

RESIDENTIAL RECESSED LIGHTING

Juno[®]

Universal downlights

Aculux[™]

Precision recessed





Juno recessed lighting creates a warm and secure welcome as you approach and enter your home and reinforces interior room themes by creating feelings of spaciousness or intimacy. Architects and designers favor recessed lighting because it quietly integrates into the ceiling, dramatically emphasizes art, textures and architectural elements and solves for the practical needs of task lighting and circulation.

Building on over a quarter century of leadership in recessed lighting, Juno offers a full palette of recessed lighting solutions under the Aculux and Juno brands. Aculux precision recessed luminaires offer the superior optical control and adjustment features that professional lighting designers require to create stunning visual effects. Juno downlights offer an exciting array of practical and attractive fixtures, incorporating groundbreaking features and designs that are the result of continuous, industry-leading innovation. Both Juno and Aculux products incorporate the same tapered trim ring detail, reflector finishes and aperture sizes. This design continuity allows them to be used together throughout a home to facilitate the optimal balance of visual impact and economy for any size home or budget.

General Lighting

Evenly spaced downlights provide ambient and circulation lighting.

Task Lighting

Downlights centered between the cabinet face and the front counter edge provide shadow-free task illumination on work and food preparation areas and bring out the beauty of cabinet fronts and countertops. Position downlights directly over sinks and island centers to facilitate tasks.

Accent Lighting

Selectively highlight art and collectibles with adjustable accent lights to add visual interest and focal points.



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KITCHEN



Narrow focus lamps with closer spacing provide higher light levels for critical tasks, while flood lamps at wider spacing add general illumination.

DINING ROOM



Task Lighting

Center downlights over a table or buffet to highlight the serving area.

Accent Lighting

Enhance the richness of natural woods, and highlight centerpieces and place settings to supplement or replace light from a decorative chandelier. Focusing adjustables on perimeter artwork also contributes to the general illumination of the area.

Wall Lighting

Illuminate vertical surfaces such as walls, draperies, or screens with recessed adjustables or wall washers to expand the size of the room and to highlight artwork or architectural details.



Augment the ambient light of a chandelier with downlights to accent place settings and create sparkle.



General Lighting

If the bathroom is large, use multiple fixtures spaced throughout the room.

Task Lighting

Mount lensed fixtures in showers and above baths and whirlpools. Downlights mounted over the vanity, in conjunction with diffuse wall-mounted fixtures, provide illumination for grooming and brightens countertops.

Accent Lighting

Selectively illuminating artwork in the bathroom can make the setting more interesting and intimate.

HALLWAY



General Lighting

Downlights provide general and circulation lighting. Fixture placement and lamp selection can be combined to create uniform lighting or “pools” of light to add visual interest or make a hallway appear longer.

Accent Lighting

Highlight artwork with adjustable accent lighting. Brightly illuminated objects at the end of the hall create a dramatic focal point.

Wall Lighting

Uniform illumination on walls makes hallways feel wider and calls attention to artwork.



Evenly spaced hall downlights with an accented object at the end provide a sense of visual direction and destination.

LIVING ROOM



General Lighting

Downlights provide background ambient illumination.

Accent Lighting

Highlight art, collectibles, and architectural elements such as columns and niches with adjustable fixtures. Emphasize focal points to add visual interest.

Wall Lighting

Evenly illuminate walls and built-in casework with wall wash units to make rooms feel spacious and bright. Graze walls to accentuate textured surfaces such as brick, stone, or stucco.



Graze vertical surfaces with sloped ceiling downlights to highlight natural textures.

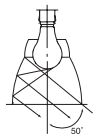




High-performance, inconspicuous recessed lighting.

Aculux is a comprehensive series of high-performance architectural-grade recessed luminaires. They are designed to provide highly efficient illumination and dramatic, space-enhancing effects from apertures that quietly blend with the architecture. Whether your interior is contemporary or traditional, Aculux delivers stunning results quite distinct from standard recessed fixtures.

Aculux fixtures accommodate a wide range of lamps and provide general, task, accent and wall wash lighting solutions with matching low-brightness apertures and precise aiming.



Aesthetically superior trims

- High-quality, hand-polished, and anodized ALZAK aluminum reflectors
- Tapered die-formed trim rings inconspicuously blend with the ceiling
- Torsion spring retainers hold trims flush and secure without light leaks
- Optional reflector finishes and baffled apertures available to suit individual aesthetic preference



Clear Cone

Specular finish produces a neutral appearance with exceptional low brightness.



Haze Cone

Uniform satin finish has a soft luminous appearance and hides dust and fingerprints. Blends with white ceilings and coordinates well with cooler interior finishes, light hardwoods and metallic accents such as satin nickel and stainless steel.



Wheat Haze

Adds subtle warmth to an interior with a rich trim appearance. Coordinates well with warmer tone interior finishes, hardwoods and metallic accents such as satin brass and oil-rubbed bronze.

Key Features:


- 3/4" aperture is the smallest available in the precision lighting market
- Simple housing and trim format, allowing easy ordering, installation and fixture adjustment to create dramatic lighting effects
- Reflectors are computer designed, featuring deep lamp shielding to eliminate glare
- High quality, superior construction including hand-polished reflector finishes and tool-less rotation and aiming lock mechanisms to create and maintain high-quality illumination for many years
- Low voltage housings feature a quiet, premium constant wattage magnetic transformer with a proven balance of light output and lamp/socket life
- The smooth taper of Aculux trim rings blend smoothly into the ceiling plane without a shadow-edge, creating a more trim-less appearance
- Aculux IC housings are Air-Loc rated for maximum energy savings. The sealed Air-Loc construction eliminates the transfer of conditioned air out of, or unconditioned air into, a living space to maintain maximum energy efficiency and comfort. The sealed Air-Loc construction also helps preserve soundproofing and eliminates the possibility of dirt, dust and insects entering a room through the recessed luminaire.



Air-Loc® Rating

AIR-LOC Aculux IC housings meet IECC Energy Code requirements per ASTM E283.

Energy Star Products

 Aculux IC CFL downlights are listed as qualified Energy Star products. Energy Star, a government-sponsored program, establishes criteria and testing requirements to ensure energy efficient luminaires meet consistent performance standards. Many local utilities offer builders rebates for installing qualified Energy Star products.

Low-Voltage Halogen

High-intensity, highly controlled beams of light in a wide variety of beam spreads for precise illumination **Page 14**

MR16 Adjustables **14**

Precisely controlled accent, wall wash, and downlight illumination from a miniature 3/4" aperture.

PAR36/AR111 Adjustables **16**

Produces a tight, collimated beam of light that provides high-intensity, pinpoint illumination over great distances.

Framing Projector **17**

Produces an adjustable rectangular light pattern to dramatically "frame" art with light.

120-Volt PAR Halogen/CAMH

Moderately controlled beams of light in spot or flood patterns for general, wall wash, accent, and task lighting

PAR16/PAR20 Adjustables **20**

Low to medium light level accent and downlight illumination from a miniature 3/4" aperture.

PAR30 Adjustables **22**

Medium to high light level accent illumination.

PAR30 Downlights/Wall Washers **23**

High light level general, task, and wall wash illumination.

PAR38 Adjustables **24**

For high flat or sloped ceiling mounting heights

A-lamps and Compact Fluorescents

Diffuse illumination for general lighting and wall washing

A-Lamp Downlights/Wall Washers **28**

Diffuse, widespread illumination from economical incandescent A-lamps.

Compact Fluorescent Downlights/Wall Washers **29**

Diffuse, widespread illumination from energy-efficient compact fluorescent lamps.



Gold Cone
Specular finish with a pale gold tint slightly warms lamp color temperature and provides decorative aperture appearance.



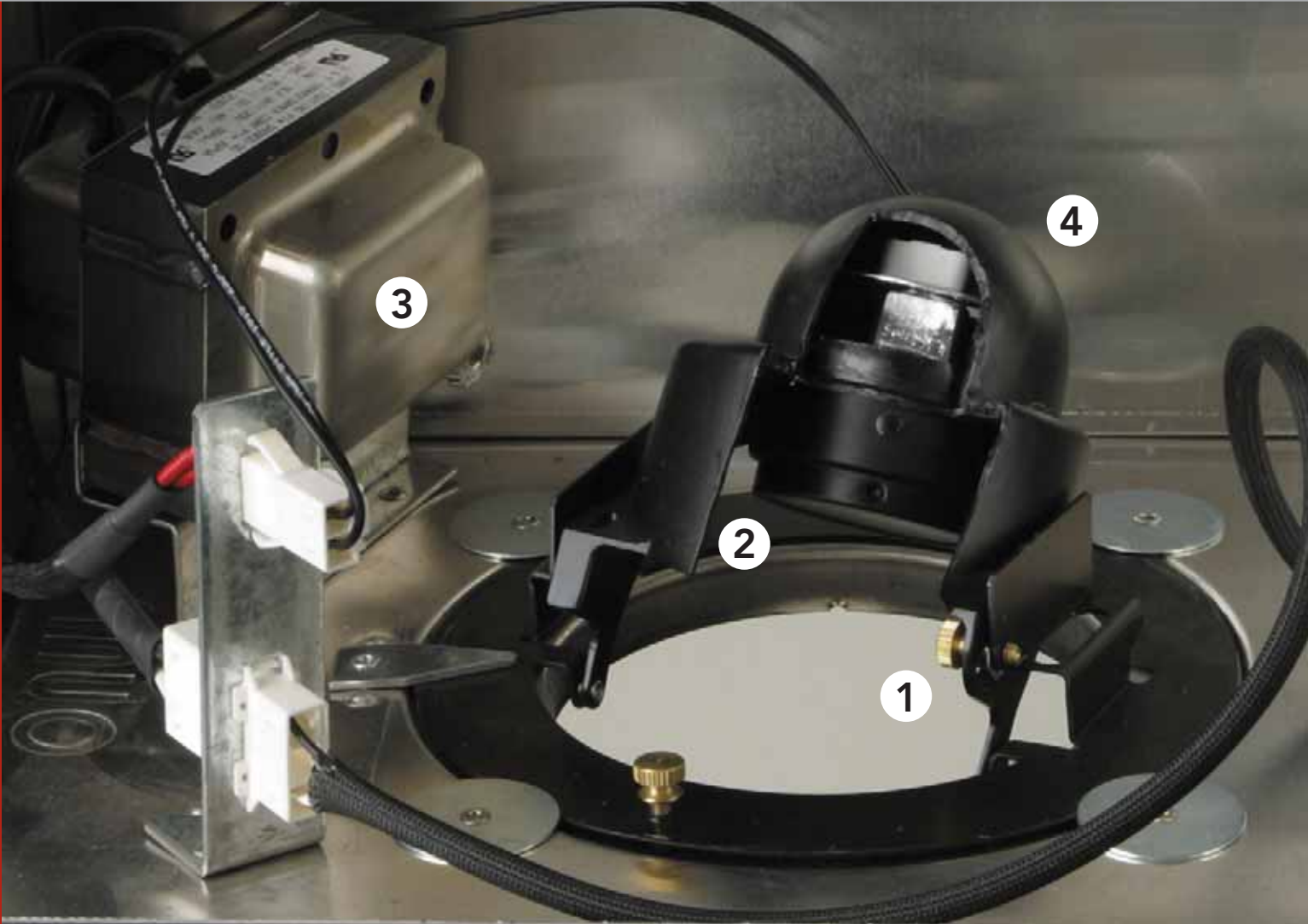
Black Cone
Specular black finish produces lowest possible brightness and maximum source concealment.



Black Baffle
Sharply defined concentric baffles reduce trim brightness and create a pleasing architectural appearance.



White Baffle
Brighter appearance when illuminated, but blends with white ceiling when off.





The anatomy of Aculux low-voltage luminaires

1. High-performance tool-less lamp aiming mechanism

Adjustable fixtures feature 0-45° aiming, 361° rotation, and locking capability. Center lamp beam optical alignment with the trim opening assures full light output with low aperture brightness at any aiming angle. Rotation greater than 360° prevents aiming “dead spots.” The aiming and rotation positions can be locked, without tools, to ensure proper focus is maintained through relamping cycles.

2. New snap-in lampholder with dual accessory capability

An improved lampholder easily/intuitively snaps into position and is supplied with a lightly textured uniformity lens for smooth, striation free beam patterns. The lampholder accommodates two light control accessory lenses for fine-tuning beam patterns, color temperature correction or filtering out UV radiation when illuminating fine artwork. The one-piece die-cast lamp housing efficiently dissipates heat.

3. Premium transformer

Ensures maximum life, inaudible operation, and consistent light output regardless of variations in operating temperature. Quick-release mounting and electrical disconnect facilitate simple maintenance.

4. High-quality, premium grade lamp socket

High-quality lamp socket utilizes double spring-loaded nickel contacts specifically designed for higher lamp operating temperatures. Socket is easily replaceable via a quick electrical disconnect.

Adjustable/Wall Wash/Downlight Series

Recessed adjustable housing for accent, task, wall washing, or downlighting. 12-volt MR16 halogen lamps produce precisely controlled beam spreads, from narrow spots to floods, with excellent color rendering properties.

MR16 Adjustable Housings

Air-Loc



IC43

Energy-efficient, Air-Loc® rated housing for use in direct contact with insulation. Includes 50VA thermally protected 12-volt step down transformer.

Housing dimensions:
20 7/8" L x 10" W x 9 1/2" H
Ceiling cutout: 4 5/8"



TC43

Requires 3" spacing from insulation. Includes 75VA thermally protected 12-volt step down transformer and residential bar hangers.

Housing dimensions:
15" L x 7 1/2" W x 5 1/2" H
Ceiling cutout: 4 5/8"



MR16 Trims

Adjustable Trims



Angle Cut Cone

438C-WH Clear Alzak
438G-WH Gold Alzak
438B-WH Black Alzak
438HZ-WH Haze
438WHZ-WH Wheat Haze
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture



Adjustable Pinhole

433-WH Pinhole with Internal Black Alzak Shroud
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
1/4" Aperture



Angle Cut Baffle

435W-WH White Baffle
435B-WH Black Baffle
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture



Slot Angle Cut Cone

436C-WH Clear Alzak
436G-WH Gold Alzak
436B-WH Black Alzak
436HZ-WH Haze
436WHZ-WH Wheat Haze
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture



20° Angle Cut Cone

430C-WH Clear Alzak
430G-WH Gold Alzak
430B-WH Black Alzak
430HZ-WH Haze
430WHZ-WH Wheat Haze
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture



Angle Cut Lensed Wall Wash (Wet Location Approved)

439C-WH Clear Alzak
439G-WH Gold Alzak
439B-WH Black Alzak
439HZ-WH Haze
439WHZ-WH Wheat Haze
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture

Wall Wash Trims

Features

- Miniature 3/4" aperture
- Deep lamp regression and optimized beam center provide 50° lamp/lamp image cut-off for exceptional low aperture brightness
- 361° rotation and 45° tilt with tool-less locking and hot aiming capability
- Factory-installed uniformity lens eliminates beam striations
- Low profile trim with self-aligning torsion-spring retention for clean ceiling interface without light leaks
- Accepts two beam control lenses and color correction/UV filters
- Remodel housing with patent-pending "Push-Pull System" for quick, easy installation

Accessories

CTA4-125 Ceiling Thickness Adapter accommodates ceilings from above 1/2" to 1 1/4" thick.

CTA4-200 Ceiling Thickness Adapter accommodates ceilings from 1 1/4" to 2" thick.

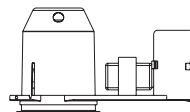
Lenses and Color Filters shown below.



TC43R

Remodel housing featuring unique "Push-Pull" system for quick, easy installation. Requires 3" spacing from insulation. 35° tilt adjustment. Includes 50VA thermally protected 12-volt step down transformer.

Housing dimensions:
10 5/8" L x 4 1/8" W x 5 5/8" H
Ceiling cutout: 4 7/8"



TC943

Requires 3" spacing from insulation. Includes 75VA thermally protected 12-volt step down transformer and commercial style hanger bar bracket.

Housing dimensions:
15" L x 7 1/2" W x 5 1/2" H
Ceiling cutout: 4 7/8"



Downlight Trims



Deep Downlight Cone

437C-WH Clear Alzak
437G-WH Gold Alzak
437B-WH Black Alzak
437HZ-WH Haze
437WHZ-WH Wheat Haze
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture



Deep Downlight Baffle

434W-WH White Baffle
434B-WH Black Baffle
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture

Shower Trims



Lensed Downlight Shower Trim (Wet Location Approved)

432C-WH Clear Alzak
432G-WH Gold Alzak
432B-WH Black Alzak
432HZ-WH Haze
432WHZ-WH Wheat Haze
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture



Angle Cut Lensed Shower Trim (Wet Location Approved)

431C-WH Clear Alzak
431G-WH Gold Alzak
431B-WH Black Alzak
431HZ-WH Haze
431WHZ-WH Wheat Haze
IC43/TC43: 50W MR16
TC43/TC943: 75W MR16
3/4" Aperture

Accessory Light Control Lenses



Prismatic Spread Lens

T557 Coarse prism lens enlarges beam size. Especially useful with narrow flood lamps.



Linear Spread Lens

T559 Elongates beam into a wide oval pattern



Diffusion Lens

T5520 Frosted lens softens the beam and lightly diffuses the pattern



Uniformity Lens

T5521 Fine prismatic lens eliminates striations without altering size of beam (supplied as standard equipment on Aculux MR16 housings)



UV Filter

T5522 Optivex™ museum quality filter blocks UV transmission below 400nm



Color Correction Filters

T5516 Cool Blue Cools color temperature to 4250°K



T5518 Cosmetic Peach Warms color temperature to 2700°K

Dichroic Color Filters

T5501 Red
T5503 Green
T5504 Medium Blue
T5505 Yellow
T5506 Magenta
T5511 Blue Green (Cyan)



Hexagonal Cell Louver

T5559BL Provides 45° lamp shielding

Adjustable Series

Recessed adjustable housing for pin-spot accent lighting over great distances. 12-volt Halogen PAR36 or AR111 lamps produce a collimated light beam with excellent color-rendering properties.

Features

- 5 5/8" Aperture
- Deep lamp regression and optimized beam center provides 50° lamp/lamp image cut-off for exceptional low aperture brightness
- 361° rotation and 35° tilt with tool-less locking and hot-aiming capability
- Factory installed clear lens for use with open AR111 lamps
- Low profile trim with self-aligning torsion spring retention for clean ceiling interface without light leaks
- Accommodates 2 optical media

Accessories

CTA6 Ceiling Thickness Adapter accommodates ceilings from 1 1/4" to 2" thick.

HB-1 Commercial to residential bar hanger conversion kit.

PAR36/AR111 Adjustable Housings

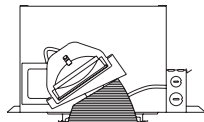
AIR-LOC



IC64

Energy-efficient, Air-Loc® rated housing for use in direct contact with insulation. Includes 50VA thermally protected 12-volt step down transformer.

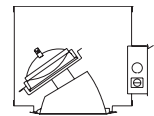
Housing dimensions:
20 3/8" L x 10" W x 9 1/2" H
Ceiling cutout: 6 1/8"



TC964

Compact, low profile housing includes 75VA thermally protected 12-volt step down transformer. Requires 3" spacing from insulation. Use with optional HB-1 residential bar hanger conversion kit for joist construction. Removable cover allows top access for relamping from above.

Housing dimensions:
13 1/2" L x 12" W x 9" H
Ceiling cutout: 6 1/8"



PAR36/AR111 Adjustable Trims



Angle-Cut Cone

638C-WH Clear Alzak
638G-WH Gold Alzak
638B-WH Black Alzak
638HZ-WH Haze
638WHZ-WH Wheat Haze
IC: 50W PAR36/AR111
TC: 75W PAR36/AR111
5 5/8" Aperture



Angle-Cut Baffle

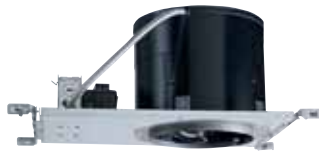
635W-WH White Baffle
635B-WH Black Baffle
IC: 50W PAR36/AR111
TC: 75W PAR36/AR111
5 5/8" Aperture

Features

- Choice of slot trim for framing art on vertical surfaces or pinhole trim for framed downlighting
- 361° rotation and 45° tilt with tool-less locking and hot-aiming capability
- Four independently operated shutters for precise framing
- Triple-lens optics for bright, uniform, sharp-edged pattern



Framing Projector Housing

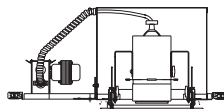


TC960

Housing includes 12V, 75VA thermally protected transformer. Requires 3" spacing from insulation. Designed for use with 75W EYC Flood MR16 lamp. Supplied with commercial brackets and residential bar hangers for installation in wood construction.

Housing dimensions:
20³/₈" L x 11¹/₂" W x 9¹/₄" H
Ceiling cutout: 8¹/₂"

See page 77 for relationship between fixture location, maximum size of lighted field, and minimum distance from ceiling to top of lighted field.



Adjustable Framing Projector Trims



Slot Trim

245-WH for wall illumination
(9¹/₂" OD) 75W MR16 Flood



Pinhole Trim

246-WH for downlight illumination
(9¹/₂" OD) 75W MR16 Flood



Versatile halogen lighting with popular PAR lamps

Aculux 120-volt halogen PAR luminaires provide good beam control for a variety of applications. PAR30 luminaires are particularly useful for general downlight illumination with medium to high ceilings, and accent lighting of larger objects and architectural features. Lensed wall wash trims provide even, uniform illumination of vertical surfaces without “light scallops.” Smaller 3¼” PAR20 luminaires are useful for task and accent lighting with shorter throw distances.

The anatomy of Aculux 120-volt halogen PAR luminaires

1. High-performance lamp-aiming mechanism

Adjustable fixtures feature 0-35° or 0-45° aiming, 361° rotation, and locking capability. Center lamp beam optical alignment with the trim opening assures full light output with low aperture brightness at any aiming angle. Rotation greater than 360° prevents aiming “dead spots.” The aiming and rotation positions can be locked, without tools, to ensure proper focus is maintained through relamping cycles.

2. Internal lamp shield

Eliminates sight lines into housing from all viewing angles to maintain pure, clean aperture appearance.





