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	972	6'	165	2.2'	1.8'	3.5'	4'	84	3.4'	1.9'	6.9'
	Efficacy Lm/W	50.6	7'	121	2.6'	2.1'	4.0'	6'	37	5.1'	2.8'	10.4'
			8'	93	2.9'	2.4'	4.6'	8'	21	6.8'	3.7'	13.9'
			10'	59	3.7'	3.0'	5.8'	10'	13	8.5'	4.7'	17.3'
			12'	41	4.4'	3.6'	6.9'	12'	9	10.3'	5.6'	20.8'

P3LED-E3AASRC

LAMP	RG50NSP10		D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	951	6'	191	1.6'	1.4'	3.5'	4'	97	2.7'	1.4'	6.9'
	Efficacy Lm/W	49.5	7'	141	1.8'	1.6'	4.0'	6'	43	4.1'	2.1'	10.4'
			8'	108	2.1'	1.9'	4.6'	8'	24	5.4'	2.8'	13.9'
			10'	69	2.6'	2.3'	5.8'	10'	15	6.8'	3.6'	17.3'
			12'	48	3.1'	2.8'	6.9'	12'	11	8.1'	4.3'	20.8'

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

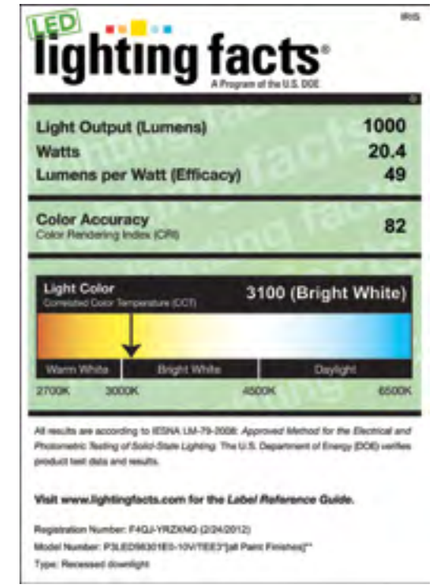
Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

PLED Lighting Facts

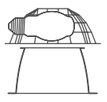
LED Lighting Facts



Squares
Photometrics: Open Downlight

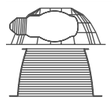
BT15 &
Triple CFL Lamps

P4-MH4BT-E4DLH



LAMP	100W BT15		CONE OF LIGHT			
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1670	4'	43	3.5'	4.4'
	Cutoff	55˚	5'	28	4.3'	5.4'
	Spacing Criteria	0.9, 1.1	6'	19	5.2'	6.5'
	Efficiency	51.7%	7'	14	6.1'	7.6'
			8'	11	6.9'	8.7'

P4-MH4BT-E4DLCBH

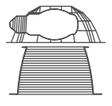


LAMP	100W BT15		CONE OF LIGHT			
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1670	4'	35	3.6'	4.7'
	Cutoff	55˚	5'	22	4.5'	5.9'
	Spacing Criteria	0.9, 1.2	6'	15	5.4'	7.0'
	Efficiency	49.4%	7'	11	6.3'	8.2'
			8'	9	7.2'	9.4'

P4-MH4BT-E4DLH

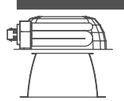
LAMP	75W BT15		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1010	4'	26	3.5'	4.3'
	Cutoff	55˚	5'	16	4.4'	5.3'
	Spacing Criteria	0.9, 1.1	6'	11	5.3'	6.4'
	Efficiency	50.4%	7'	8	6.1'	7.4'
			8'	6	7.0'	8.5'

P4-MH4BT-E4DLCBH



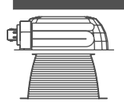
LAMP	75W BT15		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1010	4'	22	3.5'	4.3'
	Cutoff	55˚	5'	14	4.3'	5.4'
	Spacing Criteria	0.8, 1.1	6'	10	5.2'	6.5'
	Efficiency	47.7%	7'	7	6.1'	7.5'
			8'	5	7.0'	8.6'

PN41H42E-E4DLH



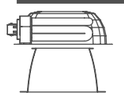
LAMP	32W TTT		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	2400	4'	47	4.0'	4.9'
	Cutoff	55˚	5'	30	5.0'	6.2'
	Spacing Criteria	1.0, 1.3	6'	21	6.1'	7.4'
	Efficiency	50.6%	7'	15	7.1'	8.7'
			8'	12	8.1'	9.9'

PN41H42E-E4DLCBH



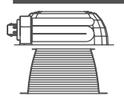
LAMP	32W TTT		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	2400	4'	38	4.1'	4.8'
	Cutoff	55˚	5'	24	5.1'	6.0'
	Spacing Criteria	1.0, 1.3	6'	17	6.1'	7.2'
	Efficiency	45.9%	7'	12	7.1'	8.5'
			8'	10	8.1'	9.7'

PN41H42E-E4DLH



LAMP	26W DTT		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1800	4'	28	4.0'	4.9'
	Cutoff	55˚	5'	18	5.0'	6.1'
	Spacing Criteria	1.0, 1.2	6'	12	6.0'	7.3'
	Efficiency	39.5%	7'	9	7.0'	8.6'
			8'	7	8.0'	9.8'

PN41H42E-E4DLCBH



LAMP	26W DTT		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1800	4'	24	4.0'	4.8'
	Cutoff	55˚	5'	15	5.0'	6.0'
	Spacing Criteria	1.0, 1.3	6'	11	6.0'	7.2'
	Efficiency	37.2%	7'	8	7.0'	8.4'
			8'	6	8.1'	8.6'

Notes:

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

Squares
Photometrics: Open Downlight

MR16 &
CMH MR16 Lamps

P4-MV4MR-E4MRH

LAMP	50W 25º IR MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	884	8'	42	5.6'
	Cutoff	60˚	9'	33	6.3'
	Spacing Criteria	0.4	10'	27	7.0'
	Efficiency	75.4%	13'	16	9.1'
			15'	12	10.5'

P4-MV4MR-E4MRH

LAMP	71W 25º IR MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	52	3.4'
	Cutoff	60˚	9'	41	3.8'
	Spacing Criteria	0.4	10'	33	4.2'
	Efficiency	73.0%	13'	20	5.5'
			15'	15	6.4'

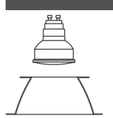
P4-MV4MR-E4MRH

LAMP	50W 40º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	800	7'	29	6.3'
	Cutoff	60˚	8'	23	7.2'
	Spacing Criteria	0.6	9'	18	8.1'
	Efficiency	77.0%	10'	14	9.0'
			12.5'	9	11.3'

P4-MV4AR-E4MRH

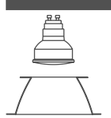
LAMP	71W 40º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1200	8'	29	5.6'
	Cutoff	60˚	9'	23	6.3'
	Spacing Criteria	0.6	10'	19	7.0'
	Efficiency	74.4%	13'	11	9.2'
			15'	8	10.6'

P4-MV4CMH20MRE-E4MRH



LAMP	20W 12º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	113	2.2'
	Cutoff	60˚	9'	90	2.4'
	Spacing Criteria	0.3	10'	73	2.7'
	Efficiency	88.3%	13'	43	3.5'
			15'	32	4.0'

P4-MV4CMH20MRE-E4MRH



LAMP	20W 25º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	44	3.8'
	Cutoff	60˚	9'	35	4.2'
	Spacing Criteria	0.5	10'	28	4.7'
	Efficiency	88.5%	12.5'	18	5.9'
			15'	12	7.1'

Notes:

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

P4-MV4MR-E4PIN

LAMP	50W 10º IR MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1320	8'	176	1.2'
	Cutoff	50˚	9'	139	1.4'
	Spacing Criteria	0.2	10'	113	1.6'
	Efficiency	31.5%	13'	67	2.0'
			15'	50	2.3'

P4-MV4MR-E4PIN

LAMP	71W 25º MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	56	3.2'
	Cutoff	50˚	9'	44	3.6'
	Spacing Criteria	0.4	10'	36	4.0'
	Efficiency	60.1%	13'	21	5.1'
			15'	16	5.9'

P4-MV4MR-E4PIN

LAMP	42W 9º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	575	8'	130	1.0'
	Cutoff	50˚	9'	103	1.2'
	Spacing Criteria	0.1	10'	83	1.3'
	Efficiency	36.2%	13'	49	1.7'
			15'	37	1.9'

P4-MV4MR-E4PIN

LAMP	65W 25º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	70	3.3'
	Cutoff	50˚	9'	55	3.7'
	Spacing Criteria	0.4	10'	45	4.1'
	Efficiency	61.3%	13'	26	5.3'
			15'	20	6.2'

P4-MV4CMH20MRE-E4PIN

LAMP	20W 12º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	9'	87	2.4'
	Cutoff	50˚	10'	70	2.6'
	Spacing Criteria	0.2	12.5'	45	3.3'
	Efficiency	58.6%	15'	31	4.0'
			20'	18	5.3'

P4-MV4CMH20MRE-E4PIN

LAMP	20W 25º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	500	8'	43	3.1'
	Cutoff	50˚	9'	34	3.5'
	Spacing Criteria	0.4	10'	27	3.9'
	Efficiency	47.5%	12.5'	17	4.9'
			15'	12	5.8'

Notes:

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

P4-MV4MR-E4RPIN

LAMP	50W 10º IR MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1320	8'	177	1.3'
	Cutoff	55˚	9'	140	1.5'
	Spacing Criteria	0.2	10'	113	1.6'
	Efficiency	39.8%	13'	67	2.1'
			15'	50	2.5'

P4-MV4MR-E4RPIN

LAMP	71W 25º MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	57	3.3'
	Cutoff	55˚	9'	45	3.7'
	Spacing Criteria	0.4	10'	36	4.2'
	Efficiency	66.9%	13'	22	5.4'
			15'	16	6.2'

P4-MV4MR-E4RPIN

LAMP	42W 9º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	575	8'	119	1.1'
	Cutoff	55˚	9'	94	1.2'
	Spacing Criteria	0.1	10'	76	1.3'
	Efficiency	38.3%	13'	45	1.7'
			15'	34	2.0'

P4-MV4MR-E4RPIN

LAMP	65W 25º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	60	3.4'
	Cutoff	55˚	9'	47	3.9'
	Spacing Criteria	0.4	10'	38	4.3'
	Efficiency	57.9%	13'	23	5.6'
			15'	17	6.4'

P4-MV4CMH20MRE-E4RPIN

LAMP	20W 12º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	108	2.2'
	Cutoff	55˚	9'	85	2.5'
	Spacing Criteria	0.3	10'	69	2.8'
	Efficiency	71.3%	13'	41	3.6'
			16'	27	4.4'

P4-MV4CMH20MRE-E4RPIN

LAMP	20W 25º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	43	3.6'
	Cutoff	55˚	9'	34	4.1'
	Spacing Criteria	0.4	10'	27	4.5'
	Efficiency	64.9%	12.5'	17	5.7'
			15'	12	6.8'

Notes:

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

Squares
Photometrics: Directional Lamp

P4-MA4MR-E4AAH

LAMP	42W 9° MR16		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	200	8'	126	1.1'	8'	85	1.7'	1.2'	4.6	2'	290	1.1'	0.6'	3.5	2'	776	0.6'	0.4'	2.0
	Cutoff	50°	9'	100	1.2'	9'	67	1.9'	1.3'	5.2	3'	129	1.6'	0.8'	5.2	3'	346	0.9'	0.6'	3.0
	Efficiency	50.6%	10'	81	1.3'	10'	54	2.1'	1.4'	5.8	4'	72	2.1'	1.1'	6.9	4'	194	0.2'	0.8'	4.0
			13'	48	1.7'	13'	32	2.7'	1.9'	7.5	5'	46	2.7'	1.4'	8.7	5'	124	1.5'	1.0'	5.0
			15'	36	2.0'	15'	24	3.1'	2.2'	8.7	6'	32	3.2'	1.7'	10.4	6'	86	1.8'	1.1'	6.0