**Adjustable/Wall Wash/Downlight Series**

Recessed 0-35° adjustable housing for accent, task, wall washing, or downlighting. 120-volt PAR16 or PAR20 halogen lamps produce spot or flood patterns for low to medium light levels over short to medium throw distances.

Features

- Miniature 3/4" aperture
- Deep lamp regression and optimized beam center provides 50° lamp/lamp image cut-off for exceptional low aperture brightness
- 361° rotation and 35° tilt with tool-less locking and hot aiming capability
- Low profile trim with self-aligning torsion-spring retention for clean ceiling interface without light leaks

Accessories

CTA4-125 Ceiling Thickness Adapter accommodates ceiling from above 1/2" to 1 1/4" thick.

CTA4-200 Ceiling Thickness Adapter accommodates ceilings from 1 1/4" to 2" thick.

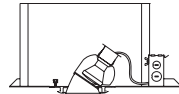
AIR-LOC



IC13

Energy-efficient, Air-Loc® rated housing for use in direct contact with insulation.

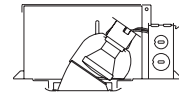
Housing dimensions:
20 7/8" L x 10" W x 9 1/2" H
Ceiling cutout: 4 5/8"



TC13

Compact, low-profile housing for use where insulation will be spaced 3" away from fixture. Fits 2" x 8" joist construction.

Housing dimensions:
15" L x 7 1/2" W x 6" H
Ceiling cutout: 4 5/8"



3/4" Aperture PAR16/PAR20 Trims

Wall Wash Trims



Angle-Cut Lensed Wall Wash (Wet Location Approved)

439C-WH Clear Alzak
439G-WH Gold Alzak
439B-WH Black Alzak
439HZ-WH Haze
439WHZ-WH Wheat Haze
IC: 45W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture



Slot Angle Cut Cone

436C-WH Clear Alzak
436G-WH Gold Alzak
436B-WH Black Alzak
436HZ-WH Haze
436WHZ-WH Wheat Haze
IC: 60W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture



Deep Downlight Baffle

434W-WH White Baffle
434B-WH Black Baffle
IC: 60W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture

Adjustable Trims



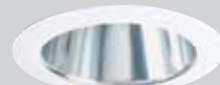
Angle-Cut Cone

438C-WH Clear Alzak
438G-WH Gold Alzak
438B-WH Black Alzak
438HZ-WH Haze
438WHZ-WH Wheat Haze
IC: 60W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture



Angle-Cut Baffle

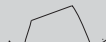
435W-WH White Baffle
435B-WH Black Baffle
IC: 60W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture



Lensed Downlight Shower Trim (Wet Location Approved)

432C-WH Clear Alzak
432G-WH Gold Alzak
432B-WH Black Alzak
432HZ-WH Haze
432WHZ-WH Wheat Haze
IC: 45W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture

Downlight Trims



20° Adjustable Cone

430C-WH Clear Alzak
430G-WH Gold Alzak
430B-WH Black Alzak
430HZ-WH Haze
430WHZ-WH Wheat Haze
IC: 45W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture



Deep Downlight Cone

437C-WH Clear Alzak
437G-WH Gold Alzak
437B-WH Black Alzak
437HZ-WH Haze
437WHZ-WH Wheat Haze
IC: 60W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture



Angle-Cut Lensed Shower Trim (Wet Location Approved)

431C-WH Clear Alzak
431G-WH Gold Alzak
431B-WH Black Alzak
431HZ-WH Haze
431WHZ-WH Wheat Haze
IC: 45W PAR16, 50W PAR20
TC: 75W PAR16, 50W PAR20
3/4" Aperture

Aculux™ 5 5/8" Aperture PAR30

Adjustable Series

Recessed 0-35° adjustable housing for accent, task, or downlighting. 120-volt PAR30 halogen lamp produces spot or flood patterns for medium to high light levels.

Features

- 5 5/8" aperture
- Deep lamp regression and computer-optimized reflector contour provides 50° lamp/lamp image cut-off for exceptional low aperture brightness
- 361° rotation and 35° tilt with tool-less locking and hot aiming capability
- Low profile trim with self-aligning torsion spring retention for clean ceiling interface without light leaks

Accessories

CTA6 Ceiling Thickness Adapter accommodates ceilings from 1/4" to 2" thick.

PAR30 Adjustable Housing

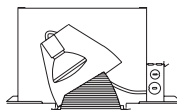
AIR-LOC



IC63

Energy-efficient, Air-Loc® rated housing for use in direct contact with insulation.

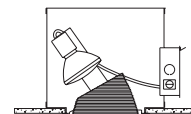
Housing dimensions:
20 3/8" L x 10" W x 9 1/2" H
Ceiling cutout: 6 7/8"



TC963

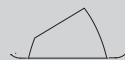
Requires 3" spacing from insulation. Use with optional HB-1 Residential Bar Hanger Conversion Kit for joist construction.

Housing dimensions:
13 1/2" L x 12" W x 9" H
Ceiling cutout: 6 7/8"



5 5/8" Aperture PAR30 Adjustable Trims

Adjustable Trims



Angle-Cut Cone

638C-WH Clear Alzak
638G-WH Gold Alzak
638B-WH Black Alzak
638HZ-WH Haze
638WHZ-WH Wheat Haze
IC/TC: 75W PAR30
5 5/8" Aperture



Angle-Cut Baffle

635W-WH White Baffle
635B-WH Black Baffle
IC/TC: 75W PAR30
5 5/8" Aperture

Downlight/Wall Wash Series

Provides high light level general and task illumination for 7'-20' ceiling heights. Also accommodates lensed wall wash trim for even illumination of vertical surfaces without light scallops.



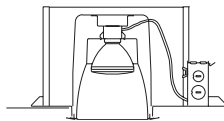
PAR30/PAR38 Downlight/Wall Wash Housings

AIR-LOC



IC62

Energy-efficient, Air-Loc rated housing for use in direct contact with insulation.
Housing dimensions:
20 3/8" L x 10" W x 9 3/8" H
Ceiling cutout: 6 1/2"



TC62

Requires 3" spacing from insulation.
Housing dimensions:
13 1/2" L x 7 3/4" W x 8 3/4" H
Ceiling cutout: 6 7/8"



5 5/8" Aperture PAR30/PAR38 Downlight/Wall Wash Trims

Downlight Trims



Deep Downlight Cone

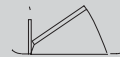
627C-WH Clear Alzak
627G-WH Gold Alzak
627B-WH Black Alzak
627HZ-WH Haze
627WHZ-WH Wheat Haze
IC: 75W PAR30, 100W PAR38
TC: 75W PAR30, 120W PAR38
5 5/8" Aperture



Deep Downlight Baffle

624W-WH White Baffle
624B-WH Black Baffle
IC: 75W PAR30, 100W PAR38
TC: 75W PAR30, 120W PAR38
5 5/8" Aperture

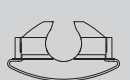
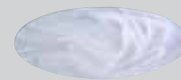
Wall Wash Trims



Angle-Cut Lensed Wall Wash

629C-WH Clear Alzak
629G-WH Gold Alzak
629B-WH Black Alzak
629HZ-WH Haze
629WHZ-WH Wheat Haze
IC/TC: 75W PAR30
5 5/8" Aperture

Decorative Trim



Opal Glass

(Wet Location Approved)
611-WH Swirled Etched Glass
IC/TC: 100W A19

Aculux™ 7" Aperture PAR38

Adjustable/Downlight Series

Recessed 0-45° adjustable housing for accent, task or downlighting from higher flat or sloped ceiling mounting heights. 120V PAR38 halogen lamp produces spot or flood patterns for medium to high light levels. Features industry exclusive 45° adjustment and 361° rotation.

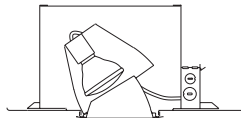
PAR38 Halogen Adjustable/Downlight Housings



AIR-LOC

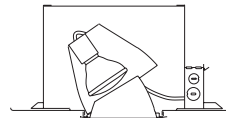
IC73

Energy-efficient, Air-Loc® rated housing for use in direct contact with insulation. Removable cover allows top access for relamping from above. Housing dimensions: 21¼" L x 13¹⁵/₁₆" W x 11⁷/₈" H
Ceiling cutout: 8¹/₈"



TC973

Requires 3" spacing from insulation. Use with optional HB-1 Residential Bar Hanger Conversion Kit for Joist Construction. Removable cover allows top access for relamping from above. Housing dimensions: 21½" L x 13¹⁵/₁₆" W x 11⁷/₈" H
Ceiling cutout: 8¹/₈"



7" Aperture PAR38 Trims

Adjustable Trims



Angle-Cut Cone

738C-WH Clear Alzak
738G-WH Gold Alzak
738B-WH Black Alzak
738HZ-WH Haze
738WHZ-WH Wheat Haze
IC: 100W PAR38
TC: 250W PAR38
7" Aperture

Downlight Trims



Deep Downlight Cone

727C-WH Clear Alzak
727G-WH Gold Alzak
727B-WH Black Alzak
727HZ-WH Haze
727WHZ-WH Wheat Haze
IC: 120W PAR38, 120W BR40
TC: 250W PAR38, 120W BR40
7" Aperture





120-Volt A-Lamp and Compact Fluorescent Downlights



Diffuse general downlight and wall wash illumination

Aculux 120-volt A-lamp and compact fluorescent downlights provide diffuse, uniform illumination, and are particularly useful for general illumination in low to medium ceiling heights. A-lamp luminaires provide warm, pleasing illumination using economical general service lamps and can be easily dimmed. Compact fluorescents provide a similar quality of illumination, but with considerable energy savings, longer lamp life, and less radiant heat. Matching wall wash trims provide even illumination of vertical surfaces without “light scallops.”



The anatomy of Aculux A-lamp/CFL luminaires

1. Sealed Air-Loc housing construction

Housings can be covered with insulation and are sealed to prevent leak-paths to ensure maximum energy savings and comfort. They also control plenum sound transmission, and keep dust and insects from entering living space.

2. Patent-Pending Real-Nail 3 Bar Hangers

Patent-pending, fully adjustable design with pre-installed, removeable nail for fast, fool-proof installation in residential construction. Integral clip for secure installation in suspended ceilings.

3. Computer contoured reflectors

Designed to provide the optimum balance of light output, beam uniformity, and low aperture brightness. Socket has a fixed position relative to the reflector to maintain optical integrity.

Aesthetically superior trims

- High-quality, hand-polished, ALZAK anodized aluminum reflectors
- Low iridescent coating for compact fluorescent lamps to eliminate “rainbow” color separation
- Low profile trim with self-centering spring retention for clean ceiling interface without light leaks
- Optional reflector finishes available to suit individual aesthetic preference. Consult factory for specialty finishes (i.e., wheat, straw, haze, etc.)



Compact fluorescent series

Compact fluorescent housings offer the same benefits of A-lamp downlights with greater energy savings, longer lamp life, and less radiant heat.



Aperture-matched wall wash reflectors

Wall wash reflectors provide diffuse, even illumination on vertical surfaces without the presence of “light scallops” caused by standard downlights.

Downlight/Wall Wash Series

Recessed downlight housing for general and wall wash illumination in low to medium ceiling heights. Provides diffuse, uniform illumination from economical incandescent A-lamps.

A-Lamp Downlight/Wall Wash Housings

Features

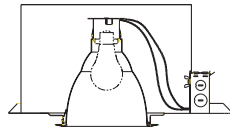
- Deep lamp regression and computer-contoured reflector provides 50° lamp/lamp image cut-off for exceptional low aperture brightness
- Fixed socket position to maintain optical integrity independent of housing mounting*
- Self-centering spring retention for clean ceiling interface without light leaks

AIR-LOC



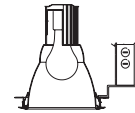
IC906

Energy-efficient, Air-Loc® rated housing for use in direct contact with insulation.
Housing dimensions:
20 7/8" L x 10" W x 9 1/2" H
Ceiling cutout: 6 1/8"



TC906

For use where insulation will be spaced 3" away from fixture. Use with optional HB-1 Residential Bar Hanger Conversion kit for joist construction.
Housing dimensions:
11 1/4" L x 11 1/2" W x 9 1/2" H
Ceiling cutout: 6 1/8"



6" Aperture A-Lamp Trims

Downlight Trims



Open Downlight

643C-WH Clear Alzak
643G-WH Gold Alzak
643HZ-WH Haze
IC: 100W A19, 100W MB19, 100W BT15
TC: 100W A19, 150W A21
6" Aperture



Baffled Downlight

633B-WH Black Baffle
633W-WH White Baffle
IC: 100W A19
TC: 100W A19, 150W A21
6" Aperture

Wall Wash Trims



90 Degree Single Wall Wash

662C-WH Clear Alzak
662G-WH Gold Alzak
662HZ-WH Haze
IC: 100W A19, 100W MB19, 100W BT15
TC: 100W A19, 150W A21
6" Aperture



180 Degree Double Wall Wash

663C-WH Clear Alzak
663G-WH Gold Alzak
663HZ-WH Haze
IC: 100W A19, 100W MB19, 100W BT15
TC: 100W A19, 150W A21
6" Aperture



180 Degree Corner Wall Wash

664C-WH Clear Alzak
664G-WH Gold Alzak
664HZ-WH Haze
IC: 100W A19, 100W MB19, 100W BT15
TC: 100W A19, 150W A21
6" Aperture

* IC housing only. TC housing has dual position for A19 and A21 lamps.

Downlight/Wall Wash Series

Recessed downlight housing for general and wall wash illumination for low to medium ceiling heights. Provides diffuse, uniform illumination from energy-efficient compact fluorescent lamps.

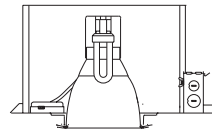
CFL Downlight/Wall Wash Housings

Features

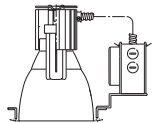
- Energy Star certified
- Deep lamp regression and computer-contoured reflector provides 50° lamp/lamp image cut-off for exceptional low aperture brightness
- Fixed socket position to maintain optical integrity independent of housing mounting
- Low-iridescent reflectors eliminate the “rainbow” color separation effect that occurs with fluorescent lamps and standard grade reflectors
- FCC Class B ballast rating on IC series
- Optional dimming ballast may be specified by adding -DB120 or -DB277 to the housing catalog number (i.e. CV6-126/32T-DB120)
- Self-centering spring retention for clean ceiling interface without light leaks



ICV6-126/32T
Energy-efficient, Air-Loc rated housing for use in direct contact with insulation.
Housing dimensions:
20 3/8" L x 10" W x 9 1/2" H
Ceiling cutout: 6 7/8"



CV6-126/32T
For use where insulation will be spaced 3" away from fixture. Use with optional HB-1 Residential Bar Hanger Conversion kit for joist construction.
Housing dimensions:
11 1/4" L x 11 1/2" W x 9 3/8" H
Ceiling cutout: 6 7/8"



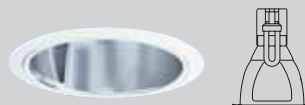
6" Aperture 26/32W CFL Trims

Downlight Trims



Downlight Cone
600C-WH Clear Alzak
600G-WH Gold Alzak
600HZ-WH Haze
IC/TC: 26W/32W Triple Tube CFL

Wall Wash Trims



90 Degree Single Wall Wash Trim
600C-WWS-WH Clear Alzak
600G-WWS-WH Gold Alzak
600HZ-WWS-WH Haze
IC/TC: 26W/32W Triple Tube CFL



180 Degree Corner Wall Wash Trim
600C-WWC-WH Clear Alzak
600G-WWC-WH Gold Alzak
600HZ-WWC-WH Haze
IC/TC: 26W/32W Triple Tube CFL



Downlight Baffle
601B-WH Black Baffle
601W-WH White Baffle
IC/TC: 26W/32W Triple Tube CFL



180 Degree Double Wall Wash Trim
600C-WWD-WH Clear Alzak
600G-WWD-WH Gold Alzak
600HZ-WWD-WH Haze
IC/TC: 26W/32W Triple Tube CFL



Swirled Etched Opal Glass (Wet Location Approved)
611-WH Clear Alzak
IC/TC: 26W/32W Triple Tube CFL

Juno[®] Down-Lites

Versatile, practical and economical characterizes Juno Down-Lites. Versatile in the wide selection of housing and trim styles and sizes. Practical in the design and installation features such as the patented Real-Nail 3 bar hanger system. Economical in first installed costs and energy savings.



Juno Down-Lites is a complete line of incandescent, low voltage and energy-efficient compact fluorescent recessed luminaires. Juno Downlights provide quality recessed lighting solutions for all your application needs: general, task, accent and wall washing in both flat and sloped ceilings. New construction and remodel housings are available in 3", 4", 5", and 6" apertures for both insulated and non-insulated ceilings.



Key Features:

Air-Loc®. Juno IC housings are Air-Loc rated and designed to minimize air leak paths. Air-Loc rated housings are tested in accordance with ASTM E283 and certified by an independent laboratory to be in compliance with the minimum air-leakage standards as set in the International Energy Conservation Code, as well as several state energy codes, including Washington State. Significant cost savings are realized as summarized in the chart below:



	Standard IC	Juno Air-Loc IC	Juno Air-Loc IC w/Air-Loc trim or gasket
Area of Leak Path	2.8 sq. inches	1.46 sq. inches	<.1 sq. inches
Air Leakage	5 cu. ft./min. 2.6 million cu. ft./year	2.6 cu. ft./min. 1.4 million cu. ft./year	0
Energy Loss	.86 million BTUs/year	.45 million BTUs/year	0
Annual Energy Savings* <small>(VS. STANDARD IC)</small>		\$3.53 per fixture	\$7.34 per fixture

*Based on 10 per KWH.

Energy Star. Juno IC electronically ballasted compact fluorescent housings are Energy Star certified for optimum luminaire life and energy savings.

Juno Down-Lites Product Index

4" MR16 Universals & 6" MR16/PAR36 Universals	34
Low voltage for task and accent illumination. Works with downlight or adjustable trims.	
3" Mini & 4" R/PAR Universals	38
Small aperture gives clean ceiling appearance for accent lighting. Works with downlight or adjustable trims.	
5" Universals	42
For use with R or PAR lamps, offering smaller aperture appearance. Works with downlights, wall wash or adjustable trims.	
6" Universals	44
Offers greatest trim and wattage selection, with optimum lamp position. Works with downlight, wall wash, or adjustable trims.	
6" Sloped Ceiling Downlights	48
For use in sloped ceilings to direct light straight down for proper downlight.	
6" Shallow Universals	50
Perfect solution when installing in 2 X 6 construction, or when space is limited. Works with downlight or adjustable trims.	
6" Economy Universals	52
Offers basic trim selection with certain wattage and lamp position restrictions. Works with downlight or adjustable trims.	
5" Compact Fluorescent Universals	58
Excellent for diffuse illumination with broad beam spreads, long lamp life, and energy savings.	
6" Compact Fluorescent Universals	60
Excellent for diffuse illumination with broad beam spreads, long lamp life, and energy savings.	
Night Lights & Step Lights	64
Provides night circulation lighting for indoor and outdoor areas.	
Squares	65
Good for even illumination in large rooms or to reinforce a square room aesthetic.	

Real Nail 3 Bar Hanger

NEW!

The Juno originated Real-Nail bar hanger has set the industry standard for ease of installation for 15 years.

This 3rd generation design features an improved range of benefits:



- Proprietary bugle head ring shank nail for positive installation and simple claw hammer removal when repositioning housings
- Integral T-bar clip for secure installation in suspended ceilings
- Patented break-away bars for tight joist spacings
- Curved foot facilitates alignment with joist bottom

Trim Finishes

ABZ – Classic Aged Bronze, **BL** – Black, **PB** – Polished Brass, **PW** – Plastic White (Polycarbonate material shower trim), **SC** – Satin Chrome, **SL** – Silver, **WH** – White.

Air-Loc® Rating

AIR-LOC JUNO IC housings meet IECC Energy Code requirements per ASTM E283. Air-Loc rated trims are pre-gasketed for minimum air leakage with IC housings.

Energy Star Products



Juno IC electronically ballasted CFL downlights are listed as qualified Energy Star products. Energy Star, a government-sponsored program, establishes criteria and testing requirements to ensure energy-efficient luminaires meet consistent performance standards. Many local utilities offer builders rebates for installing qualified Energy Star products.



Wide Choice of Housings

Choose from energy-efficient IC or TC Housings. For higher wattage needs, choose Juno's TC47 featuring a 75W maximum when used with certain trims.



IC New Construction



TC New Construction



TC Remodel



TC 75W New Construction



Low Voltage Halogen Lamps



MR16 lamps offer extremely compact size and a wide variety of beam patterns. They are also characterized by a long service life up to 6000 hours.



PAR36 lamps produce a tightly collimated "pin spot" beam that holds a tight spot over long distances up to 20 feet.

Downlight Features



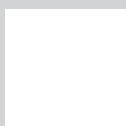
New Deco Trims

Highly styled and architecturally pleasing, Juno's new Deco Trims enhance and compliment room décor.



Finishes for all Decors

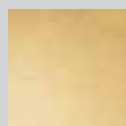
Juno offers a wide variety of high quality, trim finishes to compliment your design needs, including our new Classic Aged Bronze finish is available for a wide variety of trims.



White



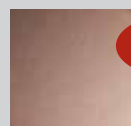
Black



Polished Brass



Satin Chrome



NEW!

Classic Aged Bronze

Juno's 4" Low Voltage Series offers a wide variety of housings and trims utilizing the 12Volt MR16 lamp. MR16's provide excellent beam control and superior color rendering for accent, task, wallwashing or downlight applications.

4" MR16 Universals

AIR-LOC



IC44N
IC Housing
 50 Watt Energy-efficient, Air-Loc® double wall housing. May be covered with insulation. No separate gasket required. Housing includes 50VA 12V, thermally protected magnetic transformer.
 15½" L x 9¼" W x 7½" H
 Ceiling cutout 4½"
 50W MR16



TC44
TC Housing
 50 Watt housing includes 50VA 12V, thermally protected magnetic transformer. Requires 3" spacing from insulation.
 11" L x 6¼" W x 5¼" H
 Ceiling cutout 4½"
 50W MR16

4" MR16 Trims

Downlight Trims



Deep Cone Downlight
 442C-WH Clear Alzak
 442G-WH Gold Alzak
 442B-WH Black Alzak
 442HZ-WH Haze
 442WHZ-WH Wheat Haze
 50W MR16
 3¾" Aperture



Pinhole
 443B-WH Pinhole w/Black Baffle
 IC/TC: 50W MR16; TC47: 75W MR16
 1¼" Aperture

Downlight/Adjustables



Baffle - Downlight/Adjustable
 444B-WH Black Baffle
 444W-WH White Baffle
 444B-SC Black Baffle
 444B-ABZ Black Baffle
 35° vertical adjustment
 IC/TC: 50W MR16; TC47: 75W MR16
 3¾" Aperture



Cone - Downlight/Adjustable
 447C-WH Clear Alzak
 447G-WH Gold Alzak
 447B-WH Black Alzak
 447PT-SC Pewter Alzak
 447HZ-WH Haze
 447WHZ-WH Wheat Haze
 447WHZ-ABZ Wheat Haze
 35° vertical adjustment
 IC/TC: 50W MR16; TC47: 75W MR16
 3¾" Aperture

Adjustables/Wall Wash



Eyeball w/Black Baffle
 448-WH
 448-PB
 448-SC
 35° vertical adjustment
 IC/TC: 50W MR16; TC47: 75W MR16



Flush Gimbal Ring
 440-WH
 440-BL
 440-SC
 440-ABZ
 40° vertical adjustment
 IC/TC: 50W MR16
 Uses 2" light control lenses-consult factory.



TC44R
TC Remodel Housing
 50 Watt housing includes 50VA 12V, thermally protected magnetic transformer and mounting tray. Requires 3" spacing from insulation. Transformer tray and housing may be installed from below through a 4 3/8" hole.
 10 1/2" L x 4 3/4" W x 5 1/4" H
 Ceiling cutout 4 3/8"
 50W MR16



TC47
TC Housing
 75 Watt housing includes 75VA 12V, thermally protected magnetic transformer. Requires 3" spacing from insulation.
 11" L x 6 3/4" W x 6" H
 Ceiling cutout 4 1/2"
 75W MR16

Adjustables/Wall Wash, continued



Scoop - Adjustable
 446-WH
 45° vertical adjustment
 IC/TC: 50W MR16; TC47: 75W MR16



Aiming Elbow
 449-WH
 449-BL
 449-SC
 449-ABZ
 75° vertical adjustment
 IC/TC: 50W MR16

Lensed



Downlight/Adjustable Shower Trim (Wet Location Approved)
 441W-WH
 441W-SC
 441W-ABZ
 35° vertical adjustment
 IC/TC: 50W MR16



Slot Aperture
 445-WH
 45° vertical adjustment
 IC/TC: 50W MR16; TC47: 75W MR16
 1 5/16" x 2 1/4" Oblong Aperture

Accessory Light Control Lenses (see page 15 for descriptions)

- Color Filters
- Dichroic Lenses
- Hexagonal Cell Louver
- Light Control Lenses

Notes:

- Use dimmers specifically designed for low voltage magnetic transformers.
- Low voltage trims with transformer are also available as "retrofits" for 6" Deluxe Universal Housings; see page 37.
- In Canada when insulation is present, Type IC fixtures must be used.

See our New Deco Trims, next page.



Juno® 4" Deco Trim Series - MR16

Making a design statement is exactly what these new trims do.
Add a decorator's touch to your Juno Low Voltage Lighting layout.

Trims listed below are for use with 50W housings located on preceding pages 34-35.



Beveled Adjustable Shower
(Wet Location Approved)
4402-WH
4402-SC
4402-ABZ
50W MR16



Beveled Dome Shower
(Wet Location Approved)
4401-WH
4401-SC
4401-ABZ
50W MR16



All Glass Shower
(Wet Location Approved)
4481CLEAR
50W MR16



Beveled Adjustable Cone
4404C-WH Clear
4404B-WH Black
4404HZ-WH Haze
4404HZ-SC Haze
4404WHZ-WH Wheat Haze
4404WHZ-ABZ Wheat Haze
50W MR16



Beveled Adjustable Cylinder
4403FROST-WH Frost Glass w/White Trim
4403FROST-SC Frost Glass w/Satin
Chrome Trim
50W MR16



Segmented Arcs
4454COOL-WH
4454WARM-WH
50W MR16



WARM



Square Glass
4453GLASS-WH
50W MR16



Dropped Disk
4452FROST-WH
4452AMBER-WH
4452COBALT-WH
50W MR16



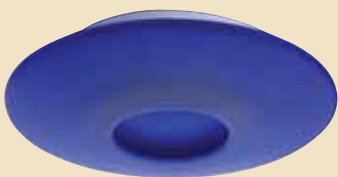
Cylinder
4450FROST-WH
4450FROST-SC
Frost Glass
4450MAIZE-WH
Maize Glass
4450COBALT-WH
4450COBALT-SC
Cobalt Glass
4450MESH-WH
4450MESH-SC
Mesh Glass
50W MR16



MAIZE



MESH



Convex Glass
4451FROST-WH
4451COBALT-WH
50W MR16



Solid Glass Collar
4480FROST
50W MR16



6" MR16 / PAR36 Universals

Juno offers 6" Low Voltage housings and trims to match the popular 6" Line Voltage offering. Choose from MR16 or PAR36 light sources.

6" Universal Housings



TC45
MR16 TC Housing
Housing includes 75VA 12V, thermally protected magnetic transformer and adjustable bar hangers. Requires 3" spacing from insulation. 13"L x 7 3/4"W x 7 1/4"H
Ceiling cutout 6 5/8"
75W MR16



TC46
PAR36 TC Housing
Housing includes 50VA 12V, thermally protected magnetic transformer and adjustable bar hangers. Requires 3" spacing from insulation. 13"L x 7 3/4"W x 7 1/4"H
Ceiling cutout 6 5/8"
50W PAR36

6" MR16 Trims / 6" PAR36 Trims

Downlight/Adjustables - 6" MR16 Trims



Baffle - Downlight/Adjustable
454B-WH Black Baffle
75W MR16



Cone - Downlight/Adjustable
457C-WH Clear Alzak
75W MR16



Cylinder Spotlight
458W-WH White Cylinder, White Baffle
75W MR16

Downlight - 6" PAR36 Trims



Baffle - Downlight/Adjustable
464B-WH Black Baffle
464W-WH White Baffle
35° vertical adjustment, 358° rotation
50W PAR36



Cone - Downlight/Adjustable
467C-WH Cone in Clear Alzak
35° vertical adjustment, 358° rotation
50W PAR36

Notes:

- Use dimmers specifically designed for low voltage magnetic transformers.
- Low voltage trims with transformer are also available as "retrofits" for 6" Deluxe Universal Housings.
- In Canada when insulation is present, Type IC fixtures must be used.

JUNO® 3" Mini Universals

3" Mini-Halogen downlights are ideal for installation in small niches and casework.

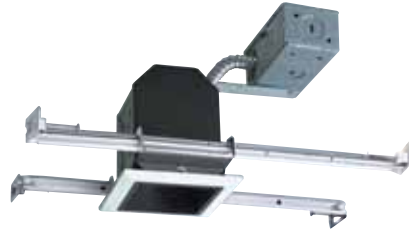


Features

- Shallow housing fits into tight spaces
- PAR16 halogen lamp produces focused accent lighting from a miniature 2½" aperture
- Real Nail 3 bar hangers pre-installed
- Unique plaster frame design facilitates new or remodel type installation
- TC18 and TC19 series fixtures are shipped complete with housing, trim, and bar hangers



3" Mini-round TC Housing and Trim
Shipped complete with trims as listed.
Requires 3" spacing from insulation.
6⅞" L x 3⅞" W x 5⅞" H
Ceiling cutout: 3¼" sq.
TC18-184B-WH Black Baffle
TC18-184B-PB Polished Brass
TC18-184W-WH White Baffle
60W PAR16
2½" Aperture



3" Mini-square TC Housing and Trim
Shipped complete with trims as listed.
Requires 3" spacing from insulation.
6⅞" L x 3⅞" W x 5⅞" H
Ceiling cutout: 3¼" sq.
TC19-194B-WH Black Baffle
60W PAR16
2½" Aperture

These small aperture downlights utilize the popular PAR20 and R20 light sources. They are an excellent choice in lower ceiling heights such as soffits, casework and niches, as well as other settings with shorter throw distances or lower light level requirements.

4" R/PAR Housings



AIR-LOC

**IC1
IC Housing**
Energy-efficient, Air-Loc® housing can be covered with insulation. Air-Loc rated in combination with all trims without use of gasket or caulking.
9¼" L x 6¾" W x 6" H; Ceiling cutout: 4½"
IC1P: Slightly larger IC housing for use with model 10 trim and GU10-WHIP



**TC1
TC Housing**
Requires 3" spacing from insulation.
9¼" L x 6¾" W x 5¼" H
Ceiling cutout: 4½"

4" Line Voltage Trims

Lensed



**PAR20 Shower Trim
(Wet Location Listed)**
12W-WH
12W-SC
12W-ABZ
IC: 30W R20
50W R20 with 1"
socket extender #T599
TC: 50W PAR/R20



**Downlights Baffle
(Wet Location w/Outdoor Lamps)**
14B-WH Black Baffle
14B-PB Black Baffle
14B-SC Black Baffle
14B-ABZ Black Baffle
14W-WH White Baffle
50W PAR/R20
3½" Aperture



Gimbal Ring
10-WH
10-BL
10-SC
10-ABZ
IC1P/TC: 50W PAR20
75W ES20 (120V GU10)



Drop Opal
11-WH
IC: 30W R20
TC: 50W PAR/R20



Pinhole with Integral Shield
13-WH
IC: 30W R20, 35W PAR20
TC: 50W PAR/R20
2" Aperture



Mini Eyeball PAR16
18-WH
18-SC
60W PAR16

Downlights



**PAR20/R20 Cone
(Wet Location w/Outdoor Lamps)**
17C-WH Clear Alzak
17G-WH Gold Alzak
17B-WH Black Alzak
17PT-SC Pewter Alzak
17W-WH Gloss White
17HZ-WH Haze
17WHZ-WH Wheat Haze
17WHZ-ABZ Wheat Haze
50W PAR/R20
3½" Aperture



Scoop Wall Wash
16-WH
25W R14, 40W R16
(Intermediate screw base lamp)



Mini Eyeball
19-WH
19-PB
25W R14, 40W R16
(Intermediate screw base lamp)

Note: In Canada when insulation is present, Type IC fixtures must be used.



TC1R
TC Remodel Housing
 Requires 3" spacing from insulation.
 Installs from below ceiling.
 1 1/2" L x 4 3/4" W x 5 1/4" H
 Ceiling cutout: 4 3/8"



Accessory
GU10-WHIP TC1R for use in IC1P, TC1 and housings with trims 10 (below) and 440, 445, 446, and 448 (pages 34-35, 50W 120V MR16).

New 4" Line Voltage Deco Trims



Beveled Shower
(Wet Location Approved)
 4102-WH
 4102-SC
 4102-ABZ
 IC1: 50W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20



Beveled Dome Shower
(Wet Location Approved)
 4101-WH
 4101-SC
 4101-ABZ
 IC1: 50W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20



All Glass Shower
(Wet Location Approved)
 4181CLEAR
 IC1: 35W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20



Beveled Cone
 4104C-WH Clear
 4104B-WH Black
 4104HZ-WH Haze
 4104HZ-SC Haze
 4104WHZ-WH Wheat Haze
 4104WHZ-ABZ Wheat Haze
 50W PAR/R20



Beveled Cylinder
 4103FROST-WH Frost Glass w/White Trim
 4103FROST-SC Frost Glass w/Satin Chrome Trim
 50W PAR/R20



Segmented Arcs
 4154COOL-WH
 4154WARM-WH
 IC1: 50W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20



WARM



Square Glass
 4153GLASS-WH
 IC1: 50W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20



Dropped Disk
 4152FROST-WH
 4152AMBER-WH
 4152COBALT-WH
 IC1: 50W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20



Cylinder
 4150FROST-WH
 4150FROST-SC Frost Glass
 4150MAIZE-WH Maize Glass
 4150COBALT-WH Cobalt Glass
 4150COBALT-SC Cobalt Glass
 4150MESH-WH Mesh Glass
 4150MESH-SC Mesh Glass
 IC1: 50W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20



MAIZE



MESH



Convex Glass
 4151FROST-WH
 4151MAIZE-WH
 4151COBALT-WH
 IC1: 50W PAR20, 30W R20
 IC1P/TC1: 50W PAR/R20

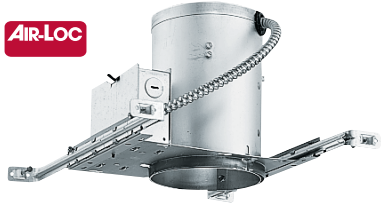


Solid Glass Collar
 4180FROST
 50W PAR/R20

JUNO® 5" Universals

Juno offers a wide selection of 5" housings and trims that accommodates many of the same lamps and wattage ratings as the popular 6" series. The reduced size aperture provides a pleasing, smaller scale that compliments many settings.

5" Universal Housings



IC20
IC Housing
 Energy-efficient, Air-Loc® housing can be covered with insulation.
 12¼" L x 6⅞" W x 7½" H
 Ceiling cutout: 5⅞"



IC20R
IC Remodel Housing
 Energy-efficient, Air-Loc housing can be covered with insulation. Installs from below ceiling.
 12½" L x 5⅞" W x 7½" H
 Ceiling cutout: 5⅞"

5" Line Voltage Trims

Adjustables



Eyeball with Baffle
 208B-WH Black Baffle
 208B-PB Black Baffle
 208W-WH White Baffle
 35° vertical adjustment, 358° rotation
 50W PAR/R20



Gimbal Ring in Cone
 689C-WH Clear Alzak
 689G-WH Gold Alzak
 30° vertical adjustment, 358° rotation
 IC: 50W PAR30; TC: 75W PAR30



PAR Shower Trim (Wet Location Approved)
 212-WH
 212-SC
 212-ABZ
 IC: 50W PAR30, 40W A15
 TC: 75W PAR30, 60W A15



Gimbal Ring with Flat Trim
 209-WH
 30° vertical adjustment, 358° rotation
 75W PAR30

Lensed



Shower Trim (Wet Location Approved)
 211-PW
 40W A19



Shower Trim (Wet Location Approved)
 210-WH
 210-SC
 210-ABZ
 40W A19



Gimbal Ring in Baffle
 688B-WH Black Baffle
 688W-WH White Baffle
 30° vertical adjustment, 358° rotation
 IC: 50W PAR30; TC: 75W PAR30

Accessories
ALG5: Energy Conserving Gasket for 5" Air-Loc IC Housings
ALG5R: Energy Conserving Gasket Kit for 5" Air-Loc IC Remodel Housings
Note: In Canada when insulation is present, Type IC fixtures must be used.



TC20
TC Housing
 Requires 3" spacing from insulation.
 12¼" L x 6⅝" W x 7½" H
 Ceiling cutout: 5⅝"



TC20R
TC Remodel Housing
 Requires 3" spacing from insulation.
 Installs from below ceiling.
 12½" L x 5⅝" W x 7½" H
 Ceiling cutout: 5½"

Downlights



BR30/PAR30 Baffle
 205B-WH Black Baffle
 205B-PB Black Baffle
 205B-ABZ Black Baffle
 205B-SC Black Baffle
 205W-WH White Baffle
 IC: 50W PAR30;
 TC: 75W PAR30, 65W BR30



Cone
 207C-WH Clear Alzak
 207G-WH Gold Alzak
 207B-WH Black Alzak
 207W-WH Gloss White
 207HZ-WH Haze
 207WHZ-WH Wheat Haze
 50W PAR/R20
 4½" Aperture



Deep Cone
 206C-WH Clear Alzak
 206G-WH Gold Alzak
 206B-WH Black Alzak
 206PT-SC Pewter Alzak
 206HZ-WH Haze
 206WHZ-ABZ Wheat Haze
 IC: 50W PAR30;
 TC: 75W PAR30, 65W BR30
 4½" Aperture



Open Frame
 201-WH
 65W BR30



AIR-LOC

**PAR30/BR30 Baffle
 (Wet Location w/Outdoor Lamps)**
 215B-WH Black Baffle
 215W-WH White Baffle
 IC: 65W BR30, 75W PAR30L,
 75W PAR30, w/Socket Extender
 TC: 75W PAR30L, 75W PAR30,
 w/Socket Extender, 85W BR30,
 60W A19
 4½" Aperture



AIR-LOC

**BR30/PAR30 Cone
 (Wet Location w/Outdoor Lamps)**
 216C-WH Clear Alzak
 216G-WH Gold Alzak
 216W-WH Gloss White
 216HZ-WH Haze
 216WHZ-WH Wheat Haze
 IC: 65W BR30, 75W PAR30L,
 75W PAR30, w/Socket Extender
 TC: 75W PAR30L, 75W PAR30,
 w/Socket Extender, 85W BR30,
 60W A19 (Clear and Gold
 Cone), 40W A19 (White Cone)



**Deep Baffle
 For TC Housings Only**
 203B-WH Black Baffle
 203W-WH White Baffle
 TC: 75W PAR30, 65W BR30
 4½" Aperture

Juno® 6" Universal Line Voltage Series

Juno 6" Universals supports the use of higher wattage lamps and the widest selection of trims. They feature deep lamp shielding for maximum brightness control. The IC2 has a deluxe double-wall housing design to facilitate this optimal performance when covered with insulation.

IC2...Juno's Deluxe 6" Universal Housing

Lower your energy costs by choosing Juno's energy-efficient IC2 Deluxe Universal housings for your home. The double-wall housing permits the use of higher wattage lamps and greater trim selection. The IC2 may be completely covered with insulation.





IC2
IC New Construction
 Energy-efficient, Air-Loc® double wall housing can be covered with insulation.
 17¼" L x 9⅝" W x 7½" H
 Ceiling opening: 6⅞"



TC2
TC New Construction
 Requires 3" spacing from insulation.
 13" L x 7⅞" W x 7¼" H
 Ceiling opening: 6⅞"



TC2R
TC Remodel Construction
 Requires 3" spacing from insulation.
 Installs from below ceiling.
 13¾" L x 7⅞" W x 7¼" H
 Ceiling opening: 6⅞"

6" Universal BR/PAR Trims

Downlights



Tapered Baffle
 24B-WH Black Baffle
 24B-PB Black Baffle
 24B-SC Black Baffle
 24W-WH White Baffle
 24B-ABZ Black Baffle
 75W PAR30L, 65W BR30
 5¼" Aperture



Straight Baffle
 25B-WH Black Baffle
 25B-PB Black Baffle
 25B-SC Black Baffle
 25W-WH White Baffle
 IC: 85W BR40, 90W PAR38
 TC: 150W PAR38, 120W BR40
 5¼" Aperture



PAR30 Deep Cone
 257C-WH Clear Alzak
 257G-WH Gold Alzak
 257B-WH Black Alzak
 257HZ-WH Haze
 257WHZ-WH Wheat Haze
 75W PAR30, 100W PAR38
 5⅝" Aperture



Pinhole with Baffle
 23B-WH Black Baffle
 50W R/PAR20
 3⅝" Aperture



PAR30 Deep Baffle
 254W-WH White Baffle
 254B-WH Black Baffle
 75W PAR30, 100W PAR38
 5⅝" Aperture



BR40/R40 Open Frame
 251-WH
 251-PB
 IC: 100W BR40
 TC: 120W BR40, 250W R40 Heat Lamp



Straight Cone
 26C-WH Clear Alzak
 26G-WH Gold Alzak
 26B-WH Black Alzak
 26PT-SC Pewter Alzak
 26W-WH Gloss White
 26HZ-WH Haze
 26WHZ-WH Wheat Haze
 IC: 90W PAR38, 85W BR40
 TC: 150W PAR38, 120W BR40
 5¼" Aperture



Tapered Cone
 27C-WH Clear Alzak
 27G-WH or PB Gold Alzak
 27B-WH Black Alzak
 27PT-SC Pewter Alzak
 27W-WH Gloss White
 27HZ-WH Haze
 27WHZ-ABZ Wheat Haze
 27WHZ-WH Wheat Haze
 75W PAR30L, 65W BR30
 5¼" Aperture



BR30 Open Frame
 250-WH
 250-PB
 250-SC
 250-ABZ
 65W BR30

Accessories

ALG6: Energy Conserving Gasket for 6" Air-Loc IC Housings

Trims listed below are for use with housings located on preceding pages 44-45.

6" Universal BR/PAR Trims

Adjustables/Wall Wash



R/PAR20 Regressed Eyeball
228-WH
248W-WH White Baffle
50W R/PAR20



PAR30 Adjustable Tapered Cone
267C-WH Clear Alzak
267B-WH Black Alzak
267G-WH Gold Alzak
267HZ-WH Haze
267WHZ-WH Wheat Haze
75W PAR30



PAR/BR30 Regressed Eyeball
229-WH or PB
229-SC
229-ABZ
249B-WH or PB Black Baffle
249W-WH White Baffle
75W PAR30L, 65W BR30



Gimbal Ring in Baffle
224B-WH Black Baffle
224W-WH White Baffle
IC: 75W PAR38/3 Side Prong
TC: 150W PAR38/3 Side Prong



Cylinder Spotlight in Baffle
226B-WH Black Cylinder in Black Baffle
226W-WH White Cylinder in White Baffle
60W PAR16



Scoop Wall Wash with Baffle
261B-WH Black Baffle
261W-WH White Baffle
IC: 40W A19
TC: 75W A19



PAR30 Adjustable Tapered Baffle
264B-WH Black Baffle
264W-WH White Baffle
75W PAR30



Cylinder Spotlight in Baffle
Low Voltage Trim with Transformer
427B-WH White Cylinder
with Black Baffle
427W-WH White Cylinder
with Black Baffle
428-WH Black cylinder
with Black Baffle
45° vertical adjustment, 358° rotation
50W MR16
5¼" Aperture



Downlight or Adjustable with Baffle
Low Voltage Trim with Transformer
424B-WH Black Baffle
30° vertical adjustment, 358° rotation
IC: 35W MR16; TC: 50W MR16
3½" Aperture

Decorative




Metal Band
9524-PB
9524-SC
65W BR30
6½" Ring
5¼" Aperture



Luminous Disc (Frosted)
9324-PB
9324-SC
65W BR30
3¼" Aperture



Fluted Drop Opal 
9900-PB
9900-WH (Wet Location Approved)
9900-SC
IC: 60W A19
TC: 75W A19
7½" Aperture



Octagonal
9024W-WH White Baffle
65W BR30
5¼" Aperture



Luminous Collar (Frosted)
9702
75W BR30
6½" Aperture

Note:

- Use dimmers specifically designed for low voltage magnetic transformers.