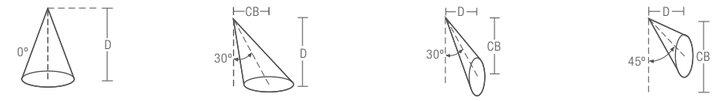
P4-MA4MR-E4AAH

LAMP	50W 10° IR MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1320	8'	183	1.3'	8'	109	2.0'	1.7'	4.6	2'	390	1.3'	0.7'	3.5	2'	963	0.7'	0.5'	2.0
	Cutoff	60°	9'	144	1.5'	9'	86	2.2'	1.9'	5.2	3'	173	1.9'	1.0'	5.2	3'	428	1.1'	0.8'	3.0
	Efficiency	51.8%	10'	117	1.6'	10'	70	2.5'	2.1'	5.8	4'	98	2.6'	1.4'	6.9	4'	241	1.4'	1.1'	4.0
			13'	69	2.1'	13'	41	3.2'	2.7'	7.5	5'	62	3.2'	1.7'	8.7	5'	154	1.8'	1.3'	5.0
			15'	52	2.5'	15'	31	3.7'	3.1'	8.7	6'	43	3.8'	2.0'	10.4	6'	107	2.1'	1.6'	6.0

P4-MA4MR-E4AAH

LAMP	65W 40° MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	29	5.2'	8'	21	5.5'	5.6'	4.6	2'	121	2.0'	1.9'	3.5	2'	201	1.6'	1.7'	2.0
	Cutoff	60°	9'	23	5.8'	9'	17	6.2'	6.3'	5.2	3'	54	3.0'	2.8'	5.2	3'	89	2.4'	2.6'	3.0
	Efficiency	68.5%	10'	19	6.5'	10'	13	6.9'	7.0'	5.8	4'	30	4.0'	3.8'	6.9	4'	50	3.2'	3.4'	4.0
			13'	11	8.4'	13'	8	9.0'	9.0'	7.5	5'	19	5.0'	4.7'	8.7	5'	32	4.0'	4.3'	5.0
			16'	8	9.7'	16'	6	10.4'	10.4'	8.7	6'	13	6.0'	5.7'	10.4	6'	22	4.8'	5.1'	6.0

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.



P4-MA4CMH20MRE-E4AAH

LAMP	20W 12° CMH MR16		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	113	2.2'	8'	81	2.5'	2.2'	4.6	2'	292	1.7'	0.9'	3.5	2'	734	0.9'	0.7'	2.0
	Cutoff	60°	9'	89	2.5'	9'	64	2.8'	2.5'	5.2	3'	130	2.6'	1.3'	5.2	3'	326	1.3'	1.0'	3.0
	Efficiency	90.8%	10'	72	2.8'	10'	52	3.1'	2.8'	5.8	4'	73	3.5'	1.7'	6.9	4'	184	1.8'	1.3'	4.0
			13'	43	3.5'	13'	31	4.1'	3.6'	7.5	5'	47	4.4'	2.2'	8.7	5'	117	2.2'	1.6'	5.0
			16'	28	4.4'	16'	20	5.0'	4.4'	9.2	6'	32	5.2'	2.6'	10.4	6'	82	2.6'	2.0'	6.0

P4-MA4CMH20MRE-E4AAH

LAMP	20W 25° CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	44	3.8'	8'	31	4.5'	4.1'	4.6	2'	133	2.1'	1.4'	3.5	2'	319	1.3'	1.1'	2.0
	Cutoff	60°	9'	35	4.2'	9'	24	5.1'	4.6'	5.2	3'	59	3.1'	2.2'	5.2	3'	142	1.9'	1.7'	3.0
	Efficiency	88.7%	10'	28	4.7'	10'	20	5.6'	5.1'	5.8	4'	33	4.2'	2.9'	6.9	4'	80	2.5'	2.2'	4.0
			13'	17	6.1'	13'	12	7.3'	6.6'	7.5	5'	21	5.2'	3.6'	8.7	5'	51	3.2'	2.8'	5.0
			15'	13	7.1'	15'	9	8.4'	7.6'	8.7	6'	15	6.2'	4.3'	10.4	6'	35	3.8'	3.4'	6.0

P4-MA4MR-E4PIN

LAMP	37W 10° IR MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	900	10'	96	3.3'	10'	64	2.2'	1.8'	5.8	2'	344	1.2'	0.6'	3.5	2'	796	0.6'	0.5'	3.0
	Cutoff	50°	13'	57	4.3'	13'	38	2.9'	2.4'	7.5	3'	153	1.8'	0.9'	5.2	3'	354	0.6'	0.5'	4.0
	Efficiency	49.6%	15'	43	5.0'	15'	28	3.4'	2.7'	8.7	4'	86	2.3'	1.3'	6.9	4'	199	1.0'	0.7'	5.0
			17.5'	31	5.8'	18'	21	3.9'	3.2'	10.1	5'	55	2.9'	1.6'	8.7	5'	127	1.3'	1.0'	6.0
			20'	24	6.6'	20'	16	4.5'	3.6'	11.5	6'	38	3.5'	1.9'	10.4	6'	88	1.6'	1.2'	8.0

P4-MA4MR-E4PIN

LAMP	42W 9° MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	575	8'	183	1.3'	8'	109	2.0'	1.7'	4.6	2'	390	1.3'	0.7'	3.5	2'	963	0.7'	0.5'	2.0
	Cutoff	50°	9'	144	1.5'	9'	86	2.2'	1.9'	5.2	3'	173	1.9'	1.0'	5.2	3'	428	1.1'	0.8'	3.0
	Efficiency	35.8%	10'	117	1.6'	10'	70	2.5'	2.1'	5.8	4'	98	2.6'	1.4'	6.9	4'	241	1.4'	1.1'	4.0
			13'	69	2.1'	13'	41	3.2'	2.7'	7.5	5'	62	3.2'	1.7'	8.7	5'	154	1.8'	1.3'	5.0
			15'	52	2.5'	15'	31	3.7'	3.1'	8.7	6'	43	3.8'	2.0'	10.4	6'	107	2.1'	1.6'	6.0

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

Squares
Photometrics: Directional Lamp

P4-MA4MR-E4PIN

LAMP	50W 10° IR MR16		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1320	8'	29	5.2'	21'	21	5.5'	5.6'	4.6	2'	121	2.0'	1.9'	3.5	2'	201	1.6'	1.7'	2.0
	Cutoff	50°	9'	23	5.8'	17'	17	6.2'	6.3'	5.2	3'	54	3.0'	2.8'	5.2	3'	89	2.4'	2.6'	3.0
	Efficiency	31.9%	10'	19	6.5'	13'	13	6.9'	7.0'	5.8	4'	30	4.0'	3.8'	6.9	4'	50	3.2'	3.4'	4.0
			13'	11	8.4'	8'	8	9.0'	9.0'	7.5	5'	19	5.0'	4.7'	8.7	5'	32	4.0'	4.3'	5.0
			16'	8	9.7'	6'	6	10.4'	10.4'	8.7	6'	13	6.0'	5.7'	10.4	6'	22	4.8'	5.1'	6.0

P4-MA4MR-E4PIN

LAMP	65W 25° MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	69	3.3'	8'	44	3.8'	3.5'	4.6	2'	187	1.9'	1.3'	3.5	2'	353	1.3'	1.1'	2.0
	Cutoff	50°	9'	55	3.7'	9'	35	4.2'	3.9'	5.2	3'	83	2.8'	1.9'	5.2	3'	157	2.0'	1.6'	3.0
	Efficiency	61.5%	10'	44	4.1'	10'	28	4.7'	4.3'	5.8	4'	47	3.8'	2.6'	6.9	4'	88	2.6'	2.2'	4.0
			13'	26	5.3'	13'	17	6.1'	5.6'	7.5	5'	30	4.7'	3.2'	8.7	5'	56	3.3'	2.7'	5.0
			15'	20	6.6'	15'	12	7.1'	6.5'	8.7	6'	21	5.6'	3.9'	10.4	6'	39	4.0'	3.3'	6.0

P4-MA4MR-E4PIN

LAMP	71W 25° MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	56	3.2'	8'	39	3.7'	3.3'	4.6	2'	170	1.9'	1.2'	3.5	2'	315	1.2'	1.0'	2.0
	Cutoff	50°	9'	44	3.5'	9'	31	4.1'	3.7'	5.2	3'	75	2.9'	1.8'	5.2	3'	140	1.8'	1.5'	3.0
	Efficiency	59.5%	10'	36	3.9'	10'	25	4.6'	4.1'	5.8	4'	42	3.8'	2.4'	6.9	4'	79	2.4'	2.0'	4.0
			13'	21	5.1'	13'	15	6.0'	5.3'	7.5	5'	27	4.8'	3.0'	8.7	5'	50	3.0'	2.5'	5.0
			15'	16	5.9'	15'	11	6.9'	6.1'	8.7	6'	19	5.7'	3.6'	10.4	6'	35	3.6'	3.1'	6.0

P4-MA4CMH20MRE-E4PIN

LAMP	20W 12° CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	116	2.1'	8'	77	2.2'	2.1'	4.6	2'	269	1.5'	0.8'	3.5	2'	600	0.8'	0.6'	2.0
	Cutoff	50°	9'	92	2.4'	9'	61	2.4'	2.4'	5.2	3'	120	2.3'	1.3'	5.2	3'	267	1.2'	1.0'	3.0
	Efficiency	60.9%	10'	74	2.6'	10'	49	2.7'	2.6'	5.8	4'	67	3.1'	1.7'	6.9	4'	150	1.6'	1.3'	4.0
			13'	44	3.4'	13'	29	3.5'	3.4'	7.5	5'	43	3.8'	2.1'	8.7	5'	96	2.0'	1.6'	5.0
			16'	29	4.2'	16'	19	4.3'	4.2'	9.2	6'	30	4.6'	2.5'	10.4	6'	67	2.4'	1.9'	6.0

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

P4-MA4CMH20MRE-E4PIN

LAMP	20W 25° CMH MR16		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	43	3.1'	8'	28	3.4'	3.3'	4.6	2'	114	1.8'	1.3'	3.5	2'	232	1.1'	1.0'	2.0
	Cutoff	50°	9'	34	3.5'	9'	22	4.4'	3.7'	5.2	3'	51	2.8'	1.9'	5.2	3'	103	1.7'	1.4'	3.0
	Efficiency	47.0%	10'	27	3.9'	10'	18	3.9'	4.1'	5.8	4'	28	3.7'	2.5'	6.9	4'	58	2.2'	1.9'	4.0
			13'	16	5.0'	13'	10	4.3'	5.3'	7.5	5'	18	4.6'	3.1'	8.7	5'	37	2.8'	2.4'	5.0
			15'	12	5.8'	15'	8	5.6'	6.1'	8.7	6'	13	5.5'	3.8'	10.4	6'	26	3.3'	2.9'	6.0

P4-MA4MR-E4RPIN

LAMP	37W 10° IR MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	900	10'	93	1.9'	10'	59	2.4'	1.9'	5.8	2'	311	1.2'	0.7'	6.9	2'	631	0.7'	0.5'	2.0
	Cutoff	55°	13'	55	2.5'	13'	35	3.1'	2.4'	7.5	3'	138	1.9'	1.0'	8.7	3'	281	1.0'	0.8'	3.0
	Efficiency	54.7%	15'	42	2.9'	15'	26	3.5'	2.8'	8.7	4'	78	2.5'	1.3'	10.4	4'	158	1.4'	1.0'	4.0
			17.5'	30	3.4'	17.5'	19	4.1'	3.3'	10.1	5'	50	3.1'	1.6'	13.9	5'	101	1.7'	1.3'	5.0
			20'	23	3.9'	20'	15	4.7'	3.7'	11.5	6'	35	3.7'	2.0'	17.3	6'	70	2.1'	1.5'	6.0