Lensed



**Albalite
(Wet Location Approved)**
20-WH
20-PW Shower/Closet Light
IC: 40W A19; TC: 75W A19

**Albalite with Reflector
(Wet Location Approved)**
240-WH
240-PW Shower/Closet Light
IC: 60W A19; TC: 100W A19



**Fresnel
(Wet Location Approved)**
22-WH
IC: 40W A19; TC: 75W A19



Economy A-Lamp Reflector with Baffle
230CB-WH Clear w/Black Baffle
230CW-WH Clear w/White Baffle
100W A19
5/8" Aperture



**Drop Opal
(Wet Location Approved)**
21-WH
21-PW Shower/Closet Light
IC: 40W A19; TC: 75W A19

**Drop Opal with Reflector
(Wet Location Approved)**
241-WH
241-PW Shower/Closet Light
IC: 60W A19; TC: 100W A19



**Ultra-Trim Baffle
(Wet Location Outdoor Lamps)**
28B-WH Black Baffle
28W-WH White Baffle
IC: 75W A19, 100W PAR38,
75W PAR30/30L, 85W BR30, 120W BR40
TC: 100W A19, 150W A21, 150W PAR38,
75W PAR30/30L, 85W BR30, 120W BR40



A-Lamp Reflector with Black Baffle
233C-WH Clear Alzak
IC: 75W A19; TC: 100W A19, 150W A21
5/8" Aperture



**Decorative Swirled Etched
Opal Glass
(Wet Location Approved)**
243-WH
IC: 60W A19; TC: 100W A19



**Ultra-Trim Cone
(Wet Location Outdoor Lamps)**
29C-WH Deep Cone - Clear Finish
29W-WH Deep Cone - White Finish
IC: 100W A19, 100W PAR38, 75W
PAR30/30L, 85W BR30, 120W BR40
TC: 100W A19, 150W A21, 150W PAR38,
75W PAR30/30L, 85W BR30, 120W BR40



Baffle
244B-WH Shallow Black Baffle
244W-WH Shallow White Baffle
75W PAR30/30L, 65W BR30



**Frosted Lens with Clear Center
Shower Trim
(Wet Location Approved)**
242-WH
242-SC
242-ABZ
IC: 75W PAR38, 60W PAR38 IR
TC: 120W PAR38
6" Aperture



A-Lamp Reflector
232C-WH Clear Alzak: 150W A21, 100W A19
232G-WH Gold Alzak: 150W A21, 100W A19
232W-WH Gloss White: IC: 75W A19;
TC: 100W A19
232HZ-WH Haze: 150W A21, 100W A19
232WHZ-WH Wheat Haze: 150W A21,
100W A19
5/8" Aperture



Cone
247C-WH Shallow Cone - Clear Alzak
247G-WH Shallow Cone - Gold Alzak
247B-WH Shallow Cone - Black Alzak
247HZ-WH Shallow Cone - Haze
247WHZ-WH Shallow Cone-Wheat Haze
75W PAR30/30L, 65W BR30



Standard Sloped Ceiling Downlights

Juno's patented Sloped Ceiling Downlights* direct light straight down, providing proper lighting from a sloped surface.

Standard Slope Housings

2/12 to 6/12 Pitch (9° to 27°)



IC926
IC Housing
Energy-efficient, Air-Loc® double wall housing can be covered with insulation. Fits 2 x 8 construction. 17¼" L x 8⅝" W x 7½" H
Ceiling opening: 7½" x 6⅛" oval



TC926
TC Housing
Requires 3" spacing from insulation. For 2 x 8 or 2 x 10 construction. Ceiling opening: 7½" x 6⅛" oval
Adjustable fixture height: 7½" to 9" 17¼" L x 8⅝" W



TC926R
TC Remodel Housing
Requires 3" spacing from insulation. For 2 x 8 or 2 x 10 construction. Ceiling opening: 6½" x 6⅝" oval
Adjustable fixture height: 7¼" to 9" 13¼" L x 7¼" W

Standard Slope Trims

Downlights



Baffle-Downlight
614B-WH Black Baffle
614B-PB Black Baffle
614B-SC Black Baffle
614B-ABZ Black Baffle
614W-WH White Baffle
IC: 90W PAR38; TC: 150W PAR38

Adjustables



Cylinder Spotlight-Line Voltage
616B-WH Black Cylinder
Spotlight with Black Baffle
616W-WH White Cylinder
Spotlight with White Baffle
45° vertical adjustment, 358° rotation
60W PAR16



Eyeball in Baffle
619B-WH Black Baffle
619B-PB Black Baffle
619W-WH White Baffle
35° vertical adjustment,
358° rotation
IC/TC: 85W BR30



Reflector Cone
612C-WH Clear Reflector
612G-WH Gold Reflector
612B-WH Black Reflector
612HZ-WH Haze
612W-WH White
612WHZ-WH Wheat Haze
612WHZ-ABZ Wheat Haze
612WHZ-SC Wheat Haze
IC: 75W PAR30, 90W PAR38, 65W BR30
TC: 75W PAR30, 150W PAR38, 85W BR30



Cylinder Spotlight-Low Voltage
617W-WH White Cylinder
Spotlight with White Baffle
45° vertical adjustment, 358° rotation
IC: 35W MR16; TC: 50W MR16
** Supplied with magnetic transformer.



Lensed Shower Trim
Flat Diffuser
(Wet Location Approved)
610B-WH Black Baffle
610W-WH White Baffle
IC: 50W PAR30
TC: 75W A19, 75W PAR30

Accessories

ALG926: Energy Conserving Gasket for Air-Loc IC926 housing.

*U.S. Patent No. 4,729,08. Canadian Patent No. 1264158.

**Use dimmers specifically designed for low voltage magnetic transformers.

Juno's patented Sloped Ceiling Downlights* direct light straight down, providing proper lighting from a sloped surface.

Super Slope Housings

7/12 to 12/12 Pitch (30° to 45°)



IC928
IC Housing
Energy-efficient, Air-Loc double wall housing can be covered with insulation. Fits 2 x 8 construction.
Ceiling opening: 6³/₁₆" x 8⁷/₃₂" oval
19⁷/₈" L x 8⁵/₁₆" W x 7¹/₂" H



TC928
TC Housing
Requires 3" spacing from insulation. For 2 x 8 or 2 x 10 construction.
Ceiling opening: 6³/₁₆" x 8⁷/₃₂" oval
Adjustable fixture height: 7¹/₂" to 9"
19⁷/₈" L x 8⁵/₁₆" W x 7¹/₂" H



TC928R
TC Remodel Housing
Requires 3" spacing from insulation. For 2 x 8 or 2 x 10 construction.
Ceiling opening: 6³/₁₆" x 8¹/₄" oval
Adjustable fixture height: 7³/₈" to 9"
12⁵/₈" L x 7³/₈" W

Super Slope Trims

Downlights



Baffle-Downlight
604B-WH Black Baffle
604B-PB Black Baffle
604W-WH White Baffle
604B-SC Black Baffle
604B-ABZ Black Baffle
IC: 90W PAR38; TC: 150W PAR38
For superior baffling, use 75W PAR30

Adjustables



Cylinder Spotlight-Line Voltage
606B-WH Black Cylinder
Spotlight with Black Baffle
606W-WH White Cylinder
Spotlight with White Baffle
45° vertical adjustment,
358° rotation 60W PAR16



Multiplier Cone
602C-WH Clear Reflector
602G-WH Gold Reflector
602B-WH Black Reflector
602HZ-WH Haze
602W-WH White
602WHZ-WH Wheat Haze
602WHZ-ABZ Wheat Haze
602WHZ-SC Wheat Haze
IC: 75W PAR30, 90W PAR38, 85W BR30
TC: 75W PAR30, 150W PAR38, 85W BR30

Lensed Shower Trim



Lensed Shower Trim
Flat Diffuser
(Wet Location Approved)
603B-WH
603W-WH
IC: 50W PAR30
TC: 75W A19, 75W PAR30

Accessories

ALG928: Energy Conserving Gasket for Air-Loc IC928 housing.

Features



Shovel-Cut Housing
It's oblique angle holds the trim flush with the ceiling.



Angle-Cut Baffle
Grooves remain parallel to the floor to provide proper optics.



Adjustable Socket
Permits the lamp to remain perpendicular to the floor.

Note: In Canada when insulation is present, Type IC fixtures must be used.

Juno® 6" Shallow Universals

Shallow Universal housings are the ideal solution where vertical installation space is limited. The overall housing height is only 5¾", permitting these fixtures to be installed in 2" x 6" construction. Housings are available for new construction or remodeling, may be completely covered in insulation, and may be used with a variety of downlight, adjustable or lensed trims.



AIR-LOC



IC21
IC Housing
 Energy-efficient, Air-Loc® housing can be covered with insulation.
 13" L x 7¾" W x 5¼" H
 Ceiling cutout: 6"



AIR-LOC

IC21R
IC Remodel Housing
 Energy-efficient, Air-Loc housing can be covered with insulation. Installs from below ceiling.
 13¾" L x 7⅞" W x 5¼" H
 Ceiling cutout: 6¾"

Downlights



AIR-LOC

PAR30/BR30 Cone
 247C-WH Clear Alzak
 247G-WH Gold Alzak
 247B-WH Black Alzak
 247HZ-WH Haze
 247WHZ-WH Wheat Haze
 75W PAR30

Adjustables



R/PAR20 Regressed Eyeball
 228-WH
 50W R/PAR20
PAR/BR30 Regressed Eyeball
 229-WH
 229-PB
 229-ABZ
 229-SC
 75W PAR30L, 65W BR30

Lensed



AIR-LOC

Drop Opal with Reflector (Wet Location Approved)
 241-WH
 241-PW Shower/Closet Light
 40W A19



AIR-LOC

PAR30/BR30 Conical Baffle
 244B-WH Black Baffle
 244W-WH White Baffle
 50W PAR30



R/PAR20 Eyeball in Baffle
 248W-WH
 50W R/PAR20
PAR/BR30 Eyeball in Baffle
 249B-WH Black Baffle
 249B-PB Black Baffle
 249W-WH White Baffle
 75W PAR30L, 65W BR30



BR30 Open Frame
 250-WH
 250-PB
 250-ABZ
 250-SC
 65W BR30

Accessories

ALG6: Energy Conserving Gasket for 6" Air-Loc IC Housings

ALG6R: Energy Conserving Gasket Kit for 6" Air-Loc IC Remodel Housings

Note: In Canada when insulation is present, Type IC fixtures must be used.

JUNO® 6" Economy Universals

JUNO Economy Universals are an ideal selection when initial cost is a key consideration.

6" Economy Housings

AIR-LOC



IC22
Economy IC Housing
Energy-efficient, Air-Loc® housing can be covered with insulation.
13" L x 7¾" W x 7⅞" H
Ceiling cutout: 6⅞"

AIR-LOC



IC22R
Economy IC Remodel Housing
Energy-efficient, Air-Loc housing can be covered with insulation. Installs from below ceiling with clips provided.
13¾" L x 7⅞" W x 7⅞" H
Ceiling cutout: 6¾"

AIR-LOC



IC22W
Economy IC Housing
Energy-efficient, Air-Loc® housing can be covered with insulations. Features quick electrical connectors.
13" L x 7¾" W x 7⅞" H
Ceiling cutout: 6⅞"

6" Economy Universal Trims

BR/PAR Downlights



Tapered Cone
27C-WH Clear Alzak
27G-WH or PB Gold Alzak
27B-WH Black Alzak
27PT-SC Pewter Alzak
27W-WH Gloss White
27HZ-WH Haze
27WHZ-ABZ Wheat Haze
27WHZ-WH Wheat Haze
50W PAR30, 65W BR30, 75W PAR30L
5¾" Aperture



Straight Baffle
25B-WH Black Baffle
25B-PB Black Baffle
25B-SC Black Baffle
25W-WH White Baffle
50W PAR30, 65W BR30
5¾" Aperture



AIR-LOC

PAR30/BR30 Cone
247C-WH Clear Alzak
247G-WH Gold Alzak
247B-WH Black Alzak
247HZ-WH Haze
247WHZ-WH Wheat Haze
75W PAR30L, 65W BR30, 75W PAR30
5¾" Aperture



Tapered Baffle
24B-WH Black Baffle
24B-PB Black Baffle
24B-SC Black Baffle
24W-WH White Baffle
24B-ABZ White Baffle
75W PAR30L, 50W PAR30, 65W BR30
5¾" Aperture



AIR-LOC

Ultra-Trim Cone - Fully Enclosed* (Wet Location Outdoor Lamps)
29C-WH Clear Cone
29W-WH White Cone
60W A19, 65W BR30, 75W PAR30/30L, 90W PAR38/BR40
5¾" Aperture



AIR-LOC

Ultra-Trim Baffle - Fully Enclosed* (Wet Location Outdoor Lamps)
28B-WH Black Baffle
28W-WH White Baffle
60W A19, 65W BR30, 75W PAR30/30L, 90W PAR38/BR40
5¾" Aperture



PAR/BR30 Eyeball in Baffle
249B-WH or PB Black Baffle
249W-WH White Baffle
75W PAR30L, 65W BR30



PAR30 Adjustable Tapered Baffle
264B-WH Black Baffle
264W-WH White Baffle
50W PAR30



PAR30 Adjustable Tapered Cone
267C-WH Clear Alzak
267B-WH Black Alzak
267G-WH Gold Alzak
267HZ-WH Haze
267WHZ-WH Wheat Haze
50W PAR30

BR/PAR Downlights, continued



Cylinder Spotlight in Baffle
226B-WH Black Cylinder
in Black Baffle
226W-WH White Cylinder
in White Baffle
60W PAR16
5 3/4" Aperture



PAR/BR30 Regressed Eyeball
229-WH or PB
229-SC
229-ABZ
75W PAR30L, 65W BR30



AIR-LOC

PAR/BR30 Conical Baffle
244B-WH Black Baffle
244W-WH White Baffle
60W PAR30, 65W BR30, 75W PAR30L
5 3/4" Aperture



Luminous Disc (Frosted)
9324-PB
9324-SC
65W BR30, 50W PAR30, 75W PAR30
3 3/4" Aperture

A-Lamp Downlights



A-Lamp Reflector
231C-WH Clear Alzak
231G-WH Gold Alzak
231W-WH Gloss White
60W A19
5 7/8" Aperture



BR30 Open Frame
250-WH
250-PB
250-SC
250-ABZ
65W BR30



Luminous Collar (Frosted)
9702
75W BR30, 50W PAR30, 75W PAR30L
6 1/2" Aperture



AIR-LOC

**PAR Shower Trim
(Wet Location Approved)**
242-WH
242-ABZ
242-SC
45W PAR38
6" Aperture



BR30 Regressed Open Frame
252-WH
75W BR/R30



Metal Band
9524-PB
9524-SC
65W BR30, 50W PAR30, 75W PAR30L
6 1/2" Ring
5 3/4" Aperture



AIR-LOC

**Drop Opal with Reflector
Shower Trim
(Wet Location Approved)**
241-WH
241-PW Shower/Closet Light
40W A19

BR/PAR Adjustables



R/PAR20 Regressed Eyeball
228-WH
248W-WH White Baffle
50W R20/PAR20



Octagonal
9024W-WH
65W BR30, 50W PAR30, 75W PAR30L
5 3/4" Aperture

Accessories

ALG6: Energy Conserving Gasket for 6" Air-Loc IC Housings

ALG6R: Energy Conserving Gasket Kit for 6" Air-Loc IC Remodel Housings

Note: In Canada when insulation is present, Type IC fixtures must be used.

*Wet location approved when used with outdoor rated lamps.



6" Economy Universals with Floating Socket

Juno Economy Universals with floating socket are optimized for quickest attachment to enclosed and adjustable style trims.

6" Economy Housings



**IC23
Economy IC Housing**
Energy-efficient, Air-Loc®
housing with floating socket.
13"L x 7¾"W x 7⅞"H
Ceiling cutout: 6⅞"



**IC23W
Economy IC Housing**
Energy-efficient, Air-Loc housing
with floating socket and quick
electrical connectors.
13"L x 7¾"W x 7⅞"H
Ceiling cutout: 6⅞"

6" Economy Universal Trims

BR/PAR Downlights



Cylinder Spotlight in Baffle
226B-WH Black Cylinder
in Black Baffle
226W-WH White Cylinder
in White Baffle
60W PAR16
5¼" Aperture



PAR30 Adjustable Tapered Cone
267C-WH Clear Alzak
267B-WH Black Alzak
267G-WH Gold Alzak
267HZ-WH Haze
267WHZ-WH Wheat Haze
50W PAR30



PAR/BR30 Conical Baffle
244B-WH Black Baffle
244W-WH White Baffle
60W PAR30, 65W BR30,
75W PAR30L
5¼" Aperture



PAR/BR30 Eyeball in Baffle
249B-WH or PB Black Baffle
249W-WH White Baffle
75W PAR30L, 65W BR30



PAR30 Adjustable Tapered Baffle
264B-WH Black Baffle
264W-WH White Baffle
50W PAR30



BR30 Open Frame
250-WH
250-PB
250-SC
250-ABZ
65W BR30



**Ultra-Trim Baffle - Fully Enclosed*
(Wet Location Outdoor Lamps)**
28B-WH Black Baffle
28W-WH White Baffle
60W A19, 65W BR30, 75W PAR30/30L,
90W PAR38/BR40
5¼" Aperture



**Ultra-Trim Cone - Fully Enclosed*
(Wet Location Outdoor Lamps)**
29C-WH Clear Cone
29W-WH White Cone
60W A19, 65W BR30,
75W PAR30/30L,
90W PAR38/BR40
5¼" Aperture



PAR/BR30 Cone
247C-WH Clear Alzak
247G-WH Gold Alzak
247B-WH Black Alzak
247HZ-WH Haze
247WHZ-WH Wheat Haze
75W PAR30L, 65W BR30, 75W PAR30
5¼" Aperture



BR/PAR Downlights, continued



Scoop Wall Washer
 261B-WH Black Baffle
 261W-WH White Baffle
 40W A19

BR/PAR Adjustables



PAR/BR30 Regressed Eyeball
 229-WH or PB
 229-SC
 229-ABZ
 75W PAR30L, 65W BR30



R/PAR20 Regressed Eyeball
 228-WH
 248W-WH White Baffle
 50W R20/PAR20

A-Lamp Downlights



A-Lamp Reflector
 232C-WH Clear Alzak
 232G-WH Gold Alzak
 232W-WH Gloss White
 232HZ-WH Haze
 232WHZ-WH Wheat Haze
 60W A19



A-Lamp Reflector with Black Baffle
 233C-WH Clear Alzak
 40W A19



Economy A-Lamp Reflector with Baffle (IC23 Series only)
 230-CB-WH Clear w/Black Baffle
 230-CW-WH Clear w/White Baffle
 40W A19



Drop Opal with Reflector Shower Trim (Wet Location Approved)
 241-WH
 241-PW Shower/Closet Light
 40W A19



Note: In Canada when insulation is present, Type IC fixtures must be used.
 *Wet location approved when used with outdoor rated lamps.



Energy Saving Compact Fluorescent Downlighting



Juno Universal Compact Fluorescent (CFL) downlights are ideally suited for providing energy saving, diffuse general lighting in areas of the home that experience longer hours of operation such as kitchens, home offices, laundry rooms and hobby or fitness areas where dimming is not required. Juno CFL Downlight housings incorporate state of the art integral electronic ballasts, which provide flicker-free instant starts without the characteristic hum of older generation magnetic ballasts. These features, combined with color rendering superior to traditional fluorescent sources, make them virtually indistinguishable from their incandescent counterparts. Because CFL lamps have a significantly longer operating life, the time between lamp changes can be increased from a couple of times per year to once every 4 or 5 years.

CFL Downlight Advantages

- 3 - 4 times more efficient
- 10 times longer life
- Less heat
- Rapid start electronic ballast for flicker-free operation
- High color rendering

Juno CFL Downlights are available for the following applications

Open Multipliers

Provides wide spread general room illumination



Wall Washers

Provides uniform illumination on vertical surfaces



Lensed Downlights

Provides very diffuse illumination for shadow free task lighting while offering protection from moisture.



CFL Energy Savings

Use this table to convert incandescent to equivalent CFL output for substantial energy savings on general and task illumination.

Example: (6) 26W CFLs operated 6 hours per day, 5 days a week, provides adequate illumination equal to (6) 100W incandescent lamps, with a yearly savings of \$54.00.*

CFL Lamp	Incandescent Equivalent
13W	40-60 watts
18W	60-75 watts
26W	75-100 watts
32W	100 watts
42W	100-150 watts

Advantages vs. self-ballasted CFL lamps

Most self-ballasted screw-in retrofit lamps are not designed or tested to operate in recessed fixtures. As a result, they typically operate too hot in this application, causing significant reductions in light output and lamp life. Juno's ballasted CFL housings are optimized for operation with pin-based CFL lamps to achieve maximum light output, brightness control and longevity, while minimizing the cost of replacement lamps.



Juno IC electronically ballasted CFL downlights are listed as qualified Energy Star products. Energy Star, a government-sponsored program, establishes criteria and testing requirements to ensure energy-efficient luminaires meet consistent performance standards. Many local utilities offer builders rebates for installing qualified Energy Star products.

*Based on national average of \$.08/kwh, lamp lumen depreciation and lamp/ballast watts.

Juno® 5" Vertical Compact Fluorescent Downlights

Juno offers a complete series of energy saving 5" CFL Downlights in 26, 18 and 13-watt configurations for most application and installation needs.

26 Watt CFL



ICPL526E
IC Fluorescent Housing
Energy Star, Air-Loc® CFL housing may be covered with insulation.
120V HPF Electronic Ballast.
13½" L x 9¼" W x 7½" H
Ceiling cutout: 5½"
26W 4-pin Triple CFL



PL526EU
TC Fluorescent Housing
Energy-efficient, CFL housing.
120V thru 277V HPF Electronic Ballast.
Requires 3" spacing from insulation.
12¼" L x 6½" W x 7½" H
Ceiling cutout: 5½"
26W 4-pin Triple CFL

18 Watt CFL

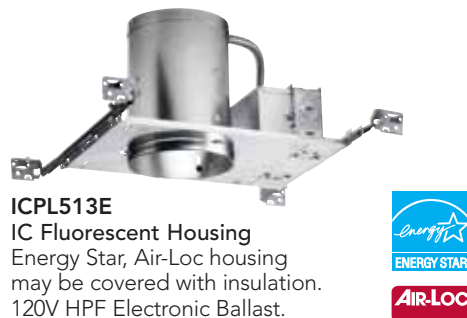


ICPL518E
IC Fluorescent Housing
Energy Star, Air-Loc CFL housing may be covered with insulation.
120V HPF Electronic Ballast.
13½" L x 9¼" W x 7½" H
Ceiling cutout: 5½"
18W 4-pin Triple CFL



ICPL518RE
IC Fluorescent Remodel Housing
Energy Star, Air-Loc CFL remodel housing may be covered with insulation.
120V HPF Electronic Ballast.
12½" L x 5½" W x 7½" H
Ceiling cutout: 5½"
18W 4-pin Triple CFL

13 Watt CFL



ICPL513E
IC Fluorescent Housing
Energy Star, Air-Loc housing may be covered with insulation.
120V HPF Electronic Ballast.
13W 4-pin Quad CFL

ICPL513
Energy efficient, Air-Loc IC housing.
120V NPF Magnetic Ballast.
13W 2-pin Quad CFL

13½" L x 9¼" W x 7½" H
Ceiling cutout: 5½"



ICPL513RE
IC Fluorescent Remodel Housing
Energy Star, Air-Loc CFL remodel housing may be covered with insulation.
120V HPF Electronic Ballast.
12½" L x 5½" W x 7½" H
Ceiling cutout: 5½"
13W 4-pin Quad CFL



PL526RE
Fluorescent Remodel Housing
 Energy-efficient, CFL housing.
 120V thru 277V HPF Electronic Ballast.
 Requires 3" spacing from insulation.
 12½" L x 5¾" W x 7½" H
 Ceiling cutout: 5½"



PL518EU
TC Fluorescent Housing
 TC housing, requires 3" spacing from insulation.
 120V thru 277V HPF Electronic Ballast.
 9¼" L x 6¾" W x 7½" H
 Ceiling cutout: 5⅝"



PL518RE
TC Fluorescent Remodel Housing
 TC remodel housing, requires 3" spacing from insulation.
 120V thru 277V HPF Electronic Ballast.
 12½" L x 5¾" W x 7½" H
 Ceiling cutout: 5½"



PL513EU
TC Fluorescent Housing
 TC housing requires 3" spacing from insulation.
 120V thru 277V HPF Electronic Ballast.
 9¼" L x 6¾" W x 7½" H
 13W 4-pin Quad CFL

PL513
 120V NPF Magnetic Ballast.
 8⅞" L x 6¾" W x 7½" H
 13W 2-pin Quad CFL

Ceiling cutout: 5⅝"



PL513RE
TC Fluorescent Remodel Housing
 TC remodel housing, requires 3" spacing from insulation.
 120V thru 277V HPF Electronic Ballast.
 13W 4-pin Quad CFL

PL513R
 120V NPF Magnetic Ballast.
 13W 2-pin Quad CFL

12½" L x 5¾" W x 7½" H
 Ceiling cutout: 5½"

The 4½" aperture trims cataloged below may be used with any 5" housing shown on this page.



Shower Trim
(Wet Location Approved)
 210-WH Lensed Shower/Closet Light
 210-SC
 210-ABZ



Baffle
 215B-WH Black Baffle
 215W-WH White Baffle



Cone
 216C-WH Clear Alzak
 216G-WH Gold Alzak
 216W-WH Semi-Gloss White
 216HZ-WH Haze
 216WHZ-WH Wheat Haze



Reflector with Baffle
 218B-WH Black Baffle
 218W-WH White Baffle



Cone
 219C-WH Clear Low Iridescent Alzak

Accessories

- ALG5:** Energy Conserving Gasket for 5" Air-Loc IC Housings
- ALG5R:** Energy Conserving Gasket Kit for 5" Air-Loc IC Remodel Housings

Note: In Canada when insulation is present, Type IC fixtures must be used.



6" High Wattage Vertical Compact Fluorescent Downlights

Juno's Energy Saving 6" CFL Downlights are designed to match other Juno 6" aperture products. A variety of housings and respective trims are available to meet your energy saving needs in your home.

High Watt Compact Fluorescent Housings



ICPL632E

IC Fluorescent Housing
Energy Star, Air-Loc® CFL double wall housing does not require separate gasket. Housing may be covered with insulation.
120V HPF Electronic Ballast.
13½" L x 9¼" W x 7½" H
Ceiling cutout: 6⅞"
26/32W 4-pin Triple CFL



ICPL626E

IC Fluorescent Housing
Energy Star, Air-Loc CFL housing may be covered with insulation.
120V HPF Electronic Ballast.
13½" L x 9¼" W x 7½" H
Ceiling cutout: 6⅞"
26W 4-pin Triple CFL

Accessories

ALG6: Energy Conserving Gasket for 6" Air-Loc IC Housings

High Wattage CFL Trims

Downlights



Ultra-Trim Baffle*

28B-WH Black Baffle
28W-WH White Baffle
ICPL626: 26W Max*
ICPL632: 32W Max*
PL642: 42W Max*



Ultra-Trim Cone*

29C-WH Clear Cone
29W-WH White Cone
ICPL626: 26W Max*
ICPL632: 32W Max*
PL642: 42W Max*

Wall wash



Scoop Wall Wash with Baffle

261B-WH Black Baffle
261W-WH White Baffle
26W Max

Lensed



Drop Opal

(Wet Location Approved)
21-WH
21-PW Shower/Closet Light
ICPL626: 26W Max
ICPL632: 32W Max
PL642: 42W Max



Reflector

2320C-WH Clear Low Iridescent Alzak
Optimized for 32W/42W lamps
ICPL632: 32W Max
PL642: 42W Max



Reflector*

232C-WH Clear Alzak
232G-WH Gold Alzak
232W-WH Semi-Gloss White
232HZ-WH Haze
232WHZ-WH Wheat Haze
ICPL626: 26W Max*
ICPL632: 32W Max*
PL642: 42W Max*



Reflector with Black Baffle*

233C-WH Clear Alzak
ICPL626: 26W Max*
ICPL632: 32W Max*
PL642: 42W Max*



PL642EU
 TC Fluorescent Housing
 Energy-efficient CFL housing.
 120V thru 277V HPF Electronic Ballast.
 Requires 3" spacing from insulation.
 13"L x 7 $\frac{3}{4}$ "W x 7 $\frac{1}{2}$ "H
 Ceiling cutout: 6 $\frac{3}{8}$ "
 26/32/42W 4-pin Triple CFL



PL642RE
 TC Fluorescent Remodel Housing
 Energy-efficient CFL housing.
 120V thru 277V HPF Electronic Ballast.
 Requires 3" spacing from insulation.
 13 $\frac{3}{4}$ "L x 7 $\frac{1}{16}$ "W x 7 $\frac{1}{4}$ "H
 Ceiling cutout: 6 $\frac{3}{8}$ "
 26/32/42W 4-pin Triple CFL

Lensed, continued



**Drop Opal with Reflector*
 (Wet Location Approved)**
 241-WH
 241-PW Shower/Closet Light
 26W Max*



**Albalite*
 (Wet Location Approved)**
 20-WH
 20-PW Shower/Closet Light
 26W Max*



**Fresnel
 (Wet Location Approved)**
 22-WH
 ICPL626: 26W Max
 ICPL632/PL642 32W Max



**Drop Opal with Reflector*
 (Wet Location Approved)**
 271-WH
 271-PW Shower/Closet Light
 ICPL626: 26W Max*
 ICPL632/PL642 32W Max*



**Frosted Lens with Clear Center
 Shower Trim
 (Wet Location Approved)**
 242-WH
 242-SC
 242-ABZ
 ICPL626: 26W Max
 ICPL632: 32W Max



**Fluted Drop Opal
 9900-WH (Wet Location Approved)**
 9900-PB
 9900-SC
 26W Max

Decorative



**Decorative Swirled
 Etched Opal Glass*
 (Wet Location Approved)**
 243-WH
 ICPL626: 26W Max*
 ICPL632/PL642 32W Max*

*Specify General Electric or Osram/Sylvania lamps only.

18 Watt Compact Fluorescent Housings



ICPL618E
 IC Fluorescent Housing
 Energy Star, Air-Loc® CFL housing
 may be covered with insulation.
 120V HPF Electronic Ballast.
 13½" L x 9¼" W x 7½" H
 Ceiling cutout: 6⅞"



PL618EU
 TC Fluorescent Housing
 120V thru 277V HPF Electronic Ballast
 with end-of-lamp-life protection.
 Requires 3" spacing from insulation.
 10⅞" L x 7¾" W x 7½" H
 Ceiling cutout: 6⅞"

13 Watt Compact Fluorescent Housings



ICPL613E
 IC Fluorescent Housing
 Energy Star, Air-Loc housing
 may be covered with insulation.
 120V HPF Electronic Ballast.
 13W 4-pin Quad CFL



PL613EU
 TC Fluorescent Housing
 TC housing requires 3"
 spacing from insulation.
 120V thru 277V HPF Electronic Ballast.
 13W 4-pin Quad CFL

ICPL613
 Energy-efficient, Air-Loc IC housing.
 120V NPF Magnetic Ballast.
 13W 2-pin Quad CFL

 13½" L x 9¼" W x 7½" H
 Ceiling cutout: 6⅞"



PL613
 120V NPF Magnetic Ballast.
 13W 2-pin Quad CFL

 10⅞" L x 7¾" W x 7½" H
 Ceiling cutout: 6⅞"

7/9 Watt Horizontal Compact Fluorescent Housing



ICPL609
 Horizontal IC Fluorescent Housing
 120V NPF Ballast. May be completely
 covered with insulation.
 17½" L x 9⅞" W x 7½" H
 Ceiling cutout: 6⅞"
 Two 7W/9W 2-pin Low Watt CFL

7/9 Watt Trims



Open Reflector**
 843C-WH Clear Low Iridescent Alzak
 843G-WH Gold Alzak



Open Reflector with Black Baffle**
 853B-WH Clear Alzak

**For use with ICPL609 housing.



PL618RE
 TC Fluorescent Remodel Housing
 120V thru 277V HPF Electronic Ballast
 with end-of-lamp-life protection.
 Requires 3" spacing from insulation.
 13¾" L x 7⅝" W x 7½" H
 Ceiling cutout: 6¾"



PL613RE
 TC Fluorescent Remodel Housing
 TC remodel housing, requires
 3" spacing from insulation.
 120V thru 277V HPF Electronic Ballast.
 13W 4-pin Quad CFL

PL613R
 120V NPF Magnetic Ballast.
 13W 2-pin Quad CFL

13¾" L x 7⅝" W x 7½" H
 Ceiling cutout: 6¾"

Downlights



AIR-LOC

Ultra-Trim Baffle
 28B-WH Black Baffle
 28W-WH White Baffle



AIR-LOC

Ultra-Trim Cone
 29C-WH Clear Cone
 29W-WH White Cone



Reflector*
 232C-WH Clear Alzak
 232G-WH Gold Alzak
 232W-WH Semi-Gloss White
 232HZ-WH Haze
 232WHZ-WH Wheat Haze



Reflector with Black Baffle*
 233C-WH Clear Alzak

Lensed



AIR-LOC

Albalite Lens with Reflector*
 (Wet Location Approved)
 240-WH
 240-PW Shower/Closet Light



AIR-LOC

Drop Opal with Reflector*
 (Wet Location Approved)
 241-WH
 241-PW Shower/Closet Light



Fresnel (Wet Location Approved)
 22-WH

Decorative



Fluted Drop Opal
 9900-WH (Wet Location Approved)
 9900-PB
 9900-SC

Wall wash



Scoop Wall Wash with Baffle*
 261B-WH Black Baffle
 261W-WH White Baffle

Accessories

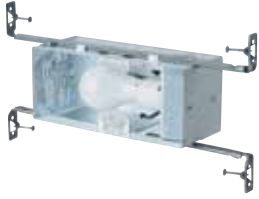
ALG6: Energy Conserving Gasket for 6" Air-Loc IC housings.

Note: In Canada when insulation is present, Type IC fixtures must be used.

*Specify 18W General Electric or Osram/Sylvania lamps only.

Available in energy saving Compact Fluorescent or Incandescent (A19), these fixtures are excellent for indoor or outdoor nighttime circulation lighting.

Step/Night Light Housings



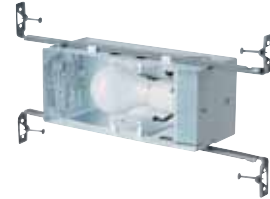
Night Light Kit

Shipped complete with trim and bar hangers as listed. Housing can be covered with insulation.
 8 1/4" L x 3 1/2" H x 3 1/2" D
 Wall cutout: 8 3/4" x 3 3/4"



Step Light PL115

Die-cast aluminum housing. Wet location listed, gasketed. Approved for concrete pour applications.
 8 1/2" L x 3" H x 4 1/8" D
 Wall cutout: 8 1/2" x 3"
 7W/9W 2-pin CFL



Housings Step/Night Light TC114

TC housing designed for indoor use in non-insulated areas. Through-branch rated.
 8 1/4" L x 3 1/2" H x 3 1/2" D
 Wall cutout: 8 3/4" x 3 3/4"

Step/Night Light Trims

Night Light Trim



For Incandescent Lamp

ICTC113-840WH White
 Complete unit with white louvered steel trim.
 IC: 25W A19
 TC: 40W A19
 Trim Size: 9 1/16" L x 4 1/8" H

For Compact Fluorescent Lamp

ICPL813-840WH White
 Complete unit with white louvered steel trim.
 7W/9W 2-pin CFL
 Trim Size: 9 1/16" L x 4 1/8" H

Step Light Trims



Opal Lens

835-WH White
 835-BL Black
 Trim Size: 9 1/16" L x 3 3/8" H



Opal Lens with Grill

836-WH White
 836-BL Black
 Trim Size: 9 1/16" L x 3 3/8" H



Angled Louvers

837-WH White
 837-BL Black
 Trim Size: 9 1/16" L x 3 3/8" H

Step/Night Light Trims



104-WH Diffuse Lensed Trim

Diffuse glass lens.
 40W A19
 Trim Size: 9 1/16" L x 4 1/8" H



Note: In Canada when insulation is present, Type IC fixtures must be used.

JUNO[®] Squares

This square formatted series features large opal or prismatic lenses and higher lamp wattages to produce higher levels of diffuse, shadow free illumination.

Square Housings

8" Squares housings



IC Housing

IC6

Energy-efficient, double wall housing.

Can be covered with insulation.

17½" L x 9¾" W x 7" H

Ceiling cutout: 8⅝" sq.

TC Housing

TC6

Requires 3" spacing from insulation.

17½" L x 9¾" W x 5" H

Ceiling cutout: 8⅝" sq.

10" Squares



IC Housing

IC7

Energy-efficient, double wall housing.

Can be covered with insulation.

20½" L x 11⅞" W x 7" H

Ceiling cutout: 10⅞" sq.

TC Housing

TC7

Requires 3" spacing from insulation.

20½" L x 11⅞" W x 5½" H

Ceiling cutout: 10-5/8" sq.

Square Trims

8" Square Trim



Crystal Diffuser

Aperture: 9⅞" sq.

60-WH

IC: 60W A19; TC: 100W A19

10" Square Trims



Crystal Diffuser

Aperture: 11⅞" sq.

70-WH

IC: 100W A19; TC: 150W A21/100W A19



Drop Opal

Aperture: 11⅞" sq.

71-WH

IC: 100W A19; TC: 150W A21/100W A19

Note: In Canada when insulation is present, Type IC fixtures must be used.

Application and Planning Tips

General Lighting

General lighting sets the basic ambient illumination level of a space. It is important for circulation and functionality.

Uniform Downlighting

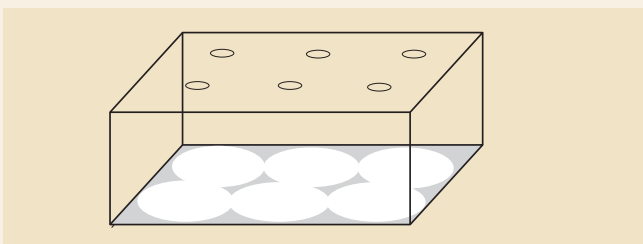
Uniform illumination provides a layer of ambient light typically used to provide general lighting on horizontal surfaces. It is important to note that, while useful, uniform illumination typically has the least visual impact on a space. Uniform illumination can be accomplished using the following techniques.

For 8'-10' ceilings

R/BR lamp Baffle or Cone downlights, spaced approximately the same distance on center as the ceiling height. As an alternate, A-lamp/CFL multipliers will provide somewhat more diffuse/uniform illumination.

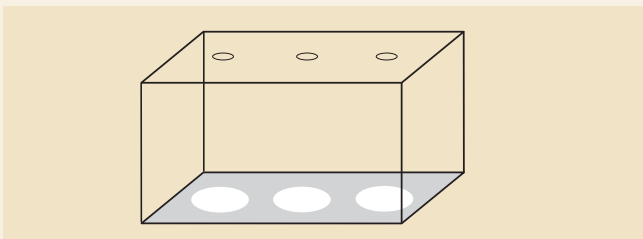
For 10' and higher ceilings

PAR lamp Baffle or Cone downlights provide more concentrated light beams and are effective for uniform illumination from higher ceilings. For higher ceilings, narrower beam spreads are required.



Non-Uniform Downlighting

Non-uniform downlighting provides the appearance of pools of light and can provide a more interesting visual appearance. Non-uniform illumination is generally accomplished with PAR or MR16 lamps spaced far enough apart so their beams do not overlap. Spacing is a function of the chosen lamp's beam spread and desired effect.

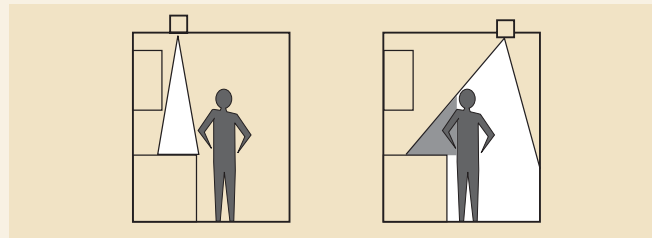


Task Lighting

Providing supplemental illumination over tasks is critical to allow enough light to perform them accurately, efficiently, and safely.

Task Lighting

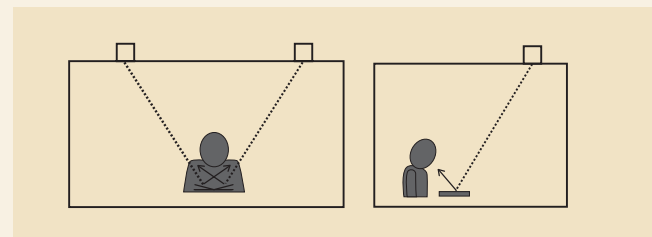
Placement of recessed downlights to facilitate tasks is critical. For counter or worksurface tasks, recessed fixtures should be placed between the cabinet face and the front edge of the counter. This position avoids casting of shadows and minimizes veiling reflections.



Correct

Incorrect

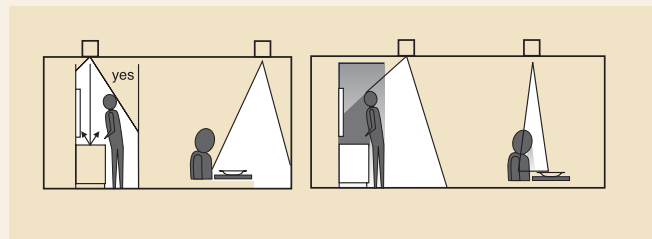
When lighting paper tasks, downlights should be placed on each side of the task to minimize glare and veiling reflections.



Correct

Incorrect

When lighting tasks in front of people, such as at a table or in front of a mirror, it is important to locate downlights in front of the person so as not to cast unnatural/unpleasant shadows. Whenever possible, add complementary fill lighting from a diffuse source such as a wall sconce or chandelier.

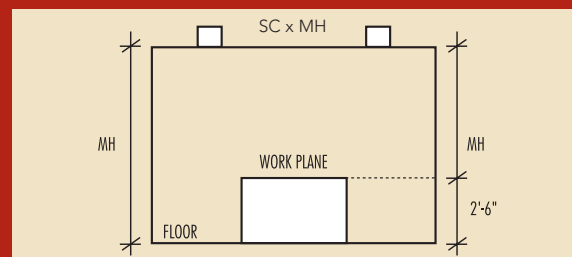


Correct

Incorrect

Application Tip:

Downlight fixtures are assigned a value called spacing criteria (SC). The SC is typically a number from .5 to 1.5 and can be found on Juno product specification sheets. It indicates how close together fixtures need to be spaced in relation to the mounting height from the ceiling to the workplane or floor to achieve overlapping beams for uniform illumination. For example, if the SC of a fixture is equal to 1, you would space the fixtures a maximum of 1x mounting height for even illumination. (The mounting height can be the floor or table top 2'-6" above the floor.) For higher levels of illumination, fixtures can be spaced closer together.



Accent Lighting

Accent lighting creates high contrast on objects of interest such as sculpture, paintings, collectibles and architectural details. For noticeable visual impact, accent lighting should be at least 3 times as bright as a surrounding area. More dramatic accent lighting requires contrast ratios of 5:1 or greater.

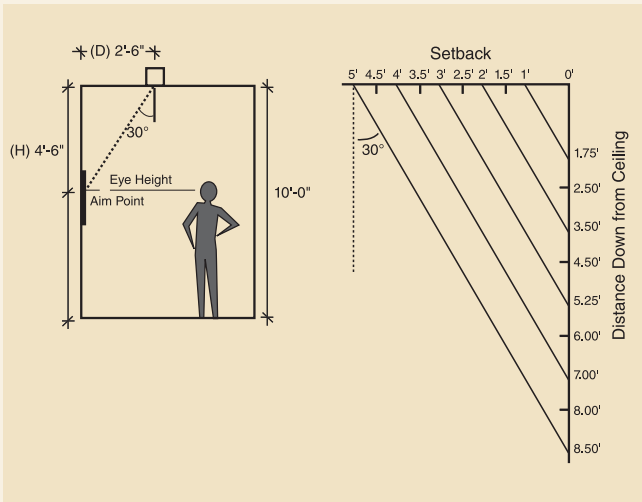
Accent lighting of flat artwork

Flat art is ideally illuminated by a source striking its surface at a 30° angle. This eliminates veiling reflection (glare) from bouncing into a viewer's eye, and prevents the casting of a shadow of the viewer onto the artwork. To determine the correct distance from the wall you can use the below listed formula or quick reference chart.