P4-MA4MR-E4RPIN

LAMP	50W 10° IR MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1320	8'	181	1.3'	8'	103	1.9'	1.7'	4.6	2'	345	1.3'	0.7'	3.5	2'	718	0.7'	0.5'	2.0
	Cutoff	55°	9'	143	1.5'	9'	82	2.1'	1.9'	5.2	3'	153	1.9'	1.1'	5.2	3'	319	1.0'	0.8'	3.0
	Efficiency	40.2%	10'	116	1.6'	10'	66	2.3'	2.1'	5.8	4'	86	2.6'	1.4'	6.9	4'	180	1.4'	1.1'	4.0
			13'	68	2.1'	13'	39	3.0'	2.8'	7.5	5'	55	3.2'	1.8'	8.7	5'	115	1.7'	1.4'	5.0
			16'	51	2.4'	15'	29	3.5'	3.2'	8.7	6'	38	3.9'	2.1'	10.4	6'	80	2.0'	1.6'	6.0

P4-MA4MR-E4RPIN

LAMP	65W 25° MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	69	3.4'	8'	41	4.1'	3.8'	4.6	2'	207	1.8'	1.3'	3.5	2'	354	1.2'	1.0'	2.0
	Cutoff	55°	9'	54	3.9'	9'	32	4.6'	4.3'	5.2	3'	92	2.7'	2.0'	5.2	3'	157	1.8'	1.6'	3.0
	Efficiency	67.2%	10'	44	4.3'	10'	26	5.1'	4.8'	5.8	4'	52	3.6'	2.6'	6.9	4'	88	2.4'	2.1'	4.0
			13'	26	5.6'	13'	16	6.7'	6.2'	7.5	5'	33	4.5'	3.3'	8.7	5'	57	3.0'	2.6'	5.0
			15'	20	6.5'	15'	12	7.7'	7.2'	8.7	6'	23	5.3'	3.9'	10.4	6'	39	3.6'	3.1'	6.0

Squares
Photometrics: Directional Lamp

MR16 &
CMH MR16 Lamps

P4-MA4MR-E4RPIN

LAMP	71W 25° MR16		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	57	3.3'	8'	39	3.9'	3.6'	4.6	2'	180	4.9'	1.3'	3.5	2'	326	1.2'	1.0'	2.0
	Cutoff	55°	9'	45	3.7'	9'	31	4.4'	4.1'	5.2	3'	80	2.9'	1.9'	5.2	3'	145	1.8'	1.5'	3.0
	Efficiency	66.8%	10'	36	4.2'	10'	25	4.9'	4.5'	5.8	4'	45	3.9'	2.6'	6.9	4'	81	2.4'	2.1'	4.0
			13'	22	5.4'	13'	15	6.3'	5.9'	7.5	5'	29	4.9'	3.2'	8.7	5'	52	3.0'	2.6'	5.0
			15'	16	6.2'	15'	11	7.3'	6.8'	8.7	6'	20	5.8'	3.8'	10.4	6'	36	3.6'	3.1'	6.0

P4-MA4CMH20MRE-E4RPIN

LAMP	20W 12° CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	113	2.2'	8'	74	2.5'	2.3'	4.6	2'	266	1.7'	0.9'	3.5	2'	583	0.9'	0.7'	2.0
	Cutoff	55°	9'	90	2.5'	9'	58	2.8'	2.6'	5.2	3'	118	2.6'	1.3'	5.2	3'	259	1.3'	1.0'	3.0
	Efficiency	73.0%	10'	73	2.7'	10'	47	3.2'	2.8'	5.8	4'	67	3.5'	1.8'	6.9	4'	146	1.8'	1.4'	4.0
			13'	43	3.5'	13'	28	4.1'	3.7'	7.5	5'	43	4.4'	2.2'	8.7	5'	93	2.2'	1.7'	5.0
			16'	28	4.4'	16'	18	5.1'	4.5'	9.2	6'	30	5.2'	2.6'	10.4	6'	65	2.7'	2.1'	6.0

P4-MA4CMH20MRE-E4RPIN

LAMP	20W 25° CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	43	3.6'	8'	25	4.2'	3.9'	4.6	2'	127	1.8'	1.3'	3.5	2'	202	1.3'	1.1'	2.0
	Cutoff	55°	9'	34	4.1'	9'	20	4.7'	4.4'	5.2	3'	57	2.7'	2.0'	5.2	3'	90	1.9'	1.7'	3.0
	Efficiency	65.2%	10'	28	4.5'	10'	16	5.2'	4.9'	5.8	4'	32	3.6'	2.6'	6.9	4'	50	2.5'	2.2'	4.0
			13'	16	5.9'	13'	9	6.8'	6.3'	7.5	5'	20	4.5'	3.3'	8.7	5'	32	3.2'	2.8'	5.0
			15'	12	6.8'	15'	7	7.8'	7.3'	8.7	6'	14	5.4'	4.0'	10.4	6'	22	3.8'	3.3'	6.0

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

Notes:

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Squares
Photometrics: Lens Wall Wash

Triple CFL Lamp

P4-MH4BT-E4LWWH

LAMP	GE Q50MR16/C/FL		SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES											
			2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						2'6" FROM WALL (Spacing Between Fixtures)					
	Lumens	880	DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	2'	■	■	3'	■
	Cutoff	50°	1'	12	4	1	0	14	9	14	13	4	13	9	7	9	7	3	7
			2'	15	8	2	1	19	17	19	16	8	16	13	12	13	10	7	10
			3'	10	7	3	1	16	17	16	12	10	12	14	15	14	11	9	11
			4'	6	5	2	1	12	12	12	8	8	8	12	12	12	8	8	8
			5'	3	3	2	1	8	8	8	6	6	6	9	9	9	6	6	6
			6'	2	2	1	1	6	6	6	4	4	4	7	7	7	5	5	5
			7'	1	1	1	1	4	4	4	3	3	3	5	5	5	4	4	4
			8'	1	1	1	1	3	3	3	2	2	2	4	4	4	3	3	3
			9'	1	1	1	0	3	3	3	2	2	2	3	3	3	2	2	2
			10'	1	0	0	0	2	2	2	2	2	2	3	2	3	2	2	2

P4-MH4BT-E4LWWH

LAMP	75W BT15		2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						2'6" FROM WALL (Spacing Between Fixtures)					
	Lumens	1010	DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	2'	■	■	3'	■
	Cutoff	55°	1'	12	5	1	0	15	10	15	13	5	13	9	7	9	8	4	8
			2'	16	9	1	1	21	19	21	17	9	17	14	13	14	11	7	11
			3'	11	8	3	1	18	19	18	14	11	14	16	16	16	12	10	12
			4'	7	6	3	1	14	14	14	9	9	9	14	14	14	10	10	10
			5'	4	3	2	1	10	10	10	7	7	7	11	11	11	7	7	7
			6'	2	2	2	1	7	7	7	5	5	5	8	8	8	6	6	6
			7'	2	2	1	1	5	5	5	4	4	4	6	6	6	4	4	4
			8'	1	1	1	1	4	4	4	3	3	3	5	5	5	3	3	3
			9'	1	1	1	1	3	3	3	2	2	2	4	4	4	3	3	3
			10'	1	1	1	1	2	2	2	2	2	2	3	3	3	2	2	2

P4-MH4BT-E4LWWH

LAMP	100W BT15		2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						3'0" FROM WALL (Spacing Between Fixtures)					
	Lumens	1670	DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	3'	■	■	4'	■
	Cutoff	55°	1'	23	9	2	1	28	19	28	25	9	25	9	5	9	8	3	8
			2'	28	16	4	1	37	34	37	31	16	31	14	10	14	12	6	12
			3'	20	14	5	2	32	33	32	24	20	24	17	15	17	14	9	14
			4'	11	9	5	2	23	24	23	16	16	16	15	16	15	13	11	13
			5'	7	6	4	2	16	16	16	11	11	11	13	13	13	10	10	10
			6'	4	4	3	2	12	12	12	8	8	8	10	10	10	8	8	8
			7'	3	2	2	1	9	9	9	6	6	6	8	8	8	6	6	6
			8'	2	2	1	1	7	7	7	5	5	5	6	7	6	5	5	5
			9'	1	1	1	1	5	5	5	4	4	4	5	5	5	4	4	4
			10'	1	1	1	1	4	4	4	3	3	3	4	4	4	3	3	3

PN41H42E-E4LWWH

LAMP	26W TTT CFL		2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						2'6" FROM WALL (Spacing Between Fixtures)					
	Lumens	1800	DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	3'	■	■	4'	■
	Cutoff	55°	1'	27	11	3	1	34	24	34	29	11	29	9	6	9	8	3	8
			2'	29	17	5	2	41	38	41	33	20	33	17	14	17	12	6	12
			3'	17	13	6	2	31	31	31	22	19	22	18	17	18	14	9	14
			4'	10	8	5	2	22	22	22	15	15	15	15	15	15	13	11	13
			5'	5	5	3	2	15	15	15	10	10	10	12	12	12	10	10	10
			6'	3	3	2	2	11	11	11	7	8	7	10	10	10	8	8	8
			7'	2	2	2	1	8	8	8	6	6	6	7	8	7	6	6	6
			8'	2	1	1	1	6	6	6	4	4	4	6	6	6	5	5	5
			9'	1	1	1	1	5	5	5	3	3	3	5	5	5	4	4	4
			10'	1	1	1	1	4	4	4	3	3	3	4	4	4	3	3	3

Squares
Photometrics: Lens Wall Wash

MR16, T4 E11, Triple CFL & CMH T6 Lamp

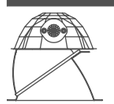
PN41H42E-E4LWWH

LAMP	32W TTT CFL		SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES											
			2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						3'0" FROM WALL (Spacing Between Fixtures)					
	Lumens	2400																
	Cutoff	55°																
DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	3'	■	■	4'	■		
1'	40	16	4	1	49	34	49	42	17	42	13	9	13	11	5	11		
2'	41	24	8	3	60	55	60	47	30	47	26	20	26	23	13	23		
3'	25	18	9	4	45	45	45	32	28	32	27	24	27	22	16	22		
4'	14	12	7	4	32	32	32	22	21	22	22	22	22	18	16	18		
5'	8	7	5	3	22	22	22	15	15	15	18	18	18	14	13	14		
6'	5	4	3	2	15	16	15	11	11	11	14	14	14	11	11	11		
7'	3	3	2	2	11	11	11	8	8	8	11	11	11	8	9	8		
8'	2	2	2	1	8	9	8	6	6	6	9	9	9	7	7	7		
9'	2	1	1	1	6	7	6	5	5	5	7	7	7	5	5	5		
10'	1	1	1	1	5	5	5	4	4	4	6	6	6	4	5	4		

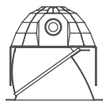
P4-MH4CMH39T6E-E4LWWH

LAMP	39W CMH T6		2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						3'0" FROM WALL (Spacing Between Fixtures)					
	Lumens	3300																
	Cutoff	55°																
DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	3'	■	■	4'	■		
1'	37	13	4	1	45	29	45	40	14	40	16	9	16	15	5	15		
2'	73	27	6	2	87	60	87	78	25	78	22	16	22	20	10	20		
3'	71	37	8	3	90	81	90	78	37	78	39	27	39	36	15	36		
4'	41	29	10	3	65	65	65	49	39	49	45	36	45	41	20	41		
5'	24	19	10	4	47	48	47	33	32	33	36	34	36	31	23	31		
6'	15	13	8	4	35	35	35	24	24	24	29	29	29	23	21	23		
7'	10	9	6	3	26	27	26	18	18	18	23	24	23	18	18	18		
8'	7	6	5	3	20	20	20	14	14	14	19	19	19	14	15	14		
9'	5	5	4	3	16	16	16	11	11	11	16	16	16	12	12	12		
10'	4	4	3	2	13	13	13	9	9	9	13	13	13	10	10	10		