Formula to calculate luminaire distance from the wall for a 30° aiming angle where H = Distance from the ceiling to the aiming point and D = Distance from the wall to the center of the luminaire. (The aiming point is generally selected at 1/3 down from the top of the picture or object.)

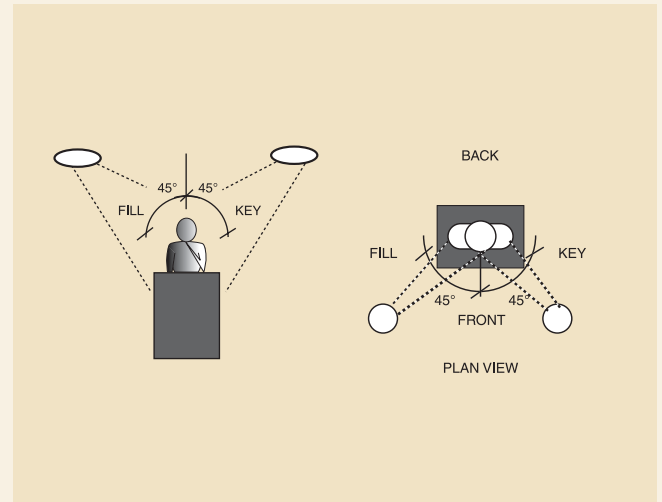
$$D = H \times .5774$$

Example: $D = 4.5' \times .5774 = 2.6'$ or approximately 2'-6"



Accent lighting of three dimensional objects

"Key and fill" is an effective technique for accentuating the three-dimensional character of an object. This technique entails the use of key and fill lighting from two sides of the object. Key lighting is a hard accent light used to create shadows and to highlight an object's form and texture. Fill light is a softer light thrown from the opposite side of the object to soften the shadows, making the object appear more natural. Other techniques can also be applied to further accentuate the unique character of an object, such as silhouetting an object from behind.



Accent Lighting Fixture/Lamp Choices:

12-volt MR16 adjustables are the fixture of choice for accent lighting due to their small aperture, wide variety of precisely controlled, intense beam spreads, and available range of light control and color correction accessories.

AR111 and PAR36 adjustables are most useful for longer throw distances, up to 30', where tightly controlled pinspots of light are required.

PAR lamp adjustables provide less costly accent lighting and are well suited for illuminating larger objects or areas such as fireplaces, coffee tables, large art or murals, potted trees, etc.

Application and Planning Tips

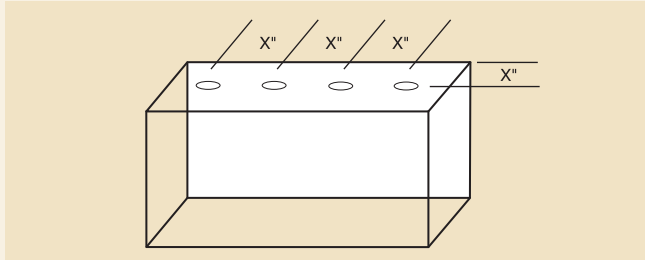
Wall Lighting

The illumination of vertical surfaces can impact the perception of a space more than any other type of lighting.

Light reflecting off of walls creates a bright, spacious feel and adds visual interest.

Wall Washing

Wall washing provides even, diffuse illumination of vertical surfaces such as walls, large paintings, wall hangings, bookcases and shelving, cabinet fronts, or stairwells. The diffuse nature of wall wash illumination has the effect of flattening out textured surfaces.



Wall wash luminaires are usually spaced equal to the set back distance from the wall. Closer spacing leads to higher light levels and with better uniformity. There are 3 fixture types that are most commonly used to achieve uniform wall washing:

Scoop wall wash trims

These are the most economical type of wall washer. The combination of a directional reflector and a light "scoop" direct light toward the wall. Most scoop wall washers utilize A-lamp or CFL lamps. Higher wattage commercial style scoop wallwashers utilize R/BR Lamps. Scoop wall wash trims are generally spaced 20" - 30" from the wall and 20" - 30" apart.



Lensed PAR/MR wall washers

These utilize an internal kicker reflector and a special spread lens to more efficiently put light on the wall. Lensed wall washers produce a soft, slightly vertical pattern that can be used singularly or in multiples. MR16 lensed wall washers are generally spaced 12" - 18" from the wall and 12" - 18" apart. Par lamp lensed wall washers are generally spaced 2' the wall and 2' apart.



A-lamp/CFL Downlight/Wall washers

These open multiplier fixtures with an integral "kicker" reflector combine downlighting and scallop-free wall washing into a single luminaire. Reflector configurations are available to light a single wall, opposite walls (such as in a corridor), or into a corner. These luminaires are almost always used in multiples, and have a matching aperture to standard multiplier downlights. Open/downlight wall wash trims are generally spaced 2' - 3' from the wall and 2' - 3' apart.



single



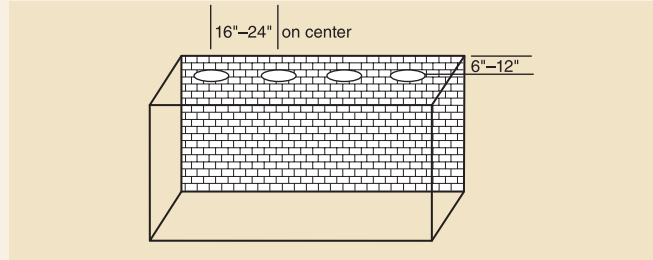
180° double



180° corner

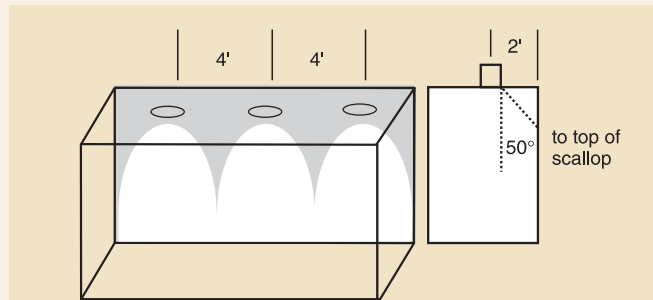
Grazing

By placing downlights 6" - 12" from a wall, a grazing effect can be achieved on textured surfaces such as brick or stucco. PAR lamps are a good source to use for grazing. (Note: Grazing on smooth surfaces is not recommended as it will magnify any surface imperfections).

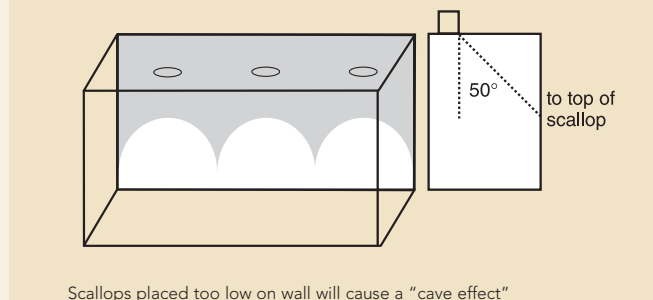


Light Scallops

Light scallops can be an intentional or unintentional effect of a downlighting plan. The last row of downlights closest to the wall will cause light scallops, which if planned for can add visual interest to a space. The more diffuse the light source and trim are, the softer the scallop will be. For example an R/BR-lamp mounted in a flush to ceiling open trim will barely create any scallop, an R-lamp in a shallow white baffle will create a soft scallop, and a PAR lamp in a deep black baffle trim will cause a crisp scallop. You should also be mindful of the horizontal location of the center of scallops relative to architectural features such as cabinet frames, doorways, windows, etc.



Well-placed light scallops



Scallops placed too low on wall will cause a "cave effect"

Lamp and Trim Selection

Juno recessed housings are designed to accept a variety of different lamp types and trims. Each lamp type has unique performance characteristics and each trim has a different function and/or appearance. The following information will help you select the best lamp type and trim for your application.

Lamp Types

Lamps for recessed lighting can be categorized into directional and diffuse. Directional lamps contain integral reflectors to direct and control the light. Diffuse lamps produce omni-directional light and are used in conjunction with trims that have reflectors to control their distribution.

Directional Lamps

Incandescent R and BR lamps

R (reflector) and BR (bumped reflector) lamps are made of "soft glass" with an integral funnel shaped reflector. These lamps are available in several sizes and wattages in both spot and flood patterns, and are the most economical type of directional lamp. R/BR Flood lamps produce a pleasant, warm, diffuse light well suited for general ambient illumination and subtle directional lighting. Typical rated life: 2000 hours.



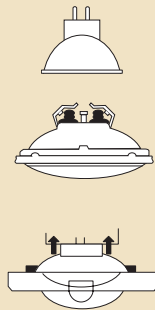
Halogen PAR lamps

Parabolic Aluminized Reflector lamps are similar to R lamps, but have a more controlled lens/reflector optical system. Clearly recognizable by their thicker pressed glass construction, these halogen sources produce whiter, more concentrated beams of light. Available in a wide variety of sizes, wattages, and beam spreads, PAR lamps are well suited for higher-level ambient lighting, task lighting, and accent lighting. Typical rated life: 2000 hours.



MR16, PAR36 & AR111 low voltage lamps

These halogen sources have smaller "point-source" filaments that are accurately aligned in integral computer designed reflectors. This combination produces precisely controlled beams of light in a tremendous variety of beam patterns and intensities. Low voltage lamps are used in special fixtures that contain a step-down 12-volt transformer. They are best used to precisely highlight artwork, sculpture, and architectural details, and to create other dramatic effects. Typical rated life: MR16-5000 hours, PAR36/AR111-2000 hours.



Diffuse Lamps

Incandescent A-Lamps

Also known as general service lamps, A-lamps provide a soft, warm uniform ambient illumination. They are ideally suited for use in downlight and wall wash trims that contain integral reflectors. Incandescent A-lamps are the most economical, often costing less than a dollar each. White coated A-lamps are preferable to the generic inside frost types. Typical rated life: 750 hours.



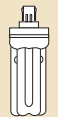
Halogen A-line lamps

Similar to incandescent A-lamps, these produce a whiter halogen light. Typical rated life: 3000 hours.



CFL lamps

Compact Fluorescent Lamps are similar in size and light output to A-lamps, but produce 3-5 times more light per watt consumed. This energy savings, combined with a significantly longer rated life, makes them ideal for ambient lighting in rooms such as kitchens which experience long burning hours. Compact fluorescent lamps are used in special recessed housings with integral ballasts that regulate the starting and operating current. CFL lamps are more difficult and costly to dim, and do not create the characteristic intimate feeling associated with dimmed incandescent or halogen lamps. Typical rated life: 10,000 hours.



Lamp Color Characteristics

Lamps have different color characteristics that can affect the appearance and feel of a space. The color that a lamp produces is expressed as its Color Temperature, in degrees Kelvin or K. Like an iron in a fire, the higher the temperature, the cooler the color of the light. Standard incandescent lamps have a 2700°K color that is warm and familiar...something you might associate with a table lamp or chandelier. Halogen lamps have a whiter, crisper 3000° K color. Halogen lamps are also more efficient than standard incandescent lamps, producing up to 50% more light per watt of energy consumed. Both standard incandescent and halogen lamps can be dimmed to create a warmer, more intimate atmosphere. (Placing incandescent or halogen lamps on dimmers also will considerably extend their service life.)

Lamp and Trim Selection

Trim Styles

Recessed trims are available in a variety of basic aperture styles described below. The correct aperture style for a given application is partially dependent on personal preference.

Baffles

Baffles are the most popular of all residential recessed trims. They are deeply grooved to absorb extraneous light and create a crisp architectural appearance. They are economical, easy to maintain, and available in black or white. Black baffles have low aperture brightness. White baffles blend with the ceiling to eliminate the appearance of dark holes and serve to soften light scallops on adjacent walls.



Cones

Cones produce a low brightness aperture with a choice of polished clear, gold, black, haze or wheat haze. Clear cones are the least conspicuous, gold provides a warm accent to a room, and black serves to more fully obscure the lamp and lamp image. Haze has a softer, cool appearance that blends with white ceilings. Wheat haze has a soft, warm appearance that coordinates with warmer tone interior finishes.



Multipliers

Multipliers are similar in appearance to cones but are designed to control the omni-directional light from diffuse A-lamp and CFLs. They are available in clear, gold, and haze finishes.



Lensed

Lensed apertures are designed to provide a very diffuse light quality and to protect the lamp. They are particularly useful in wet locations such as bathrooms and eave lighting, and in closets.



Luminous

Luminous trims combine the diffuse quality of a lensed trim, but with an open downlight component. Luminous trims provide efficient downlighting while producing a pleasing, soft glow of light on the ceiling and upper part of walls.



Adjustables

Several types of adjustable trims are available for accent and perimeter lighting. Eyeball style trims are the most economical. Gimbal rings and recessed adjustables provide excellent adjustability while concealing the light source.



Wall Washers

A variety of wall wash trims are designed to provide even ceiling to floor illumination of vertical surfaces without light scallops. The scoop wall wash is the most economical. Lensed PAR lamp wall washers put more light on the wall and multipliers with cut-out "kicker" reflectors provide a combination of efficient downlighting and wall wash illumination.



What trim size is right for the application?

This is a commonly asked question that does not have a single answer. Generally, smaller aperture trims are less conspicuous and therefore considered more architecturally desirable. 6" trims are still the mainstay for general residential downlight and wall wash illumination, due to their ability to accommodate a wide range of lamps, wattages, and efficient optics. 5" trims have become popular for task lighting, and even general lighting in smaller scale settings. 4" line voltage trims are useful for task and accent lighting with short throw distances and/or lower light level requirements, such as over a bar or counter. 4" low voltage MR16 trims have become the choice for inconspicuous yet powerful precision accent lighting. Juno's unique 3" trims find use in close proximity downlighting in niches and casework.



Photometric Data

The tables on the following pages provide illumination levels (FC) and beam size (in feet) for lamps of various wattages and beam patterns. Data is given for lamps aimed at both horizontal and vertical surfaces.

Maximum candlepower and rated life is also indicated for each lamp. Lamp performance is based on bare lamp photometrics provided by lamp manufacturers. Additional information may be obtained from JUNO.

Recommended illumination levels

Light intensity is measured by footcandles (fc). As an example, moonlight on a clear night measures roughly 4 footcandles. The following are recommended illumination levels for various rooms and activities in the home.

low illumination 5 to 24 fc

Circulation lighting	Shower stall
Closet	Halls/corridors
Entry way	General lighting

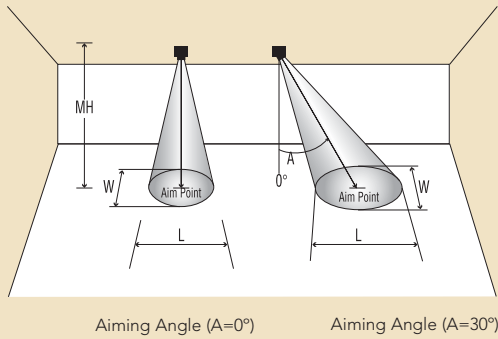
medium illumination 25 to 35 fc

Cooking surface lighting	Grooming
Dining room chandelier	Laundry/ironing
Dining room spotlight	Recreation

high illumination over 35 fc

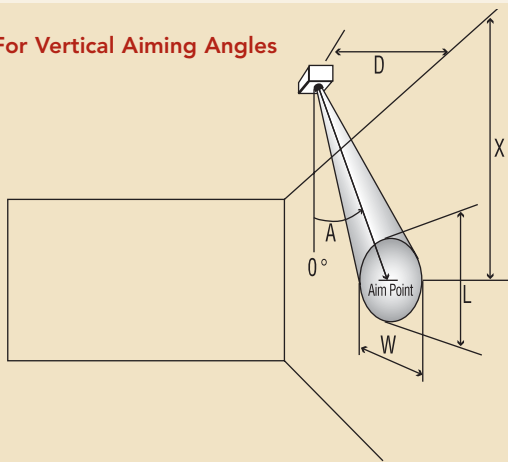
Accent lighting	Hobby areas
Kitchen counter/sink	Desk
Game table	Reading/sewing

For Horizontal Aiming Angles



Aiming angles for vertical surfaces include: 30° and 45°

For Vertical Aiming Angles



Aiming angles for horizontal surfaces include: 0° and 30°

CBCP - Center Beam Candle Power

A - Aiming angle of fixture/lamp, measured from 0°

MH - Vertical distance from the fixture/lamp to the horizontal surface

FC - Footcandles at beam center (aim point)

L - Length of beam

W - Width of beam

D - Distance from fixture/lamp to wall

X - Vertical distance to the center of the beam measured from ceiling









Photometric Data

Horizontal Aiming Angles



Vertical Aiming Angles



Lamp	Beam Type	Beam Spread	Rated Life	CBCP	0 degrees				30 degrees			30 degrees					45 degrees			
					MH	FC	L	W	FC	L	W	D	FC	X	L	W	FC	X	L	W
35W PAR20 Halogen	NSP	8°	2500	3000	6	83	0.8	0.8	54	1.1	1.0	2	94	3.5	1.1	0.6	265	2.0	0.6	0.4
					8	47	1.1	1.1	30	1.5	1.3	3	42	5.2	1.7	0.8	118	3.0	0.8	0.6
					10	30	1.4	1.4	19	1.9	1.6	4	23	6.9	2.3	1.1	66	4.0	1.1	0.8
					12	21	1.7	1.7	14	2.2	1.9	5	15	8.7	2.8	1.4	42	5.0	1.4	1.0
					14	15	2.0	2.0	10	2.6	2.3	6	10	10.4	3.4	1.7	29	6.0	1.7	1.2
	NFL	30°	2500	900	4	56	2.1	2.1	37	2.9	2.5	1	113	1.7	2.7	1.1	318	1.0	1.2	0.8
					6	25	3.2	3.2	16	4.4	3.7	2	28	3.5	5.5	2.1	80	2.0	2.3	1.5
					8	14	4.3	4.3	9	5.9	5.0	3	13	5.2	8.2	3.2	35	3.0	3.5	2.3
					10	9	5.4	5.4	6	7.3	6.2	4	7	6.9	10.9	4.3	20	4.0	4.6	3.0
					12	6	6.4	6.4	4	8.8	7.4	5	5	8.7	13.7	5.4	13	5.0	5.8	3.8
	WFL	40°	2500	600	3	67	2.2	2.2	43	3.0	2.5	1	75	1.7	4.8	1.5	212	1.0	1.7	1.0
					5	24	3.6	3.6	16	5.1	4.2	2	19	3.5	9.7	2.9	53	2.0	3.4	2.1
					7	12	5.1	5.1	8	7.1	5.9	3	8	5.2	14.5	4.4	24	3.0	5.0	3.1
					9	7	6.6	6.6	5	9.1	7.6	4	5	6.9	19.3	5.8	13	4.0	6.7	4.1
					11	5	8.0	8.0	3	11.2	9.2	5	3	8.7	24.2	7.3	8	5.0	8.4	5.1
50W PAR20 Halogen	NSP	10°	2500	5000	6	139	1.0	1.0	90	1.4	1.2	2	156	3.5	1.4	0.7	442	2.0	0.7	0.5
					8	78	1.4	1.4	51	1.9	1.6	3	69	5.2	2.1	1.0	196	3.0	1.1	0.7
					10	50	1.7	1.7	32	2.3	2.0	4	39	6.9	2.9	1.4	110	4.0	1.4	1.0
					12	35	2.1	2.1	23	2.8	2.4	5	25	8.7	3.6	1.7	71	5.0	1.8	1.2
					14	26	2.4	2.4	17	3.3	2.8	6	17	10.4	4.3	2.1	49	6.0	2.1	1.5
	NFL	30°	2500	1250	4	78	2.1	2.1	51	2.9	2.5	2	39	3.5	5.5	2.1	110	2.0	2.3	1.5
					6	35	3.2	3.2	23	4.4	3.7	3	17	5.2	8.2	3.2	49	3.0	3.5	2.3
					8	20	4.3	4.3	13	5.9	5.0	4	10	6.9	10.9	4.3	28	4.0	4.6	3.0
					10	13	5.4	5.4	8	7.3	6.2	5	6	8.7	13.7	5.4	18	5.0	5.8	3.8
					12	9	6.4	6.4	6	8.8	7.4	6	4	10.4	16.4	6.4	12	6.0	6.9	4.5
45W PAR16 Halogen	NSP	10°	2000	5000	6	139	1.0	1.0	90	1.4	1.2	2	156	3.5	1.4	0.7	442	2.0	0.7	0.5
					8	78	1.4	1.4	51	1.9	1.6	3	69	5.2	2.1	1.0	196	3.0	1.1	0.7
					10	50	1.7	1.7	32	2.3	2.0	4	39	6.9	2.9	1.4	110	4.0	1.4	1.0
					12	35	2.1	2.1	23	2.8	2.4	5	25	8.7	3.6	1.7	71	5.0	1.8	1.2
					14	26	2.4	2.4	17	3.3	2.8	6	17	10.4	4.3	2.1	49	6.0	2.1	1.5
	NFL	27°	2000	1400	3	156	1.4	1.4	101	2.0	1.7	1	175	1.7	2.3	1.0	495	1.0	1.0	0.7
					5	56	2.4	2.4	36	3.3	2.8	2	44	3.5	4.6	1.9	124	2.0	2.0	1.4
					7	29	3.4	3.4	19	4.6	3.9	3	19	5.2	7.0	2.9	55	3.0	3.1	2.0
					9	17	4.3	4.3	11	5.9	5.0	4	11	6.9	9.3	3.8	31	4.0	4.1	2.7
					11	12	5.3	5.3	8	7.2	6.1	5	7	8.7	11.6	4.8	20	5.0	5.1	3.4
60W PAR16 Halogen	NSP	10°	2000	5000	6	139	1.0	1.0	90	1.4	1.2	2	156	3.5	1.4	0.7	442	2.0	0.7	0.5
					8	78	1.4	1.4	51	1.9	1.6	3	69	5.2	2.1	1.0	196	3.0	1.1	0.7
					10	50	1.7	1.7	32	2.3	2.0	4	39	6.9	2.9	1.4	110	4.0	1.4	1.0
					12	35	2.1	2.1	23	2.8	2.4	5	25	8.7	3.6	1.7	71	5.0	1.8	1.2
					14	26	2.4	2.4	17	3.3	2.8	6	17	10.4	4.3	2.1	49	6.0	2.1	1.5
	NFL	30°	2000	1300	4	81	2.1	2.1	53	2.9	2.5	2	41	3.5	5.5	2.1	115	2.0	2.3	1.5
					6	36	3.2	3.2	23	4.4	3.7	3	18	5.2	8.2	3.2	51	3.0	3.5	2.3
					8	20	4.3	4.3	13	5.9	5.0	4	10	6.9	10.9	4.3	29	4.0	4.6	3.0
					10	13	5.4	5.4	8	7.3	6.2	5	7	8.7	13.7	5.4	18	5.0	5.8	3.8
					12	9	6.4	6.4	6	8.8	7.4	6	5	10.4	16.4	6.4	13	6.0	6.9	4.5
75W PAR16 Halogen	NSP	10°	2000	7500	6	208	1.0	1.0	135	1.4	1.2	2	234	3.5	1.4	0.7	663	2.0	0.7	0.5
					8	117	1.4	1.4	76	1.9	1.6	3	104	5.2	2.1	0.7	295	3.0	1.1	0.7
					10	75	1.7	1.7	49	2.3	2.0	4	59	6.9	2.9	1.4	166	4.0	1.4	1.0
					12	52	2.1	2.1	34	2.8	2.4	5	38	8.7	3.6	1.7	106	5.0	1.8	1.2
					14	38	2.4	2.4	25	3.3	2.8	6	26	10.4	4.3	2.1	74	6.0	2.1	1.5
	NFL	30°	2000	1900	4	119	2.1	2.1	77	2.9	2.5	2	59	3.5	5.5	2.1	168	2.0	2.3	1.5
					6	53	3.2	3.2	34	4.4	3.7	3	26	5.2	8.2	3.2	75	3.0	3.5	2.3
					8	30	4.3	4.3	19	5.9	5.0	4	15	6.9	10.9	4.3	42	4.0	4.6	3.0
					10	19	5.4	5.4	12	7.3	6.2	5	10	8.7	13.7	5.4	27	5.0	5.8	3.8
					12	13	6.4	6.4	9	8.8	7.4	6	7	10.4	16.4	6.4	19	6.0	6.9	4.5
50W PAR30 Halogen	SP	10°	3000	6900	6	192	1.0	1.0	124	1.4	1.2	3	96	5.2	2.1	1.0	271	3.0	1.1	0.7
					8	108	1.4	1.4	70	1.9	1.6	4	54	6.9	2.9	1.4	152	4.0	1.4	1.0
					10	69	1.7	1.7	45	2.3	2.0	5	35	8.7	3.6	1.7	98	5.0	1.8	1.2
					12	48	2.1	2.1	31	2.8	2.4	6	24	10.4	4.3	2.1	68	6.0	2.1	1.5
					14	35	2.4	2.4	23	3.3	2.8	7	18	12.1	5.0	2.4	50	7.0	2.5	1.7
	NFL	25°	3000	2000	4	125	1.8	1.8	81	2.4	2.0	2	63	3.5	4.2	1.8	177	2.0	1.9	1.3
					6	56	2.7	2.7	36	3.6	3.1	3	28	5.2	6.2	2.7	79	3.0	2.8	1.9
					8	31	3.5	3.5	20	4.8	4.1	4	16	6.9	8.3	3.5	44	4.0	3.7	2.5
					10	20	4.4	4.4	13	6.0	5.1	5	10	8.7	10.4	4.4	28	5.0	4.7	3.1
					12	14	5.3	5.3	9	7.2	6.1	6	7	10.4	12.5	5.3	20	6.0	5.6	3.8
	FL	35°	3000	1400	3	156	1.9	1.9	101	2.6	2.2	1	175	1.7	3.6	1.3	495	1.0	1.4	0.9
					5	56	3.2	3.2	36	4.3	3.6	2	44	3.5	7.2	2.5	124	2.0	2.8	1.8
					7	29	4.4	4.4	19	6.1	5.1	3	19	5.2	10.8	3.8	55	3.0	4.2	2.7
					9	17	5.7	5.7	11	7.8	6.6	4	11	6.9	14.4	5.0	31	4.0	5.6	3.6
					11	12	6.9	6.9	8	9.6	8.0	5	7	8.7	18.0	6.3	20	5.0	7.0	4.5

The beam spread in degrees and the beam "L" and "W" in the tables are computed at 50% of centerbeam candlepower and represent areas of "effective illumination."

Horizontal Aiming Angles

Vertical Aiming Angles



Lamp	Beam Type	Beam Spread	Rated Life	CBCP	0 degrees				30 degrees			30 degrees			45 degrees					
					MH	FC	L	W	FC	L	W	D	FC	X	L	W	FC	X	L	W
50W PAR30 Halogen IR	SP	9°	3000	13000	6	361	0.9	0.9	235	1.3	1.1	4	102	6.9	2.6	1.3	287	4.0	1.3	0.9
					8	203	1.3	1.3	132	1.7	1.5	5	65	8.7	3.2	1.6	184	5.0	1.6	1.1
					10	130	1.6	1.6	84	2.1	1.8	6	45	10.4	3.8	1.9	128	6.0	1.9	1.3
					12	90	1.9	1.9	59	2.5	2.2	7	33	12.1	4.5	2.2	94	7.0	2.2	1.6
					14	66	2.2	2.2	43	2.9	2.5	8	25	13.9	5.1	2.5	72	8.0	2.5	1.8
50W PAR30 Halogen	NFL	25°	3000	2700	4	169	1.8	1.8	110	2.4	2.0	2	84	3.5	4.2	1.8	239	2.0	1.9	1.3
					6	75	2.7	2.7	49	3.6	3.1	3	38	5.2	6.2	2.7	106	3.0	2.8	1.9
					8	42	3.5	3.5	27	4.8	4.1	4	21	6.9	8.3	3.5	60	4.0	3.7	2.5
					10	27	4.4	4.4	18	6.0	5.1	5	14	8.7	10.4	4.4	38	5.0	4.7	3.1
					12	19	5.3	5.3	12	7.2	6.1	6	9	10.4	12.5	5.3	27	6.0	5.6	3.8
50W PAR30 Halogen FL	FL	35°	3000	1500	3	167	1.9	1.9	108	2.6	2.2	1	188	1.7	3.6	1.3	530	1.0	1.4	0.9
					5	60	3.2	3.2	39	4.3	3.6	2	47	3.5	7.2	2.5	133	2.0	2.8	1.8
					7	31	4.4	4.4	20	6.1	5.1	3	21	5.2	10.8	3.8	59	3.0	4.2	2.7
					9	19	5.7	5.7	12	7.8	6.6	4	12	6.9	14.4	5.0	33	4.0	5.6	3.6
					11	12	6.9	6.9	8	9.6	8.0	5	8	8.7	18.0	6.3	21	5.0	7.0	4.5
75W PAR30 Halogen	SP	10°	3000	13000	6	361	1.0	1.0	235	1.4	1.2	4	102	6.9	2.9	1.4	287	4.0	1.4	1.0
					8	203	1.4	1.4	132	1.9	1.6	5	65	8.7	3.6	1.7	184	5.0	1.8	1.2
					10	130	1.7	1.7	84	2.3	2.0	6	45	10.4	4.3	2.1	128	6.0	2.1	1.5
					12	90	2.1	2.1	59	2.8	2.4	7	33	12.1	5.0	2.4	94	7.0	2.5	1.7
					14	66	2.4	2.4	43	3.3	2.8	8	25	13.9	5.7	2.8	72	8.0	2.8	2.0
75W PAR30 Halogen NFL	NFL	25°	3000	3100	4	194	1.8	1.8	126	2.4	2.0	2	97	3.5	4.2	1.8	274	2.0	1.9	1.3
					6	86	2.7	2.7	56	3.6	3.1	3	43	5.2	6.2	2.7	122	3.0	2.8	1.9
					8	48	3.5	3.5	31	4.8	4.1	4	24	6.9	8.3	3.5	69	4.0	3.7	2.5
					10	31	4.4	4.4	20	6.0	5.1	5	16	8.7	10.4	4.4	44	5.0	4.7	3.1
					12	22	5.3	5.3	14	7.2	6.1	6	11	10.4	12.5	5.3	30	6.0	5.6	3.8
75W PAR30 Halogen FL	FL	35°	3000	2000	4	125	2.5	2.5	81	3.5	2.9	2	63	3.5	7.2	2.5	177	2.0	2.8	1.8
					6	56	3.8	3.8	36	5.2	4.4	3	28	5.2	10.8	3.8	79	3.0	4.2	2.7
					8	31	5.0	5.0	20	7.0	5.8	4	16	6.9	14.4	5.0	44	4.0	5.6	3.6
					10	20	6.3	6.3	13	8.7	7.3	5	10	8.7	18.0	6.3	28	5.0	7.0	4.5
					12	14	7.6	7.6	9	10.4	8.7	6	7	10.4	21.6	7.6	20	6.0	8.4	5.4
60W PAR38 Halogen IR	SP	10°	3000	20000	8	313	1.4	1.4	203	1.9	1.6	5	100	8.7	3.6	1.7	283	5.0	1.8	1.2
					12	139	2.1	2.1	90	2.8	2.4	7	51	12.1	5.0	2.4	144	7.0	2.5	1.7
					16	78	2.8	2.8	51	3.7	3.2	9	31	15.6	6.4	3.1	87	9.0	3.2	2.2
					20	50	3.5	3.5	32	4.7	4.0	11	21	19.1	7.9	3.8	58	11.0	3.9	2.7
					24	35	4.2	4.2	23	5.6	4.8	13	15	22.5	9.3	4.5	42	13.0	4.6	3.2
60W PAR38 Halogen NFL	FL	30°	3000	3600	6	100	3.2	3.2	65	4.4	3.7	2	113	3.5	5.5	2.1	318	2.0	2.3	1.5
					8	56	4.3	4.3	37	5.9	5.0	3	50	5.2	8.2	3.2	141	3.0	3.5	2.3
					10	36	5.4	5.4	23	7.3	6.2	4	28	6.9	10.9	4.3	80	4.0	4.6	3.0
					12	25	6.4	6.4	16	8.8	7.4	5	18	8.7	13.7	5.4	51	5.0	5.8	3.8
					14	18	7.5	7.5	12	10.2	8.7	6	13	10.4	16.4	6.4	35	6.0	6.9	4.5
60W PAR38 Halogen WFL	WFL	40°	3000	2000	3	222	2.2	2.2	144	3.0	2.5	1	250	1.7	4.8	1.5	707	1.0	1.7	1.0
					5	80	3.6	3.6	52	5.1	4.2	2	63	3.5	9.7	2.9	177	2.0	3.4	2.1
					7	41	5.1	5.1	27	7.1	5.9	3	28	5.2	14.5	4.4	79	3.0	5.0	3.1
					9	25	6.6	6.6	16	9.1	7.6	4	16	6.9	19.3	5.8	44	4.0	6.7	4.1
					11	17	8.0	8.0	11	11.2	9.2	5	10	8.7	24.2	7.3	28	5.0	8.4	5.1
90W PAR38 Halogen	SP	12°	2500	12000	8	188	1.7	1.7	122	2.3	1.9	3	167	5.2	2.6	1.3	471	3.0	1.3	0.9
					10	120	2.1	2.1	78	2.8	2.4	4	94	6.9	3.5	1.7	265	4.0	1.7	1.2
					12	83	2.5	2.5	54	3.4	2.9	5	60	8.7	4.3	2.1	170	5.0	2.1	1.5
					14	61	2.9	2.9	40	3.9	3.4	6	42	10.4	5.2	2.5	118	6.0	2.6	1.8
					16	47	3.4	3.4	30	4.5	3.9	7	31	12.1	6.1	2.9	87	7.0	3.0	2.1
90W PAR38 Halogen FL	FL	30°	2500	3600	5	144	2.7	2.7	94	3.7	3.1	2	113	3.5	5.5	2.1	318	2.0	2.3	1.5
					7	73	3.8	3.8	48	5.1	4.3	3	50	5.2	8.2	3.2	141	3.0	3.5	2.3
					9	44	4.8	4.8	29	6.6	5.6	4	28	6.9	10.9	4.3	80	4.0	4.6	3.0
					11	30	5.9	5.9	19	8.1	6.8	5	18	8.7	13.7	5.4	51	5.0	5.8	3.8
					13	21	7.0	7.0	14	9.5	8.0	6	13	10.4	16.4	6.4	35	6.0	6.9	4.5
100W PAR38 Halogen IR	SP	10°	3000	29000	10	290	1.7	1.7	188	2.3	2.0	6	101	10.4	4.3	2.1	285	6.0	2.1	1.5
					14	148	2.4	2.4	96	3.3	2.8	9	45	15.6	6.4	3.1	127	9.0	3.2	2.2
					18	90	3.1	3.1	58	4.2	3.6	12	25	20.8	8.6	4.2	71	12.0	4.2	3.0
					22	60	3.8	3.8	39	5.1	4.4	15	16	26.0	10.7	5.2	46	15.0	5.3	3.7
					26	43	4.5	4.5	28	6.1	5.3	18	11	31.2	12.9	6.3	32	18.0	6.3	4.5
100W PAR38 Halogen NFL	NFL	25°	3000	6300	6	175	2.7	2.7	114	3.6	3.1	3	88	5.2	6.2	2.7	247	3.0	2.8	1.9
					8	98	3.5	3.5	64	4.8	4.1	4	49	6.9	8.3	3.5	139	4.0	3.7	2.5
					10	63	4.4	4.4	41	6.0	5.1	5	32	8.7	10.4	4.4	89	5.0	4.7	3.1
					12	44	5.3	5.3	28	7.2	6.1	6	22	10.4	12.5	5.3	62	6.0	5.6	3.8
					14	32	6.2	6.2	21	8.4	7.2	7	16	12.1	14.6	6.2	45	7.0	6.5	4.4
100W PAR38 Halogen FL	FL	40°	3000	3400	4	213	2.9	2.9	138	4.1	3.4	2	106	3.5	9.7	2.9	301	2.0	3.4	2.1
					6	94	4.4	4.4	61	6.1	5.0	3	47	5.2	14.5	4.4	134	3.0	5.0	3.1
					8	53	5.8	5.8	35	8.1	6.7	4	27	6.9	19.3	5.8	75	4.0	6.7	4.1
					10	34	7.3	7.3	22	10.2	8.4	5	17	8.7	24.2	7.3	48	5.0	8.4	5.1
					12	24	8.7	8.7	15	12.2	10.1	6	12	10.4	**	8.7	33	6.0	10.1	6.2

The beam spread in degrees and the beam "L" and "W" in the tables are computed at 50% of centerbeam candlepower and represent areas of "effective illumination."
 **Due to steep aiming angle, length of beam extends beyond 25'.

Photometric Data

Horizontal Aiming Angles



Vertical Aiming Angles



Lamp	Beam Type	Beam Spread	Rated Life	CBCP	0 degrees				30 degrees			30 degrees					45 degrees			
					MH	FC	L	W	FC	L	W	D	FC	X	L	W	FC	X	L	W
120W PAR38 Halogen	SP	9°	3000	25000	10	250	1.6	1.6	162	2.1	1.8	6	87	10.4	3.8	1.9	246	6.0	1.9	1.3
					14	128	2.2	2.2	83	2.9	2.5	9	39	15.6	5.8	2.8	109	9.0	2.9	2.0
					18	77	2.8	2.8	50	3.8	3.3	12	22	20.8	7.7	3.8	61	12.0	3.8	2.7
					22	52	3.5	3.5	34	4.6	4.0	15	14	26.0	9.6	4.7	39	15.0	4.8	3.3
					26	37	4.1	4.1	24	5.5	4.7	18	10	31.2	11.5	5.7	27	18.0	5.7	4.0
	FL	30°	3000	5000	6	139	3.2	3.2	90	4.4	3.7	3	69	5.2	8.2	3.2	196	3.0	3.5	2.3
					8	78	4.3	4.3	51	5.9	5.0	4	39	6.9	10.9	4.3	110	4.0	4.6	3.0
					10	50	5.4	5.4	32	7.3	6.2	5	25	8.7	13.7	5.4	71	5.0	5.8	3.8
					12	35	6.4	6.4	23	8.8	7.4	6	17	10.4	16.4	6.4	49	6.0	6.9	4.5
					14	26	7.5	7.5	17	10.2	8.7	7	13	12.1	19.1	7.5	36	7.0	8.1	5.3
	WFL	50°	3000	2000	4	125	3.7	3.7	81	5.4	4.3	2	63	3.5	21.5	3.7	177	2.0	4.8	2.6
					6	56	5.6	5.6	36	8.0	6.5	3	28	5.2	**	5.6	79	3.0	7.2	4.0
					8	31	7.5	7.5	20	10.7	8.6	4	16	6.9	**	7.5	44	4.0	9.5	5.3
					10	20	9.3	9.3	13	13.4	10.8	5	10	8.7	**	9.3	28	5.0	11.9	6.6
					12	14	11.2	11.2	9	16.1	12.9	6	7	10.4	**	11.2	20	6.0	14.3	7.9
250W PAR38 Halogen	SP	10°	4200	40000	10	400	1.7	1.7	260	2.3	2.0	6	139	10.4	4.3	2.1	393	6.0	2.1	1.5
					15	178	2.6	2.6	115	3.5	3.0	9	62	15.6	6.4	3.1	175	9.0	3.2	2.2
					20	100	3.5	3.5	65	4.7	4.0	12	35	20.8	8.6	4.2	98	12.0	4.2	3.0
					25	64	4.4	4.4	42	5.8	5.1	15	22	26.0	10.7	5.2	63	15.0	5.3	3.7
					30	44	5.2	5.2	29	7.0	6.1	18	15	31.2	12.9	6.3	44	18.0	6.3	4.5
	FL	30°	4200	9000	6	250	3.2	3.2	162	4.4	3.7	3	125	5.2	8.2	3.2	354	3.0	3.5	2.3
					8	141	4.3	4.3	91	5.9	5.0	4	70	6.9	10.9	4.3	199	4.0	4.6	3.0
					10	90	5.4	5.4	58	7.3	6.2	5	45	8.7	13.7	5.4	127	5.0	5.8	3.8
					12	63	6.4	6.4	41	8.8	7.4	6	31	10.4	16.4	6.4	88	6.0	6.9	4.5
					14	46	7.5	7.5	30	10.2	8.7	7	23	12.1	19.1	7.5	65	7.0	8.1	5.3
65W BR30	SP	27°	2000	1680	2	420	1.0	1.0	273	1.3	1.1	2	53	3.5	4.6	1.9	148	2.0	2.0	1.4
					4	105	1.9	1.9	68	2.6	2.2	3	23	5.2	7.0	2.9	66	3.0	3.1	2.0
					6	47	2.9	2.9	30	3.9	3.3	4	13	6.9	9.3	3.8	37	4.0	4.1	2.7
					8	26	3.8	3.8	17	5.2	4.4	5	8	8.7	11.6	4.8	24	5.0	5.1	3.4
					10	17	4.8	4.8	11	6.5	5.5	6	6	10.4	13.9	5.8	16	6.0	6.1	4.1
	FL	60°	2000	510	2	128	2.3	2.3	83	3.5	2.7	1	64	1.7	**	2.3	180	1.0	3.5	1.6
					3	57	3.5	3.5	37	5.2	4.0	2	16	3.5	**	4.6	45	2.0	6.9	3.3
					4	32	4.6	4.6	21	6.9	5.3	3	7	5.2	**	6.9	20	3.0	10.4	4.9
					5	20	5.8	5.8	13	8.7	6.7	4	4	6.9	**	9.2	11	4.0	13.9	6.5
					6	14	6.9	6.9	9	10.4	8.0	5	3	8.7	**	11.5	7	5.0	17.3	8.2
120W BR40	SP	20°	2000	6690	6	186	2.1	2.1	121	2.9	2.4	3	93	5.2	4.7	2.1	263	3.0	2.2	1.5
					8	105	2.8	2.8	68	3.8	3.3	4	52	6.9	6.2	2.8	148	4.0	2.9	2.0
					10	67	3.5	3.5	43	4.8	4.1	5	33	8.7	7.8	3.5	95	5.0	3.6	2.5
					12	46	4.2	4.2	30	5.7	4.9	6	23	10.4	9.3	4.2	66	6.0	4.4	3.0
					14	34	4.9	4.9	22	6.7	5.7	7	17	12.1	10.9	4.9	48	7.0	5.1	3.5
	FL	53°	2000	1430	4	89	4.0	4.0	58	5.8	4.6	2	45	3.5	**	4.0	126	2.0	5.3	2.8
					6	40	6.0	6.0	26	8.7	6.9	3	20	5.2	47.1	6.0	56	3.0	8.0	4.2
					8	22	8.0	8.0	15	11.6	9.2	4	11	6.9	**	8.0	32	4.0	10.6	5.6
					10	14	10.0	10.0	9	14.5	11.5	5	7	8.7	78.4	10.0	20	5.0	13.3	7.1
					12	10	12.0	12.0	6	17.4	13.8	6	5	10.4	94.1	12.0	14	6.0	15.9	8.5
35W MR16 Halogen	NSP	10°	4000	5000	6	139	1.0	1.0	90	1.4	1.2	3	69	5.2	2.1	1.0	196	3.0	1.1	0.7
					8	78	1.4	1.4	51	1.9	1.6	4	39	6.9	2.9	1.4	110	4.0	1.4	1.0
					10	50	1.7	1.7	32	2.3	2.0	5	25	8.7	3.6	1.7	71	5.0	1.8	1.2
					12	35	2.1	2.1	23	2.8	2.4	6	17	10.4	4.3	2.1	49	6.0	2.1	1.5
					14	26	2.4	2.4	17	3.3	2.8	7	13	12.1	5.0	2.4	36	7.0	2.5	1.7
	FL	40°	4000	700	2	175	1.5	1.5	114	2.0	1.7	1	88	1.7	4.8	1.5	247	1.0	1.7	1.0
					4	44	2.9	2.9	28	4.1	3.4	2	22	3.5	9.7	2.9	62	2.0	3.4	2.1
					6	19	4.4	4.4	13	6.1	5.0	3	10	5.2	14.5	4.4	27	3.0	5.0	3.1
					8	11	5.8	5.8	7	8.1	6.7	4	5	6.9	19.3	5.8	15	4.0	6.7	4.1
					10	7	7.3	7.3	5	10.2	8.4	5	4	8.7	24.2	7.3	10	5.0	8.4	5.1
37W MR16 Halogen IR	NSP	10°	4000	11500	6	319	1.0	1.0	207	1.4	1.2	3	160	5.2	2.1	1.0	452	3.0	1.1	0.7
					9	142	1.6	1.6	92	2.1	1.8	4	90	6.9	2.9	1.4	254	4.0	1.4	1.0
					12	80	2.1	2.1	52	2.8	2.4	5	58	8.7	3.6	1.7	163	5.0	1.8	1.2
					15	51	2.6	2.6	33	3.5	3.0	6	40	10.4	4.3	2.1	113	6.0	2.1	1.5
					18	35	3.1	3.1	23	4.2	3.6	7	29	12.1	5.0	2.4	83	7.0	2.5	1.7
	NFL	24°	4000	3500	4	219	1.7	1.7	142	2.3	2.0	2	109	3.5	3.9	1.7	309	2.0	1.8	1.2
					6	97	2.6	2.6	63	3.5	2.9	3	49	5.2	5.9	2.6	137	3.0	2.7	1.8
					8	55	3.4	3.4	36	4.6	3.9	4	27	6.9	7.9	3.4	77	4.0	3.6	2.4
					10	35	4.3	4.3	23	5.8	4.9	5	18	8.7	9.8	4.3	49	5.0	4.5	3.0
					12	24	5.1	5.1	16	6.9	5.9	6	12	10.4	11.8	5.1	34	6.0	5.3	3.6
	FL	38°	4000	2050	3	228	2.1	2.1	148	2.9	2.4	1	256	1.7	4.3	1.4	725	1.0	1.6	1.0
					5	82	3.4	3.4	53	4.8	4.0	2	64	3.5	8.6	2.8	181	2.0	3.1	1.9
					7	42	4.8	4.8	27	6.7	5.6	3	28	5.2	12.8	4.1	81	3.0	4.7	2.9
					9	25	6.2	6.2	16	8.6	7.2	4	16	6.9	17.1	5.5	45	4.0	6.3	3.9
					11	17	7.6	7.6	11	10.5	8.7	5	10	8.7	21.4	6.9	29	5.0	7.8	4.9

The beam spread in degrees and the beam "L" and "W" in the tables are computed at 50% of centerbeam candlepower and represent areas of "effective illumination."