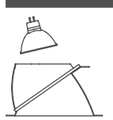
P4-MH4CMH70T6E-E4LWWH

LAMP	70W CMH T6		3'0" FROM WALL (Distance From Fixture Along Wall)				3'0" FROM WALL (Spacing Between Fixtures)						4'0" FROM WALL (Spacing Between Fixtures)					
	Lumens	6600																
	Cutoff	55°																
DD	■	1'	2'	3'	■	3'	■	■	4'	■	■	4'	■	■	5'	■		
1'	29	14	5	2	34	18	34	31	11	31	15	7	15	14	5	14		
2'	40	25	10	4	50	34	50	45	21	45	24	15	24	23	10	23		
3'	75	44	15	6	88	57	88	81	33	81	32	22	32	29	15	29		
4'	77	52	20	7	94	72	94	85	42	85	50	32	50	47	21	47		
5'	53	42	21	9	74	69	74	62	45	62	55	40	55	51	26	51		
6'	36	31	19	9	57	58	57	46	41	46	47	40	47	42	29	42		
7'	24	22	16	9	46	47	46	35	35	35	39	37	39	34	28	34		
8'	18	16	12	8	37	37	37	28	39	28	32	32	32	27	25	27		
9'	13	12	10	7	30	30	30	23	24	23	27	28	27	22	22	22		
10'	10	9	8	6	25	25	25	19	20	19	23	23	23	19	19	19		

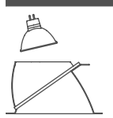
P4-MH4QT-E4LWWH

LAMP	T4 E11/100W		SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES											
			2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						3'0" FROM WALL (Spacing Between Fixtures)					
	Lumens	1550																
	Efficiency	50.4%																
DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	3'	■	■	4'	■		
1'	26.2	11.9	3.0	0.8	29.2	23.9	29.2	27.0	12.0	27.0	9.1	7.1	9.1	8.6	4.3	8.6		
2'	29.8	17.0	5.5	1.9	35.3	34.0	35.3	31.6	19.6	31.6	14.5	12.7	14.5	13.6	8.4	13.6		
3'	19.7	13.9	6.0	2.3	25.7	27.9	25.7	22.0	18.9	22.0	15.7	15.1	15.7	14.4	10.5	14.4		
4'	11.9	9.7	5.4	2.5	17.3	19.3	17.3	14.4	15.1	14.4	13.1	13.7	13.1	11.8	10.3	11.8		
5'	7.1	6.2	4.2	2.3	11.2	12.3	11.2	9.3	10.4	9.3	10.1	11.2	10.1	8.9	9.0	8.9		
6'	4.4	4.0	3.0	1.9	7.4	8.0	7.4	6.3	7.1	6.3	7.7	8.6	7.7	6.7	7.4	6.7		
7'	2.8	2.7	2.2	1.5	5.0	5.3	5.0	4.4	4.9	4.4	5.8	6.4	5.8	5.1	5.7	5.1		
8'	2.1	1.8	1.6	1.2	3.5	3.7	3.5	3.1	3.4	3.1	4.3	4.7	4.3	3.8	4.3	3.8		
9'	1.4	1.3	1.2	0.9	2.5	2.6	2.5	2.3	2.5	2.3	3.3	3.5	3.3	2.9	3.3	2.9		
10'	1.0	1.0	0.9	0.7	1.9	1.9	1.9	1.7	1.9	1.7	2.5	2.7	2.5	2.3	2.5	2.3		

P4-MV4MR-E4LWWH

LAMP	MR16/50W		2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						3'0" FROM WALL (Spacing Between Fixtures)					
	Lumens	884																
	Efficiency	47.9%																
DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	3'	■	■	4'	■		
1'	3.3	2.4	0.7	0.2	4.0	4.8	4.0	3.5	2.8	3.5	1.2	1.2	1.2	1.1	0.8	1.1		
2'	7.7	5.2	2.1	0.6	9.8	10.5	9.8	8.3	6.9	8.3	2.7	3.1	2.7	2.3	2.4	2.3		
3'	9.5	6.6	2.9	1.0	12.3	13.3	12.3	10.5	9.0	10.5	4.3	4.7	4.3	3.8	3.5	3.8		
4'	8.2	6.2	3.2	1.3	11.4	12.5	11.4	9.5	9.2	9.5	5.4	5.6	5.4	4.7	4.4	4.7		
5'	6.1	5.0	2.9	1.4	9.0	9.9	9.0	7.5	7.9	7.5	5.4	5.9	5.4	4.8	4.7	4.8		
6'	4.2	3.7	2.4	1.4	6.7	7.3	6.7	5.6	6.2	5.6	5.1	5.5	5.1	4.4	4.6	4.4		
7'	2.9	2.6	1.9	1.2	4.9	5.3	4.9	4.1	4.6	4.1	4.4	4.8	4.4	3.8	4.1	3.8		
8'	2.1	1.9	1.5	1.0	3.6	3.8	3.6	3.1	3.4	3.1	3.6	4.0	3.6	3.2	3.5	3.2		
9'	1.5	1.4	1.2	0.8	2.7	2.8	2.7	2.3	2.6	2.3	3.0	3.3	3.0	2.6	2.9	2.6		
10'	1.1	1.1	0.9	0.7	2.0	2.1	2.0	1.8	2.0	1.8	2.4	2.6	2.4	2.1	2.4	2.1		

P4-MV4MR-E4LWW

LAMP	MR16/50W		2'0" FROM WALL (Distance From Fixture Along Wall)				2'0" FROM WALL (Spacing Between Fixtures)						3'0" FROM WALL (Spacing Between Fixtures)					
	Lumens	884																
	Efficiency	50.4%																
DD	■	1'	2'	3'	■	2'	■	■	3'	■	■	3'	■	■	4'	■		
1'	4.9	3.3	1.0	0.2	6.0	6.6	6.0	5.1	3.8	5.1	1.6	1.7	1.6	1.4	1.1	1.4		
2'	11.8	7.4	2.6	0.7	14.4	14.8	14.4	12.5	9.1	12.5	4.0	4.1	4.0	3.6	3.0	3.6		
3'	14.9	10.2	4.2	1.4	19.1	20.4	19.1	16.3	13.5	16.3	6.4	6.6	6.4	5.7	4.8	5.7		
4'	12.3	9.3	4.6	1.9	16.9	18.5	16.9	14.1	13.6	14.1	8.2	8.5	8.2	7.3	6.5	7.3		
5'	8.4	6.8	4.0	2.0	12.4	13.7	12.4	10.3	10.9	10.3	8.4	9.1	8.4	7.4	7.2	7.4		
6'	5.5	4.7	3.2	1.8	8.6	9.4	8.6	7.2	8.0	7.2	7.5	8.2	7.5	6.6	6.8	6.6		
7'	3.6	3.2	2.4	1.5	6.0	6.4	6.0	5.1	5.7	5.1	6.2	6.8	6.2	5.4	5.8	5.4		
8'	2.4	2.2	1.8	1.2	4.2	4.5	4.2	3.7	4.1	3.7	4.9	5.4	4.9	4.3	4.7	4.3		
9'	1.7	1.6	1.3	1.0	3.0	3.2	3.0	2.7	2.9	2.7	3.8	4.2	3.8	3.4	3.8	3.4		
10'	1.2	1.2	1.0	0.8	2.2	2.3	2.2	2.0	2.2	2.0	3.0	3.2	3.0	2.7	3.0	2.7		

Definitions:

DD = Distance to floor or wall

See pages120-123 "How to Read Photometrics."

Notes:

Footcandle values for multiple fixtures are based upon a four-unit array. Footcandle values are centerline of fixtures and centered between fixtures. When selecting colored cone option, only downlight cone is colored; the wall wash reflector is specular clear. This allows the color (CRI, K˚) of the light source to be unaffected and maximizes lumen output.

Squares

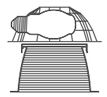
Photometrics: Lens / Shower Downlight (Non-Directional)

BT15, Triple CFL, T6, MR16 & CMH MR16 Lamps

P4-MH4BT-E4DLSRH

LAMP	75W BT15		CONE OF LIGHT			
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1010	4'	26	3.3'	3.0'
	Cutoff	55˚	5'	17	4.2'	4.9'
	Spacing Criteria	0.8, 1.0	6'	12	5.0'	5.8'
	Efficiency	46.9%	7'	8	5.8'	6.8'
			8'	6	6.7'	7.8'

P4-MH4BT-E4DLSRCBH



LAMP	75W BT15		CONE OF LIGHT			
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1010	4'	20	3.5'	4.3'
	Cutoff	55˚	5'	13	4.4'	5.4'
	Spacing Criteria	0.9, 1.1	6'	9	5.3'	6.5'
	Efficiency	45.0%	7'	7	6.1'	7.6'
			8'	6	7.0'	8.6'

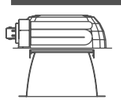
P4-MH4BT-E4DLSRH

LAMP	100W BT15		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1670	4'	43	3.4'	4.1'
	Cutoff	55˚	5'	27	4.3'	5.2'
	Spacing Criteria	0.8, 1.0	6'	19	5.1'	6.2'
	Efficiency	48.5%	7'	14	6.0'	7.2'
			8'	11	6.9'	8.3'

P4-MH4BT-E4DLSRCBH

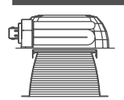
LAMP	100W BT15		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	1670	4'	32	3.7'	4.7'
	Cutoff	55˚	5'	21	4.6'	5.9'
	Spacing Criteria	0.9, 1.2	6'	14	5.5'	7.0'
	Efficiency	47.0%	7'	11	6.4'	8.2'
			8'	8	7.3'	9.4'

PN41H42E-E4DLSRH



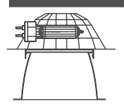
LAMP	32W TTT CFL		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	2400	4'	43	4.0'	4.9'
	Cutoff	55˚	5'	28	5.0'	6.1'
	Spacing Criteria	1.0, 1.3	6'	19	6.0'	7.4'
	Efficiency	46.0%	7'	14	7.0'	8.6'
			8'	11	8.1'	9.8'

PN41H42-E4DLSRCBH



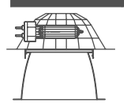
LAMP	32W TTT CFL		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	2400	4'	35	4.0'	4.8'
	Cutoff	55˚	5'	22	5.1'	6.0'
	Spacing Criteria	1.0, 1.3	6'	16	6.1'	7.2'
	Efficiency	42.0%	7'	11	7.1'	8.4'
			8'	9	8.1'	9.6'

P4-MH4CMH39T6E-E4CMHH



LAMP	39W T6		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	3300	4'	120	2.7'	4.9'
	Cutoff	55˚	5'	77	3.4'	6.2'
	Spacing Criteria	1.0, 1.2	6'	53	4.1'	7.4'
	Efficiency	39.5%	7'	39	4.8'	8.6'
			8'	30	5.5'	9.9'

P4-MH4CMH70T6E-E4CMHH



LAMP	70W T6		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
	Lumens	6600	8'	58	5.5'	9.7'
	Cutoff	55˚	9'	46	6.2'	10.9'
	Spacing Criteria	1.0, 1.3	10'	37	6.9'	12.1'
	Efficiency	37.2%	13'	22	9.0'	15.8'
			16'	15	11.1'	19.4'

P4-MV4MR-E4MRSRH

LAMP	50W 40º MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	500	8'	45	3.0'
	Cutoff	60˚	10'	29	3.7'
	Spacing Criteria	0.4	12.5'	18	4.7'
	Efficiency	84.3%	15'	13	5.6'
			18'	9	6.7'

P4-MV4MR-E4MRSRH

LAMP	50W 25º MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	884	8'	39	3.6'
	Cutoff	60˚	9'	30	4.1'
	Spacing Criteria	0.4	10'	25	4.5'
	Efficiency	71.0%	12.5'	16	5.7'
			15'	11	6.8'

P4-MV4MR-E4MRSRH

LAMP	71W 25º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	52	3.4'
	Cutoff	60˚	9'	41	3.8'
	Spacing Criteria	0.4	10'	33	4.2'
	Efficiency	68.7%	13'	20	5.5'
			15'	15	6.4'

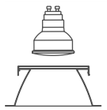
P4-MV4MR-E4MRSRH

LAMP	71W 40º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1200	7'	35	4.9'
	Cutoff	60˚	8'	27	5.6'
	Spacing Criteria	0.6	9'	21	6.3'
	Efficiency	69.3%	10'	17	7.0'
			12.5'	11	8.8'

P4-MV4CMH20MRE-E4MRSRH

LAMP	20W 12º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	103	2.2'
	Cutoff	60˚	9'	82	2.5'
	Spacing Criteria	0.3	10'	66	2.7'
	Efficiency	82.1%	13'	39	3.5'
			15'	29	4.1'

P4-MV4CMH20MRE-E4MRSRH



LAMP	20W 25º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	40	3.8'
	Cutoff	60˚	9'	32	4.3'
	Spacing Criteria	0.5	10'	26	4.7'
	Efficiency	82.4%	12.5'	16	5.9'
			15'	11	7.1'

P4-MV4MR-E4PINSR

LAMP	37W 10º IR MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	900	10'	86	2.0'
	Cutoff	50˚	13'	51	2.6'
	Spacing Criteria	0.2	15'	38	3.0'
	Efficiency	48.5%	17.5'	28	3.4'
			20'	21	3.9'

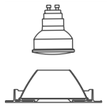
P4-MV4MR-E4PINSR

LAMP	50W 10º IR MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1320	8'	162	1.6'
	Cutoff	50˚	9'	128	1.8'
	Spacing Criteria	0.2	10'	104	2.0'
	Efficiency	34.2%	13'	61	2.6'
			15'	46	3.0'

P4-MV4MR-E4PINSR

LAMP	71W 25º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	51	3.3'
	Cutoff	50˚	9'	40	3.7'
	Spacing Criteria	0.4	10'	33	4.1'
	Efficiency	57.6%	13'	19	5.3'
			15'	14	6.2'

P4-MV4CMH20MRE-E4PINSR



LAMP	20W 12º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	39	3.6'
	Cutoff	50˚	9'	31	4.0'
	Spacing Criteria	0.4	10'	25	4.4'
	Efficiency	52.9%	12.5'	16	5.6'
			15'	11	6.7'

Notes:

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

Squares
Photometrics: Lens / Shower Downlight

MR16, T4 E11 & CMH MR16 Lamps

P4-MV4MR-E4RPINSR

LAMP	37W 10º IR MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	900	10'	85	2.0'
	Cutoff	55°	13'	54	2.5'
	Spacing Criteria	0.2	15'	38	3.0'
	Efficiency	50.2%	17.5'	28	3.5'
			20'	21	4.0'

P4-MV4MR-E4RPINSR

LAMP	71W 25º MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1100	8'	52	3.3'
	Cutoff	55°	9'	41	3.8'
	Spacing Criteria	0.4	10'	33	4.2'
	Efficiency	60.8%	13'	20	5.4'
			15'	15	6.3'

P4-MV4CMH20MRE-E4RPINSR

LAMP	20W 25º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	9'	39	3.6'
	Cutoff	55°	9'	31	4.1'
	Spacing Criteria	0.4	10'	25	4.5'
	Efficiency	59.4%	12.5'	16	5.6'
			15'	11	6.8'

P4-MH4QT-E4SLW

LAMP	T4 E11/75W		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1090	4'	30	3.3'
	Efficiency	63.4%	5'	19	4.1'
			6'	13	4.9'
			7'	10	5.7'
			8'	8	6.5'

P4-MH4QT-E4SLW

LAMP	T4 E11/100W		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1550	4'	44	3.3'
	Efficiency	65.8%	5'	28	4.1'
			6'	20	4.9'
			7'	14	5.7'
			8'	11	6.6'

P4-MV4CMH20MRE-E4PINSR

LAMP	20W 25º CMH MR16		CONE OF LIGHT		
			DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	96	2.2'
	Cutoff	50°	9'	76	2.5'
	Spacing Criteria	0.3	10'	62	2.8'
	Efficiency	59.1%	13'	36	3.6'
			16'	24	4.4'

P4-MV4MR-E4RPINSR

LAMP	50W 10º IR MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1320	8'	160	1.3'
	Cutoff	55°	9'	126	1.5'
	Spacing Criteria	0.2	10'	102	1.6'
	Efficiency	36.3%	13'	61	2.1'
			15'	45	2.5'

P4-MV4CMH20MRE-E4RPINSR

LAMP	20W 12º CMH MR16		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1000	8'	99	2.2'
	Cutoff	60°	9'	78	2.5'
	Spacing Criteria	0.5	10'	63	2.8'
	Efficiency	82.4%	13'	38	3.6'
			16'	25	4.4'

PN41H42E-E4SL2GW

LAMP	GX24Q-3/26WTT		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	1800	4'	29	3.9'
	Efficiency	42.1%	5'	18	4.9'
			6'	13	5.9'
			7'	9	6.9'
			8'	7	7.8'

P4-MH4CFL42E-E4SL2GW

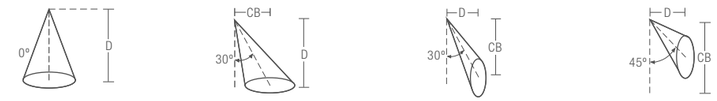
LAMP	GX24Q-3/32WTT		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	BEAM DIAMETER
	Lumens	2400	4'	33	4.0'
	Efficiency	38.6%	5'	21	5.1'
			6'	15	6.1'
			7'	11	7.1'
			8'	8	8.1'

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

Squares
Photometrics: Lens / Shower Directional Lamp

MR16 Lamps



P4-MA4MR-E4AASRH

LAMP	42W 9º MR16		0º HORIZONTAL PLANE			30º HORIZONTAL PLANE					30º VERTICAL PLANE					45º VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	575	8'	113	1.1'	8'	77	1.7'	1.2'	4.6	2'	262	1.1'	0.6'	3.5	2'	704	0.6'	0.4'	2.0
	Cutoff	60º	9'	89	1.2'	9'	61	1.9'	1.3'	5.2	3'	116	1.6'	0.8'	5.2	3'	313	0.9'	0.6'	3.0
	Efficiency	46.4%	10'	72	1.3'	10'	49	2.1'	1.5'	5.8	4'	66	2.1'	1.1'	6.9	4'	176	1.2'	0.8'	4.0
			13'	43	1.8'	13'	29	2.7'	1.9'	7.5	5'	42	2.7'	1.4'	8.7	5'	113	1.5'	0.9'	5.0
			15'	32	2.0'	15'	22	3.1'	2.2'	8.7	6'	29	3.2'	1.7'	10.4	6'	78	1.8'	1.1'	6.0

P4-MA4MR-E4AASRH

LAMP	50W 10º IR MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1320	8'	163	1.3'	8'	98	2.0'	1.7'	4.6	2'	348	1.3'	0.7'	3.5	2'	861	0.7'	0.5'	2.0
	Cutoff	60º	9'	129	1.5'	9'	77	2.2'	1.9'	5.2	3'	155	1.9'	1.0'	5.2	3'	383	1.1'	0.8'	3.0
	Efficiency	47.0%	10'	105	1.6'	10'	62	2.5'	2.1'	5.8	4'	87	2.5'	1.4'	6.9	4'	215	1.4'	1.1'	4.0
			13'	62	2.1'	13'	37	3.2'	2.7'	7.5	5'	56	3.2'	1.7'	8.7	5'	138	1.8'	1.3'	5.0
			15'	46	2.5'	15'	28	3.7'	3.1'	8.7	6'	39	3.8'	2.0'	10.4	6'	96	2.1'	1.6'	6.0

P4-MA4MR-E4AASRH

LAMP	65W 40º MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	26	5.2'	8'	19	5.6'	5.6'	4.6	2'	108	2.0'	1.9'	3.5	2'	185	1.6'	1.7'	2.0
	Cutoff	60º	9'	21	5.8'	9'	15	6.3'	6.3'	5.2	3'	48	3.0'	2.9'	5.2	3'	82	2.5'	2.6'	3.0
	Efficiency	62.9%	10'	17	6.5'	10'	12	6.9'	7.0'	5.8	4'	27	4.0'	3.8'	6.9	4'	46	3.3'	3.5'	4.0
			13'	10	8.4'	13'	7	9.0'	9.1'	7.5	5'	17	5.0'	4.8'	8.7	5'	30	4.1'	4.3'	5.0
			15'	7	9.7'	15'	5	10.4'	10.5'	8.7	6'	12	6.0'	5.7'	10.4	6'	21	4.9'	5.2'	6.0

P4-MA4MR-E4AASRH

LAMP	71W 25º MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	51	3.4'	8'	34	4.0'	3.6'	4.6	2'	158	2.0'	1.3'	3.5	2'	323	1.3'	1.0'	2.0
	Cutoff	60º	9'	41	3.8'	9'	27	4.5'	4.1'	5.2	3'	70	3.0'	1.9'	5.2	3'	144	2.0'	1.6'	3.0
	Efficiency	67.5%	10'	33	4.2'	10'	22	5.0'	4.5'	5.8	4'	39	3.9'	2.6'	6.9	4'	81	2.6'	2.1'	4.0
			13'	19	5.5'	13'	13	6.5'	5.9'	7.5	5'	25	4.9'	3.2'	8.7	5'	52	3.3'	2.6'	5.0
			15'	15	6.3'	15'	10	7.5'	6.8'	8.7	6'	18	5.9'	3.9'	10.4	6'	36	3.9'	3.1'	6.0

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Squares

Photometrics: Lens / Shower Directional Lamp

P4-MA4CMH20MRE-E4AASRH

LAMP	20W 25º CMH MR16		0º HORIZONTAL PLANE			30º HORIZONTAL PLANE					30º VERTICAL PLANE					45º VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	40	3.8'	8'	28	4.5'	4.1'	4.6	2'	122	2.1'	1.4'	3.5	2'	288	1.3'	1.1'	2.0
	Cutoff	60º	9'	32	4.3'	9'	22	5.1'	4.6'	5.2	3'	54	3.1'	2.2'	5.2	3'	128	1.9'	1.7'	3.0
	Efficiency	81.5%	10'	26	4.7'	10'	18	5.6'	5.1'	5.8	4'	30	4.1'	2.9'	6.9	4'	72	2.5'	2.3'	4.0
			13'	16	5.9'	13'	11	7.1'	6.4'	7.5	5'	19	5.2'	3.6'	8.7	5'	46	3.1'	2.8'	5.0
			15'	15	6.1'	16'	8	8.5'	7.6'	8.7	6'	14	6.2'	4.3'	10.4	6'	32	3.8'	3.4'	6.0

P4-MA4CMH20MRE-E4AASRH

LAMP	20W 12º CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	102	2.2'	8'	73	2.5'	2.2'	4.6	2'	66	3.5'	1.7'	3.5	2'	663	0.9'	0.6'	2.0
	Cutoff	60º	9'	81	2.5'	9'	58	2.8'	2.5'	5.2	3'	42	4.4'	2.2'	5.2	3'	295	1.3'	1.0'	3.0
	Efficiency	83.3%	10'	65	2.8'	10'	47	3.1'	2.8'	5.8	4'	29	5.2'	2.6'	6.9	4'	166	1.8'	1.3'	4.0
			13'	39	3.6'	13'	28	4.1'	3.6'	7.5	5'	17	7.0'	3.5'	8.7	5'	106	2.2'	1.6'	5.0
			16'	26	4.4'	16'	18	5.0'	4.4'	9.2	6'	11	8.7'	4.3'	10.4	6'	74	2.6'	1.9'	6.0

P4-MA4MR-E4PINSR

LAMP	37W 10º MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	900	10'	85	2.0'	10'	55	2.3'	1.8'	5.8	2'	724	0.6'	0.5'	3.5	2'	724	0.6'	0.5'	2.0
	Cutoff	50º	12.5'	55	2.4'	12.5'	35	2.9'	2.3'	7.2	3'	322	1.0'	0.8'	5.2	3'	322	1.0'	0.8'	3.0
	Efficiency	48.7%	15'	38	2.9'	15'	24	3.5'	2.7'	8.7	4'	181	1.3'	1.0'	6.9	4'	181	1.3'	1.0'	4.0
			16'	33	3.1'	16'	21	3.8'	2.9'	9.2	5'	116	1.6'	1.3'	8.7	5'	116	1.6'	1.3'	5.0
			20'	21	3.9'	20'	14	4.7'	3.6'	11.5	6'	80	1.9'	1.5'	10.4	6'	80	1.9'	1.5'	6.0

P4-MA4CMH20MRE-E4AASRH

LAMP	42W 9º MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	575	8'	119	1.1'	8'	77	1.7'	1.1'	4.6	2'	263	1.1'	0.6'	3.5	2'	670	0.4'	0.5'	2.0
	Cutoff	50º	9'	94	1.2'	9'	61	1.9'	1.3'	5.2	3'	117	1.6'	0.8'	5.2	3'	298	0.5'	0.8'	3.0
	Efficiency	36.4%	10'	76	1.3'	10'	49	2.1'	1.4'	5.8	4'	66	2.2'	1.1'	6.9	4'	167	0.7'	1.1'	4.0
			13'	45	1.7'	13'	29	2.7'	1.9'	7.5	5'	42	2.7'	1.4'	8.7	5'	107	0.9'	1.4'	5.0
			15'	34	2.0'	15'	22	3.1'	2.1'	8.7	6'	29	3.2'	1.7'	10.4	6'	74	1.1'	1.6'	6.0

P4-MA4MR-E4PINSR

LAMP	50W 10º MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1320	8'	163	1.3'	8'	94	1.9'	1.7'	4.6	2'	311	1.2'	0.7'	3.5	2'	763	0.6'	0.6'	2.0
	Cutoff	50º	9'	129	1.5'	9'	74	2.1'	1.9'	5.2	3'	138	1.8'	1.1'	5.2	3'	339	0.9'	0.8'	3.0
	Efficiency	34.2%	10'	104	1.6'	10'	60	2.4'	2.1'	5.8	4'	78	2.5'	1.5'	6.9	4'	191	1.3'	1.1'	4.0
			13'	62	2.1'	13'	36	3.1'	2.8'	7.5	5'	50	3.1'	1.8'	8.7	5'	122	1.6'	1.4'	5.0
			15'	46	2.4'	15'	27	3.5'	3.2'	8.7	6'	35	3.7'	2.2'	10.4	6'	85	1.9'	1.7'	6.0

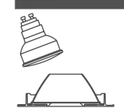
P4-MA4MR-E4PINSR

LAMP	65W 25º MR16		0º HORIZONTAL PLANE			30º HORIZONTAL PLANE					30º VERTICAL PLANE					45º VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	60	3.4'	8'	41	3.9'	3.6'	4.6	2'	177	1.9'	1.3'	3.5	2'	316	1.4'	1.1'	2.0
	Cutoff	50º	9'	7	3.8'	9'	32	4.4'	4.0'	5.2	3'	79	2.8'	2.0'	5.2	3'	141	2.1'	1.7'	3.0
	Efficiency	55.9%	10'	38	4.3'	10'	26	4.8'	4.5'	5.8	4'	44	3.7'	2.7'	6.9	4'	79	2.7'	2.2'	4.0
			13'	23	5.5'	13'	15	6.3'	5.8'	7.5	5'	28	4.6'	3.3'	8.7	5'	51	3.4'	2.8'	5.0
			15'	17	6.4'	15'	12	7.3'	6.7'	8.7	6'	20	5.6'	4.0'	10.4	6'	35	4.1'	3.4'	6.0

P4-MA4MR-E4PINSR

LAMP	71W 25º MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	163	1.3'	8'	36	3.8'	3.5'	4.6	2'	156	1.9'	1.3'	3.5	2'	297	1.2'	1.0'	2.0
	Cutoff	50º	9'	129	1.5'	9'	28	4.3'	4.0'	5.2	3'	69	2.9'	1.9'	5.2	3'	132	1.8'	1.5'	3.0
	Efficiency	57.6%	10'	105	1.6'	10'	23	4.7'	4.4'	5.8	4'	39	3.8'	2.6'	6.9	4'	74	2.4'	2.0'	4.0
			13'	62	2.1'	13'	14	6.2'	5.7'	7.5	5'	25	4.8'	3.2'	8.7	5'	48	3.0'	2.6'	5.0
			15'	46	2.5'	15'	10	7.1'	6.6'	8.7	6'	17	5.7'	3.8'	10.4	6'	33	3.7'	3.1'	6.0

P4-MA4CMH20MRE-E4PINSR

LAMP	20W 25º CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	39	3.6'	8'	27	3.8'	3.7'	4.6	2'	108	1.9'	1.4'	3.5	2'	210	1.2'	1.1'	2.0
	Cutoff	50º	9'	31	4.0'	9'	21	4.3'	4.1'	5.2	3'	48	2.9'	2.1'	5.2	3'	93	1.8'	1.6'	3.0
	Efficiency	53.4%	10'	25	4.5'	10'	17	4.8'	4.6'	5.8	4'	27	3.8'	2.8'	6.9	4'	53	2.3'	2.2'	4.0
			13'	15	5.8'	13'	10	6.2'	5.9'	7.5	5'	17	4.8'	3.5'	8.7	5'	34	2.9'	2.7'	5.0
			15'	11	6.7'	15'	8	7.1'	6.8'	8.7	6'	12	5.7'	4.2'	10.4	6'	23	3.5'	3.2'	6.0

P4-MA4CMH20MRE-E4PINSR

LAMP	20W 12º CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	102	2.2'	8'	73	2.2'	2.2'	4.6	2'	257	1.4'	0.9'	3.5	2'	567	0.8'	0.7'	2.0
	Cutoff	50º	9'	80	2.5'	9'	58	2.5'	2.4'	5.2	3'	114	2.1'	1.3'	5.2	3'	252	1.2'	1.0'	3.0
	Efficiency	61.4%	10'	65	2.7'	10'	47	2.8'	2.7'	5.8	4'	64	2.8'	1.7'	6.9	4'	142	1.6'	1.3'	4.0
			13'	39	3.5'	13'	28	3.6'	3.5'	7.5	5'	41	3.5'	2.2'	8.7	5'	91	2.0'	1.7'	5.0
			16'	25	4.4'	16'	18	4.4'	4.3'	9.2	6'	29	4.2'	2.6'	10.4	6'	63	2.4'	2.0'	6.0

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Squares

Photometrics: Lens / Shower Directional Lamp

MR16 &
CMH MR16 Lamps

P4-MA4MR-E4PINSR

LAMP	37W 10° IR MR16		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	900	10'	86	2.0'	10'	52	2.4'	1.8'	5.8	2'	275	1.3'	0.7'	3.5	2'	512	0.7'	0.5'	2.0
	Cutoff	55°	12.5'	55	2.4'	12.5'	33	3.0'	2.3'	7.2	3'	122	1.9'	1.0'	5.2	3'	228	1.0'	0.8'	3.0
	Efficiency	50.9%	15'	38	2.9'	15'	23	3.6'	2.8'	8.7	4'	69	2.5'	1.3'	6.9	4'	128	1.3'	1.0'	4.0
			16'	33	3.1'	16'	20	3.8'	2.9'	9.2	5'	44	3.2'	1.6'	8.7	5'	82	1.7'	1.3'	5.0
			20'	21	3.9'	20'	13	4.7'	3.7'	11.5	6'	31	3.8'	2.0'	10.4	6'	57	2.0'	1.5'	6.0

P4-MA4MR-E4RPINSR

LAMP	42W 9° MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	575	8'	132	1.0'	8'	83	1.7'	1.2'	4.6	2'	280	1.1'	0.6'	3.5	2'	581	0.6'	0.4'	2.0
	Cutoff	55°	9'	104	1.2'	9'	65	1.9'	1.3'	5.2	3'	125	1.6'	0.8'	5.2	3'	258	0.9'	0.6'	3.0
	Efficiency	38.2%	10'	84	1.3'	10'	53	2.1'	1.5'	5.8	4'	70	2.2'	1.1'	6.9	4'	145	1.3'	0.7'	4.0
			13'	50	1.7'	13'	31	2.7'	1.9'	7.5	5'	45	2.7'	1.4'	8.7	5'	93	1.6'	0.9'	5.0
			15'	38	2.0'	15'	23	3.1'	2.2'	8.7	6'	31	3.3'	1.7'	10.4	6'	65	1.9'	1.1'	6.0

P4-MA4MR-E4RPINSR

LAMP	50W 10° IR MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1320	8'	181	1.3'	8'	103	1.9'	1.7'	4.6	2'	345	1.3'	0.7'	3.5	2'	0.7	0.5'	2.0'	2.0
	Cutoff	55°	9'	143	1.5'	9'	82	2.1'	1.9'	5.2	3'	153	1.9'	1.1'	5.2	3'	1.0	0.8'	3.0'	3.0
	Efficiency	36.4%	10'	116	1.6'	10'	66	2.3'	2.1'	5.8	4'	86	2.6'	1.4'	6.9	4'	1.4	1.1'	4.0'	4.0
			13'	68	2.1'	13'	39	3.0'	2.8'	7.5	5'	55	3.2'	1.8'	8.7	5'	1.7	1.4'	5.0'	5.0
			15'	51	2.4'	15'	29	3.5'	3.2'	8.7	6'	38	3.9'	2.1'	10.4	6'	2.0	1.6'	6.0'	6.0

P4-MA4MR-E4RPINSR

LAMP	65W 25° MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	69	3.4'	8'	41	4.1'	3.8'	4.6	2'	207	1.8'	1.3'	3.5	2'	354	1.2'	1.0'	2.0
	Cutoff	55°	9'	54	3.9'	9'	32	4.6'	4.3'	5.2	3'	92	2.7'	2.0'	5.2	3'	157	1.8'	1.6'	3.0
	Efficiency	57.9%	10'	44	4.3'	10'	26	5.1'	4.8'	5.8	4'	52	3.6'	2.6'	6.9	4'	88	2.4'	2.1'	4.0
			13'	26	5.6'	13'	16	6.7'	6.2'	7.5	5'	33	4.5'	3.3'	8.7	5'	57	3.0'	2.6'	5.0
			15'	20	6.5'	15'	12	7.7'	7.2'	8.7	6'	23	5.3'	3.9'	10.4	6'	39	3.6'	3.1'	6.0

P4-MA4MR-E4RPINSR

LAMP	71W 25° MR16		0° HORIZONTAL PLANE			30° HORIZONTAL PLANE					30° VERTICAL PLANE					45° VERTICAL PLANE				
			D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1100	8'	52	3.4'	8'	34	3.9'	3.6'	4.6	2'	160	1.9'	1.3'	3.5	2'	269	1.2'	1.0'	2.0
	Cutoff	55°	9'	41	3.8'	9'	27	4.4'	4.1'	5.2	3'	71	2.9'	1.9'	5.2	3'	119	1.9'	1.6'	3.0
	Efficiency	61.2%	10'	33	4.2'	10'	22	4.9'	4.5'	5.8	4'	40	3.9'	2.5'	6.9	4'	67	2.5'	2.1'	4.0
			13'	20	5.4'	13'	13	6.4'	5.9'	7.5	5'	26	4.8'	3.1'	8.7	5'	43	3.1'	2.6'	5.0
			15'	15	6.3'	15'	10	7.4'	6.8'	8.7	6'	18	5.8'	3.8'	10.4	6'	30	3.7'	3.1'	6.0

P4-MA4CMH20MRE-E4RPINSR

LAMP	20W 12° CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	102	2.2'	8'	71	2.3'	2.2'	4.6	2'	259	1.5'	0.9'	3.5	2'	471	0.9'	0.7'	2.0
	Cutoff	55°	9'	81	2.5'	9'	56	2.6'	2.5'	5.2	3'	115	2.3'	1.3'	5.2	3'	209	1.4'	1.0'	3.0
	Efficiency	66.4%	10'	65	2.7'	10'	46	2.9'	2.7'	5.8	4'	65	3.0'	1.7'	6.9	4'	118	1.8'	1.4'	4.0
			13'	39	3.5'	13'	27	3.8'	3.6'	7.5	5'	41	3.8'	2.2'	8.7	5'	75	2.3'	1.7'	5.0
			16'	26	4.4'	16'	18	4.6'	4.4'	9.2	6'	29	4.6'	2.6'	10.4	6'	52	2.8'	2.1'	6.0

P4-MA4CMH20MRE-E4RPINSR

LAMP	20W 25° CMH MR16		D	FC	BD	D	FC	L	W	CB	D	FC	L	W	CB	D	FC	L	W	CB
	Lumens	1000	8'	39	3.6'	8'	26	3.9'	3.8'	4.6	2'	113	1.9'	1.4'	3.5	2'	244	1.0'	1.1'	2.0
	Cutoff	55°	9'	31	4.1'	9'	21	4.4'	4.3'	5.2	3'	50	2.9'	2.1'	5.2	3'	109	1.6'	1.6'	3.0
	Efficiency	59.7%	10'	25	4.5'	10'	17	4.9'	4.8'	5.8	4'	28	3.9'	2.7'	6.9	4'	61	2.1'	2.1'	4.0
			13'	15	5.9'	13'	10	6.3'	6.2'	7.5	5'	18	4.9'	3.4'	8.7	5'	39	2.6'	2.6'	5.0
			15'	11	6.8'	15'	7	7.3 '	7.2'	8.7	6'	13	5.8'	4.1'	10.4	6'	27	3.1'	3.2'	6.0

Definitions:

D = Distance to floor or wall
FC = Max. footcandles on surface within effective visual beam (EVB is 50% of max. FC)
L = Effective visual beam length in feet
W = Effective visual beam width in feet
CB = Distance down or across to center beam
BD = Beam diameter

See pages 120-123 "How to Read Photometrics."

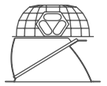
IRiS believes that bare lamp data photometrics vastly overstate the performance of low voltage adjustable accent fixtures. The "real world photometrics" shown here are from off the shelf lamps in fixtures using a clear lens and operated at 12.0 volts. Please see page 122-123 for a further discussion and appropriate correction multipliers.

Squares
Photometrics: Wall Wash

Triple CFL Lamp

PN6L1H42E-E6LWWLI

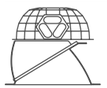
LAMP	GX24Q/3/32WTTT
Lumens	2400
Efficiency	49.9%
Test No.	P12960



	SINGLE UNIT FOOTCANDLES				MULTIPLE UNIT FOOTCANDLES											
	3'0" FROM WALL (Distance From Fixture Along Wall)				3'0" FROM WALL (Spacing Between Fixtures)						4'0" FROM WALL (Spacing Between Fixtures)					
DD	■	1'	2'	3'	■	3'	■	■	4'	■	■	3'	■	■	4'	■
1'	10.6	8.1	3.9	1.7	12.4	11.8	12.4	11.4	7.9	11.4	5.0	5.3	5.0	4.4	4.1	4.4
2'	21.9	17.6	9.5	4.3	26.2	30.4	26.2	23.9	19	23.9	13.3	14.7	13.3	11.9	11.5	11.9
3'	21.6	18.5	11.7	6.0	27.6	30.4	27.6	24.5	23.3	24.5	17.8	20.0	17.8	15.6	16.4	15.6
4'	15.4	13.8	9.9	6.0	21.3	24.0	21.3	18.7	19.7	18.7	17.8	19.9	17.8	15.5	17.1	15.5
5'	10.4	9.6	7.5	5.0	15.3	17.2	15.3	13.5	14.9	13.5	14.8	16.5	14.8	13.0	14.6	13.0
6'	7.1	6.7	5.5	4.0	11.1	12.2	11.1	9.8	10.9	9.8	11.4	12.5	11.4	10.2	11.4	10.2
7'	4.9	4.7	4.0	3.2	8.0	8.7	8.0	7.1	8.0	7.1	8.9	9.6	8.9	8.0	8.9	8.0
8'	3.5	3.3	3.0	2.4	5.8	6.3	5.8	5.3	5.9	5.3	6.8	7.3	6.8	6.2	6.9	6.2
9'	2.5	2.5	2.2	1.9	4.4	4.7	4.4	4.0	4.4	4.0	5.3	5.6	5.3	4.9	5.3	4.9
10'	1.9	1.8	1.7	1.5	3.3	3.5	3.3	3.1	3.4	3.1	4.1	4.3	4.1	3.8	4.2	3.8

PN6L1H42E-E6LWWLI

LAMP	GX24Q/3/26WTTT
Lumens	1800
Efficiency	54.8%
Test No.	P12962



	3'0" FROM WALL (Distance From Fixture Along Wall)				3'0" FROM WALL (Spacing Between Fixtures)						4'0" FROM WALL (Spacing Between Fixtures)					
DD	■	1'	2'	3'	■	3'	■	■	4'	■	■	3'	■	■	4'	■
1'	8.5	6.5	3.2	1.4	9.9	9.4	9.9	9.1	6.3	9.1	4.0	4.3	4.0	3.5	3.3	3.5
2'	17.6	14.1	7.6	3.4	21.0	21.6	21.0	19.2	15.3	19.2	10.6	11.7	10.6	9.5	9.2	9.5
3'	17.6	15.2	9.5	4.9	22.5	24.9	22.5	20.1	19.1	20.1	14.3	16.2	14.3	12.6	13.3	12.6
4'	12.8	11.5	8.2	4.9	17.7	20.0	17.7	15.5	16.4	15.5	14.5	16.4	14.5	12.7	14.0	12.7
5'	8.6	7.9	6.2	4.2	12.8	14.3	12.8	11.2	12.4	11.2	12.3	13.7	12.3	10.8	12.1	10.8
6'	5.8	5.5	4.6	3.3	9.2	10.2	9.2	8.1	9.1	8.1	9.5	10.5	9.5	8.5	9.5	8.5
7'	4.0	3.8	3.3	2.6	6.6	7.2	6.6	5.9	6.7	5.9	7.4	8.0	7.4	6.6	7.4	6.6
8'	2.8	2.7	2.4	2.0	4.9	5.2	4.9	4.4	4.9	4.4	5.7	6.1	5.7	5.2	5.7	5.2
9'	2.1	2.0	1.8	1.6	3.6	3.9	3.6	3.3	3.7	3.3	4.4	4.7	4.4	4.0	4.4	4.0
10'	1.5	1.5	1.4	1.2	2.8	2.9	2.8	2.6	2.8	2.6	3.4	3.6	3.4	3.2	3.5	3.2

Definitions:

DD = Distance to floor or wall

See pages120-123 "How to Read Photometrics."

Notes:

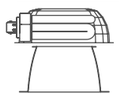
Footcandle values for multiple fixtures are based upon a four-unit array. Footcandle values are centerline of fixtures and centered between fixtures. When selecting colored cone option, only downlight cone is colored; the wall wash reflector is specular clear. This allows the color (CRI, K°) of the light source to be unaffected and maximizes lumen output.

Squares
Photometrics: Downlight

Triple CFL Lamps

PN61H42E-E6DLLI

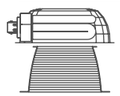
LAMP	GX24Q-3/32WTTT
Lumens	2400
Efficiency	62.2%
Test No.	P12924



CONE OF LIGHT			
DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	30	6.0'	7.4'
7'	22	7.0'	8.6'
8'	17	8.0'	9.8'
10'	11	10.0'	12.3'
12'	8	12.0'	14.7'

PN61H42E-E6DLCBLI

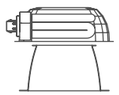
LAMP	GX24Q-3/42WTTT
Lumens	3200
Efficiency	55.2%
Test No.	P12998



CONE OF LIGHT			
DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	24	7.5'	8.1'
7'	17	8.7'	9.4'
8'	13	10.0'	10.7'
10'	9	12.5'	13.4'
12'	6	15.0'	16.1'

PN61H42E-E6DLLI

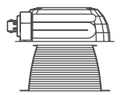
LAMP	GX24Q-3/42WTTT
Lumens	3200
Efficiency	66.0%
Test No.	P12964



DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	43	6.3'	7.1'
7'	32	7.4'	8.3'
8'	24	8.4'	9.5'
10'	15	10.5'	11.9'
12'	11	12.6'	14.3'

PN61H42E-E6DLCBLI

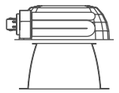
LAMP	GX24Q-3/32WTTT
Lumens	2400
Efficiency	58.1%
Test No.	P12995



DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	21	7.0'	7.5'
7'	15	8.2'	8.8'
8'	12	9.4'	10.0'
10'	7	11.7'	12.5'
12'	5	14.1'	15.0'

PN62H42E-E6DLLI

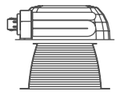
LAMP	GX24Q-3/26WTTT
Lumens	1825
Efficiency	33.1%
Test No.	P12997



DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	25	5.9'	7.4'
7'	18	6.9'	8.6'
8'	14	7.8'	9.9'
10'	9	9.8'	12.4'
12'	6	11.8'	14.8'

PN62H42E-E6DLCB

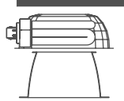
LAMP	GX24Q-3/26WTTT
Lumens	1825
Efficiency	32.9%
Test No.	P13003



DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	18	6.5'	7.9'
7'	13	7.6'	9.2'
8'	10	8.7'	10.5'
10'	6	10.8'	13.2'
12'	4	13.0'	15.8'

PN62H42E-E6DLLI

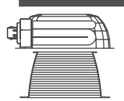
LAMP	GX24Q-3/32WTTT
Lumens	2400
Efficiency	45.0%
Test No.	P12981



DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	44	6.1'	7.3'
7'	32	7.2'	8.5'
8'	25	8.2'	9.7'
10'	16	10.2'	12.2'
12'	11	12.3'	14.6'

PN62H42E-E6DLCB

LAMP	GX24Q-3/32WTTT
Lumens	2400
Efficiency	44.0%
Test No.	P12992



DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	29	7.0'	7.9'
7'	22	8.2'	9.2'
8'	16	9.3'	10.5'
10'	11	11.7'	13.1'
12'	7	14.0'	15.7'

PN6S1H42E-E6SL2GW

LAMP	GX24Q-3/32WTTT
Lumens	2400
Efficiency	62.7%
Test No.	P12965

DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	26	6.5'	5.8'
7'	19	7.6'	6.8'
8'	14	8.6'	7.8'
10'	9	10.8'	9.7'
12'	6	12.9'	11.6'

PN6S1H42E-E6SL2GW

LAMP	GX24Q-3/42WTTT
Lumens	3200
Efficiency	57.3%
Test No.	P12980

DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
6'	31	6.4'	6.0'
7'	23	7.5'	7.0'
8'	17	8.6'	8.0'
10'	11	10.7'	10.0'
12'	8	12.8'	12.1'

Notes:

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

Triple CFL Lamps

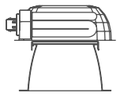
PN6S1H42E-E6SL3GW

LAMP	GX24Q-3/26WTTT	CONE OF LIGHT			
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	1800	6'	20	6.5'	6.0'
Efficiency	68.6%	7'	15	7.5'	7.0'
Test No.	P12979	8'	11	8.6'	8.1'
		10'	7	10.8'	10.1'
		12'	5	12.9'	12.1'

PN6S1H42E-E6SL3GW

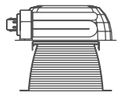
LAMP	GX24Q-3/32WTTT	CONE OF LIGHT			
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	2400	6'	25	6.6'	5.9'
Efficiency	61.4%	7'	18	7.7'	6.8'
Test No.	P12977	8'	14	8.8'	7.8'
		10'	9	11.1'	9.8'
		12'	6	13.3'	11.7'

PN61H42E-E6DLSR3GLI



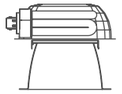
LAMP	GX24Q-3/26WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	1800	6'	24	5.9'	6.8'
Efficiency	61.7%	7'	17	6.9'	7.9'
Test No.	P12975	8'	13	7.8'	9.0'
		10'	9	9.8'	11.3'
		12'	6	11.7'	13.5'

PN61H42E-E6DLSR3GCBLI



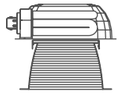
LAMP	GX24Q-3/32WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	2400	6'	19	6.8'	7.5'
Efficiency	54.1%	7'	14	7.9'	8.7'
Test No.	P12994	8'	11	9.0'	10.0'
		10'	7	11.3'	12.5'
		12'	5	13.6'	14.9'

PN61H42E-E6DLSR3GLI



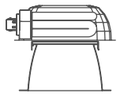
LAMP	GX24Q-3/32WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	2400	6'	30	5.8'	6.7'
Efficiency	57.6%	7'	22	6.8'	7.9'
Test No.	P12974	8'	17	7.8'	9.0'
		10'	11	9.7'	11.2'
		12'	8	11.7'	13.5'

PN61H42E-E6DLSR3GCBLI



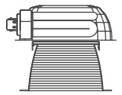
LAMP	GX24Q-3/42WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	3200	6'	21	7.0'	8.1'
Efficiency	48.6%	7'	15	8.2'	9.4'
Test No.	P12999	8'	12	9.4'	10.8'
		10'	7	11.7'	13.5'
		12'	5	14.1'	16.1'

PN62H42E-E6DLSR3GLI



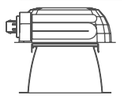
LAMP	GX24Q-3/26WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	1825	6'	22	5.9'	7.3'
Efficiency	29.4%	7'	16	6.9'	8.5'
Test No.	P12985	8'	12	7.9'	9.7'
		10'	8	9.8'	12.2'
		12'	6	11.8'	14.6'

PN62H42E-E6DLSR3GCBLI



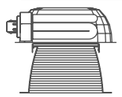
LAMP	GX24Q-3/26WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	1825	6'	16	6.5'	7.8'
Efficiency	30.1%	7'	12	7.6'	9.1'
Test No.	P13004	8'	9	8.7'	10.5'
		10'	6	10.9'	13.1'
		12'	4	13.0'	15.7'

PN62H42E-E6DLSR3GLI



LAMP	GX24Q-3/32WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	2400	6'	39	6.2'	7.1'
Efficiency	40.4%	7'	29	7.2'	8.3'
Test No.	P12982	8'	22	8.2'	9.5'
		10'	14	10.3'	11.9'
		12'	10	12.3'	14.2'

PN62H42E-E6DLSR3GCBLI



LAMP	GX24Q-3/32WTTT				
		DISTANCE TO ILLUMINATED PLANE	INITIAL NADIR FOOTCANDLES	LENGTH	WIDTH
Lumens	2400	6'	26	7.0'	7.8'
Efficiency	57.3%	7'	19	8.2'	9.1'
Test No.	P12993	8'	15	9.4'	10.4'
		10'	9	11.7'	13.1'
		12'	7	14.0'	15.7'

Notes:

Beam diameter is to 50% of maximum footcandles.

See page 120-123 for "How to Read Photometrics" and Finish Multipliers.

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Technical Information

SPECIFICATION SHEETS

The most current specification sheets containing detailed line drawings, critical dimensions, construction features and photometric information can be viewed and downloaded at www.cooperlighting.com

INSTALLATION INSTRUCTIONS

Installation instructions are provided with each product and can be viewed and downloaded at www.cooperlighting.com

Codes and Labels

IRiS recessed luminaires meet or exceed requirements given in the National Electric Code, the UL1598 standard and carry both the UL and cUL listing certification. IC rated platforms are suitable for direct contact with insulation or combustible materials. Insulation must be kept 3 inches from non IC rated platforms. All housing platforms are certified airtight under ASTM-E283 and exchange less than 2.0 CFM with the plenum at a pressure of 75 Pascals. Reduced air flow from conditioned spaces saves energy, maintains the insulation value and keeps optical elements and ceilings cleaner. Additionally IC rated airtight housings meet the following requirements; Washington State Energy Code, International Energy Conservation Code (IECC), State of California Title 24 Low Efficacy Luminaire IC and AT requirements and the New York State Energy Conservation Construction Code. The non modular compact fluorescent fixtures meet the State of California Title 24 High Efficacy Luminaire IC and AT requirements.

PHOTOMETRIC DATA

All photometric data provided is based on 'initial' conditions. To use this data in real-life conditions the appropriate light loss factors must be applied. It is the designer's responsibility to understand and apply the proper light loss factors for each application.

PHOTOMETRIC REPORTS

All photometric data supplied within this catalog, on specification sheets and .ies files are based on formulas and recommended test practices established by the Illumination Engineering Society of North America (IESNA). Testing is 77° F (25°±1°C). Light output of compact fluorescent lamp, even an amalgam lamp, is dependent on its thermal environment. The effects of the thermal environment on light output and efficiency fall primarily within the realm of the lighting designer.

REFLECTOR FINISHES

IRiS provides matching finishes across all lower reflector geometry and lamp sources. This creates a consistent reflector appearance, allowing you to mix a variety of reflector shapes and sources maintaining a uniform appearance. Square lower reflector segments are precision blanked and die formed from 0.032 thick bright one side aluminum sheets. Using mill quality electro chemically polished sheet eliminates surface imperfections that can result from post forming buffing.
Round reflectors utilize high purity 0.050" thick aluminum which is computer spun to ensure consistent material flow and mechanically buffed to remove orange peel and other surface imperfections. Reflectors are then processed to comply with the Aluminum Company of America's "Alzak®" process consisting of electrochemical brightening, anodizing by the sulfuric acid process, color dyeing if applicable and a hot water sealing treatment.
The dense, hard protective anodic oxide coating shall not be less than 3.0 mg per square inch minimum weight and not less than .0002 thick.

MODIFIED CUSTOM UNITS

Projects with their individual requirements may require items not found within this catalog. IRiS can create a wide range of custom optical elements, finishes, ballast options and distributions on a project basis. Please consult with your IRiS representative for a discussion on your specific project. Incandescent and multi-wattage compact fluorescent housing platforms can be de-rated and made with a DR restrictive wattage label to meet lighting power density requirements. Consult your IRiS representative for current availability or to request a new DR wattage.

INSTALLATION

Flanges of the self-flanged and metal trim ring optical elements are 5/8" wide. This allows sufficient overlap to provide a clean cover of the ceiling cutout when the clearance hole is cut to the specified dimensions. Overspray protectors are shipped in each platform to protect the Matte Black interior from paint and construction dust.

Lamp Size	Aperture Size	Ceiling Cutout
3" Round	3-1/2" (89mm)	4-3/8" (112mm)
4" Square	4-1/2" (114mm)	5-1/4" (134mm)
5" Round	5-1/4" (134mm)	6-1/4" (159mm)
6" Square	6" (152mm)	6-5/8" (168mm)
7" Round	6-3/4" (172mm)	7-3/4" (197mm)

All optical elements and lamp modules install without tools. Wall wash elements are provided with orientation labels to aid installer.

MOUNTING

Captive and pre-installed bar hangers, supplied with most new work housings, adjust from 8-1/2" to 24" wide; pass thru feature allows shortening without removal. Captive nail penetrates standard and engineered lumber. Mounting flange levels platform with ceiling. Integral clip attaches directly to the tee bar. Locking screw on plaster frame provides positive horizontal locking. Butterfly brackets are provided on select NON-IC platforms and provide 3" of vertical adjustment and accept 1/2" EMT, C-channel or bar hangers. They are removable for tight joist spacing.

LOW VOLTAGE TRANSFORMERS

Electromagnetic transformers use toroidal construction to ensure ultra quiet performance and trouble free operation. When dimming low-voltage units use dimmers rated for magnetic loads. Use of dimmers not specifically rated for magnetic loads can emit a DC current which may damage the transformer and void the warranty. If the dimming system is operated in its "shunt" mode the 'switched' output should be used. Operating fixtures on the 'dimmer' output with 120V input will overdrive the lamp and cause shortened lamp life. Tungsten-halogen can be dimmed like all incandescent sources. At some point in the dimming process, the bulb wall temperature may fall below the necessary temperature required to keep the halogen cycle operating. When Blackening does occur, it can be cleaned up by operating the lamps at full voltage for one-half hour. All incandescent lamps may produce an audible hum while dimmed. This is due to the dynamics of the tungsten filament vibrating while being dimmed. To reduce and eliminate lamp hum, alternate lamps will provide additional filament support, or additional chokes can be added to the control circuitry. Consult with your dimmer manufacturer for more information.

ELECTRONIC BALLAST

High-frequency, high-power factor, ballasts are provided standard for compact fluorescent 4-pin lamps. Higher operating frequency allows for greater efficacy and no visible lamp flicker at ignition and during operation. Compact fluorescent electronic ballasts provide Class A sound rating and meet FCC requirements for EMI/RFI. Fluorescent 4-pin lamps are capable of being dimmed. Dimming ranges from 100% full-light output to 1% without flicker. See available dimming ballast options provided for each housing platform and lamp type. Lamps can be switched on to desired light level without flicker. Fluorescent lamps also maintain their color temperature while dimming. New lamps must be operated for at least 100 hours at full-light output to ensure optimum dimming range.
Electronic ballast for ceramic metal halide lamps provide Class A sound rating, meet FCC EMI/RFI non-consumer limits and are not recommended for residential use.
MR16 2-pin sockets, GU 5.3 base, are field replaceable via quick-connect plug and available through distributions service parts.

DIMMERS

Dimming increases an application's flexibility and drama. It creates specific light scenes and provides for a range of use within one space. In addition, today's solid state dimmers save energy as the sources dim. Contact your IRiS representative for more dimming ideas.

WARRANTY

IRiS provides a one-year warranty that all products, materials and workmanship are free of defects. All toroidal transformers carry a five-year warranty. LED housing platforms are covered by a five-year warranty. Many IRiS features are subject to U.S. and foreign patent protection such as U.S. Patent Nos. 5,951,151, 6,082,878, 6,505,960 and other issued or pending patents owned by Cooper Lighting. We will aggressively pursue any infringement. We reserve the right to change material, design or dimensions without notice.

TECHNICAL HOTLINE

I toll-free 1-888-474-7584

IRiS Finish Options

IRiS offers more finish choices than any other manufacturer, giving you the ability to match any color scheme imaginable. Finishes are offered in painted, plated and Alzak®.

Colors and textures have been matched as close as possible. Paper and ink limitations, as well as the influence of heat and light, account for differences from actual coatings. To aid in final product selection, please contact your local IRiS representative.

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