**Due to steep aiming angle, length of beam extends beyond 25'.

Horizontal Aiming Angles

Vertical Aiming Angles



Lamp	Beam Type	Beam Spread	Rated Life	CBCP	0 degrees				30 degrees			30 degrees					45 degrees			
					MH	FC	L	W	FC	L	W	D	FC	X	L	W	FC	X	L	W
20W MR16 Halogen	VNSP	7°	3000	7400	6	206	0.7	0.7	134	1.0	0.8	3	103	5.2	1.5	0.7	291	3.0	0.7	0.5
					9	91	1.1	1.1	59	1.5	1.3	4	58	6.9	2.0	1.0	164	4.0	1.0	0.7
					12	51	1.5	1.5	33	2.0	1.7	5	37	8.7	2.5	1.2	105	5.0	1.2	0.9
					15	33	1.8	1.8	21	2.4	2.1	6	26	10.4	3.0	1.5	73	6.0	1.5	1.0
					18	23	2.2	2.2	15	2.9	2.5	7	19	12.1	3.5	1.7	53	7.0	1.7	1.2
	NSP	15°	5000	3750	4	234	1.1	1.1	152	1.4	1.2	2	117	3.5	2.2	1.1	331	2.0	1.1	0.7
					6	104	1.6	1.6	68	2.1	1.8	3	52	5.2	3.3	1.6	147	3.0	1.6	1.1
					8	59	2.1	2.1	38	2.8	2.4	4	29	6.9	4.4	2.1	83	4.0	2.1	1.5
					10	38	2.6	2.6	24	3.5	3.0	5	19	8.7	5.6	2.6	53	5.0	2.7	1.9
					12	26	3.2	3.2	17	4.2	3.6	6	13	10.4	6.7	3.2	37	6.0	3.2	2.2
	FL	40°	5000	525	3	58	2.2	2.2	38	3.0	2.5	1	66	1.7	4.8	1.5	186	1.0	1.7	1.0
					5	21	3.6	3.6	14	5.1	4.2	2	16	3.5	9.7	2.9	46	2.0	3.4	2.1
7					11	5.1	5.1	7	7.1	5.9	3	7	5.2	14.5	4.4	21	3.0	5.0	3.1	
9					6	6.6	6.6	4	9.1	7.6	4	4	6.9	19.3	5.8	12	4.0	6.7	4.1	
11					4	8.0	8.0	3	11.2	9.2	5	3	8.7	24.2	7.3	7	5.0	8.4	5.1	
42W MR16 Halogen	VNSP	9°	3500	12300	8	192	1.3	1.3	125	1.7	1.5	4	96	6.9	2.6	1.3	272	4.0	1.3	0.9
					10	123	1.6	1.6	80	2.1	1.8	5	62	8.7	3.2	1.6	174	5.0	1.6	1.1
					12	85	1.9	1.9	55	2.5	2.2	6	43	10.4	3.8	1.9	121	6.0	1.9	1.3
					14	63	2.2	2.2	41	2.9	2.5	7	31	12.1	4.5	2.2	89	7.0	2.2	1.6
					16	48	2.5	2.5	31	3.4	2.9	8	24	13.9	5.1	2.5	68	8.0	2.5	1.8
50W MR16 Halogen	NSP	15°	6000	9100	8	142	2.1	2.1	92	2.8	2.4	3	126	5.2	3.3	1.6	357	3.0	1.6	1.1
					10	91	2.6	2.6	59	3.5	3.0	4	71	6.9	4.4	2.1	201	4.0	2.1	1.5
					12	63	3.2	3.2	41	4.2	3.6	5	46	8.7	5.6	2.6	129	5.0	2.7	1.9
					14	46	3.7	3.7	30	4.9	4.3	6	32	10.4	6.7	3.2	89	6.0	3.2	2.2
					16	36	4.2	4.2	23	5.6	4.9	7	23	12.1	7.8	3.7	66	7.0	3.8	2.6
	NFL	25°	3000	3200	6	89	2.7	2.7	58	3.6	3.1	2	100	3.5	4.2	1.8	283	2.0	1.9	1.3
					8	50	3.5	3.5	32	4.8	4.1	3	44	5.2	6.2	2.7	126	3.0	2.8	1.9
					10	32	4.4	4.4	21	6.0	5.1	4	25	6.9	8.3	3.5	71	4.0	3.7	2.5
					12	22	5.3	5.3	14	7.2	6.1	5	16	8.7	10.4	4.4	45	5.0	4.7	3.1
					14	16	6.2	6.2	11	8.4	7.2	6	11	10.4	12.5	5.3	31	6.0	5.6	3.8
	FL	40°	6000	1700	3	189	2.2	2.2	123	3.0	2.5	1	213	1.7	4.8	1.5	601	1.0	1.7	1.0
					5	68	3.6	3.6	44	5.1	4.2	2	53	3.5	9.7	2.9	150	2.0	3.4	2.1
7					35	5.1	5.1	23	7.1	5.9	3	24	5.2	14.5	4.4	67	3.0	5.0	3.1	
9					21	6.6	6.6	14	9.1	7.6	4	13	6.9	19.3	5.8	38	4.0	6.7	4.1	
11					14	8.0	8.0	9	11.2	9.2	5	9	8.7	24.2	7.3	24	5.0	8.4	5.1	
50W MR16 Halogen IR	NSP	10°	4000	15000	8	234	1.4	1.4	152	1.9	1.6	4	117	6.9	2.9	1.4	331	4.0	1.4	1.0
					12	104	2.1	2.1	68	2.8	2.4	5	75	8.7	3.6	1.7	212	5.0	1.8	1.2
					16	59	2.8	2.8	38	3.7	3.2	6	52	10.4	4.3	2.1	147	6.0	2.1	1.5
					20	38	3.5	3.5	24	4.7	4.0	7	38	12.1	5.0	2.4	108	7.0	2.5	1.7
					24	26	4.2	4.2	17	5.6	4.8	8	29	13.9	5.7	2.8	83	8.0	2.8	2.0
	NFL	24°	4000	5100	4	319	1.7	1.7	207	2.3	2.0	2	159	3.5	3.9	1.7	451	2.0	1.8	1.2
					8	80	3.4	3.4	52	4.6	3.9	3	71	5.2	5.9	2.6	200	3.0	2.7	1.8
					12	35	5.1	5.1	23	6.9	5.9	4	40	6.9	7.9	3.4	113	4.0	3.6	2.4
					16	20	6.8	6.8	13	9.2	7.9	5	26	8.7	9.8	4.3	72	5.0	4.5	3.0
					20	13	8.5	8.5	8	11.5	9.8	6	18	10.4	11.8	5.1	50	6.0	5.3	3.6
	FL	38°	4000	2500	4	156	2.8	2.8	101	3.8	3.2	1	313	1.7	4.3	1.4	884	1.0	1.6	1.0
					6	69	4.1	4.1	45	5.7	4.8	2	78	3.5	8.6	2.8	221	2.0	3.1	1.9
8					39	5.5	5.5	25	7.6	6.4	3	35	5.2	12.8	4.1	98	3.0	4.7	2.9	
10					25	6.9	6.9	16	9.6	8.0	4	20	6.9	17.1	5.5	55	4.0	6.3	3.9	
12					17	8.3	8.3	11	11.5	9.5	5	13	8.7	21.4	6.9	35	5.0	7.8	4.9	
71W MR16 Halogen	SP	15°	4000	11500	8	180	2.1	2.1	117	2.8	2.4	4	90	6.9	4.4	2.1	254	4.0	2.1	1.5
					12	80	3.2	3.2	52	4.2	3.6	5	58	8.7	5.6	2.6	163	5.0	2.7	1.9
					16	45	4.2	4.2	29	5.6	4.9	6	40	10.4	6.7	3.2	113	6.0	3.2	2.2
					20	29	5.3	5.3	19	7.1	6.1	7	29	12.1	7.8	3.7	83	7.0	3.8	2.6
					24	20	6.3	6.3	13	8.5	7.3	8	22	13.9	8.9	4.2	64	8.0	4.3	3.0
	NFL	25°	4000	5500	4	344	1.8	1.8	223	2.4	2.0	2	172	3.5	4.2	1.8	486	2.0	1.9	1.3
					8	86	3.5	3.5	56	4.8	4.1	3	76	5.2	6.2	2.7	216	3.0	2.8	1.9
					12	38	5.3	5.3	25	7.2	6.1	4	43	6.9	8.3	3.5	122	4.0	3.7	2.5
					16	21	7.1	7.1	14	9.6	8.2	5	28	8.7	10.4	4.4	78	5.0	4.7	3.1
					20	14	8.9	8.9	9	12.0	10.2	6	19	10.4	12.5	5.3	54	6.0	5.6	3.8
	FL	40°	4000	2200	4	138	2.9	2.9	89	4.1	3.4	1	275	1.7	4.8	1.5	778	1.0	1.7	1.0
					6	61	4.4	4.4	40	6.1	5.0	2	69	3.5	9.7	2.9	194	2.0	3.4	2.1
8					34	5.8	5.8	22	8.1	6.7	3	31	5.2	14.5	4.4	86	3.0	5.0	3.1	
10					22	7.3	7.3	14	10.2	8.4	4	17	6.9	19.3	5.8	49	4.0	6.7	4.1	
12					15	8.7	8.7	10	12.2	10.1	5	11	8.7	24.2	7.3	31	5.0	8.4	5.1	

The beam spread in degrees and the beam "L" and "W" in the tables are computed at 50% of centerbeam candlepower and represent areas of "effective illumination."

Photometric Data

Horizontal Aiming Angles



Vertical Aiming Angles



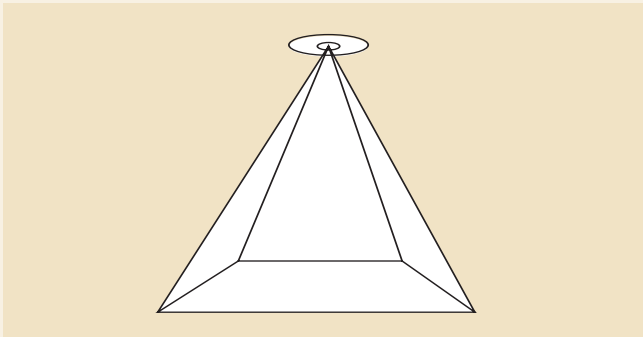
Lamp	Beam Type	Beam Spread	Rated Life	CBCP	0 degrees				30 degrees			30 degrees					45 degrees			
					MH	FC	L	W	FC	L	W	D	FC	X	L	W	FC	X	L	W
50W PAR36 Halogen	VNSP	5°	4000	35000	14	179	1.2	1.2	116	1.6	1.4	8	68	13.9	2.8	1.4	193	8.0	1.4	1.0
					18	108	1.6	1.6	70	2.1	1.8	10	44	17.3	3.5	1.7	124	10.0	1.7	1.2
					22	72	1.9	1.9	47	2.6	2.2	12	30	20.8	4.2	2.1	86	12.0	2.1	1.5
					26	52	2.3	2.3	34	3.0	2.6	14	22	24.2	4.9	2.4	63	14.0	2.4	1.7
					30	39	2.6	2.6	25	3.5	3.0	16	17	27.7	5.6	2.8	48	16.0	2.8	2.0
	NSP	8°	4000	30000	12	208	1.7	1.7	135	2.2	1.9	6	104	10.4	3.4	1.7	295	6.0	1.7	1.2
					16	117	2.2	2.2	76	3.0	2.6	8	59	13.9	4.5	2.2	166	8.0	2.2	1.6
					20	75	2.8	2.8	49	3.7	3.2	10	38	17.3	5.7	2.8	106	10.0	2.8	2.0
					24	52	3.4	3.4	34	4.5	3.9	12	26	20.8	6.8	3.4	74	12.0	3.4	2.4
					28	38	3.9	3.9	25	5.2	4.5	14	19	24.2	7.9	3.9	54	14.0	3.9	2.8
	FL	30°	4000	1300	4	81	2.1	2.1	53	2.9	2.5	2	41	3.5	5.5	2.1	115	2.0	2.3	1.5
					6	36	4.1	4.1	23	5.7	4.8	3	18	5.2	12.8	4.1	51	3.0	4.7	2.9
8					20	5.5	5.5	13	7.6	6.4	4	10	6.9	17.1	5.5	29	4.0	6.3	3.9	
10					13	6.9	6.9	8	9.6	8.0	5	7	8.7	21.4	6.9	18	5.0	7.8	4.9	
12					9	8.3	8.3	6	11.5	9.5	6	5	10.4	**	8.3	13	6.0	9.4	5.8	
50W AR111 Halogen	VNSP	4°	3000	50000	12	347	0.8	0.8	226	1.1	1.0	6	174	10.4	1.7	0.8	491	6.0	0.8	0.6
					16	195	1.1	1.1	127	1.5	1.3	10	63	17.3	2.8	1.4	177	10.0	1.4	1.0
					20	125	1.4	1.4	81	1.9	1.6	14	32	24.2	3.9	2.0	90	14.0	2.0	1.4
					24	87	1.7	1.7	56	2.2	1.9	18	19	31.2	5.0	2.5	55	18.0	2.5	1.8
					28	64	2.0	2.0	41	2.6	2.3	22	13	38.1	6.2	3.1	37	22.0	3.1	2.2
	SP	8°	3000	23000	12	160	1.7	1.7	104	2.2	1.9	4	180	6.9	2.3	1.1	508	4.0	1.1	0.8
					16	90	2.2	2.2	58	3.0	2.6	6	80	10.4	3.4	1.7	226	6.0	1.7	1.2
					20	58	2.8	2.8	37	3.7	3.2	8	45	13.9	4.5	2.2	127	8.0	2.2	1.6
					24	40	3.4	3.4	26	4.5	3.9	10	29	17.3	5.7	2.8	81	10.0	2.8	2.0
					28	29	3.9	3.9	19	5.2	4.5	12	20	20.8	6.8	3.4	56	12.0	3.4	2.4
	FL	25°	3000	4000	6	111	2.7	2.7	72	3.6	3.1	2	125	3.5	4.2	1.8	354	2.0	1.9	1.3
					8	63	3.5	3.5	41	4.8	4.1	3	56	5.2	6.2	2.7	157	3.0	2.8	1.9
10					40	4.4	4.4	26	6.0	5.1	4	31	6.9	8.3	3.5	88	4.0	3.7	2.5	
12					28	5.3	5.3	18	7.2	6.1	5	20	8.7	10.4	4.4	57	5.0	4.7	3.1	
14					20	6.2	6.2	13	8.4	7.2	6	14	10.4	12.5	5.3	39	6.0	5.6	3.8	
75W AR111 Halogen IR	SP	8°	3000	30000	10	300	1.4	1.4	195	1.9	1.6	4	234	6.9	2.3	1.1	663	4.0	1.1	0.8
					14	153	2.0	2.0	99	2.6	2.3	6	104	10.4	3.4	1.7	295	6.0	1.7	1.2
					18	93	2.5	2.5	60	3.4	2.9	8	59	13.9	4.5	2.2	166	8.0	2.2	1.6
					22	62	3.1	3.1	40	4.1	3.6	10	38	17.3	5.7	2.8	106	10.0	2.8	2.0
					26	44	3.6	3.6	29	4.9	4.2	12	26	20.8	6.8	3.4	74	12.0	3.4	2.4
	FL	25°	3000	5300	4	331	1.8	1.8	215	2.4	2.0	2	166	3.5	4.2	1.8	468	2.0	1.9	1.3
					6	147	2.7	2.7	96	3.6	3.1	3	74	5.2	6.2	2.7	208	3.0	2.8	1.9
					8	83	3.5	3.5	54	4.8	4.1	4	41	6.9	8.3	3.5	117	4.0	3.7	2.5
					10	53	4.4	4.4	34	6.0	5.1	5	27	8.7	10.4	4.4	75	5.0	4.7	3.1
					12	37	5.3	5.3	24	7.2	6.1	6	18	10.4	12.5	5.3	52	6.0	5.6	3.8
	WFL	45°	3000	1700	3	189	2.5	2.5	123	3.5	2.9	1	213	1.7	6.8	1.7	601	1.0	2.0	1.2
					5	68	4.1	4.1	44	5.9	4.8	2	53	3.5	13.7	3.3	150	2.0	4.0	2.3
7					35	5.8	5.8	23	8.2	6.7	3	24	5.2	20.5	5.0	67	3.0	6.0	3.5	
9					21	7.5	7.5	14	10.5	8.6	4	13	6.9	**	6.6	38	4.0	8.0	4.7	
11					14	9.1	9.1	9	12.9	10.5	5	9	8.7	**	8.3	24	5.0	10.0	5.9	

The beam spread in degrees and the beam "L" and "W" in the tables are computed at 50% of centerbeam candlepower and represent areas of "effective illumination."

**Due to steep aiming angle, length of beam extends beyond 25'.

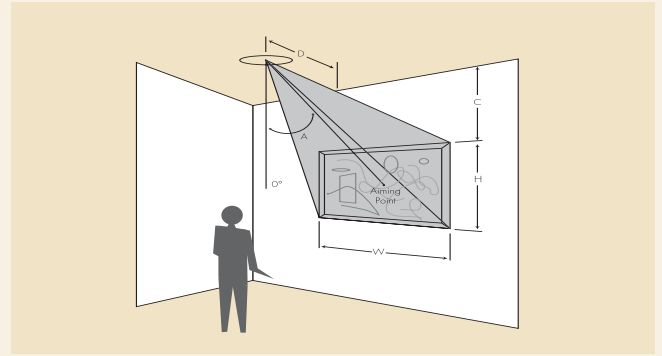
Illumination and Beam Coverage on a Horizontal Plane with 246 Trim

Ceiling Height	8'		9'		10'	
Table Height (inches)	36"	30"	36"	30"	36"	30"
Distance From Ceiling (inches)	60"	66"	72"	78"	84"	90"
Max. Beam Size (inches, L/W)	56/45"	61/50"	65/56"	69/59"	74/65"	80/69"
Footcandles on Beam Axis (FC)	30	25	20	17	15	13

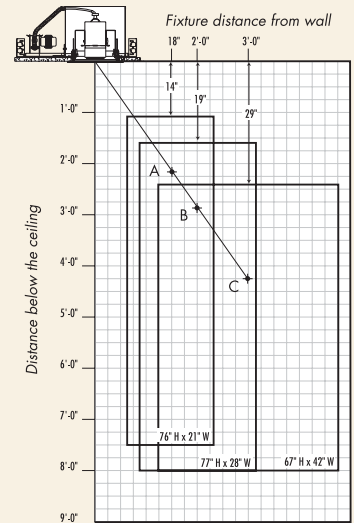


Illumination Levels on a Vertical Plane with 245 Trim

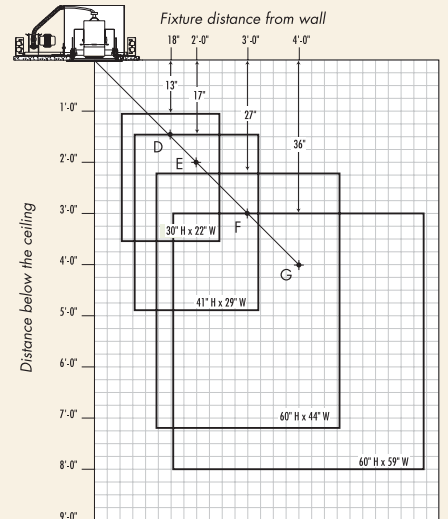
Mounting Distance (D)	18"		2'		3'		4'	
Aiming Angle (A)	35°	45°	35°	45°	35°	45°	35°	45°
Aiming Point	A	D	B	E	C	F	—	G
FC at Aiming Point	158	225	85	133	37	57	—	32
Maximum FC	214	239	114	137	48	62	—	35



Maximum framing dimensions for 35° aiming angle



Maximum framing dimensions for 45° aiming angle



Rectangle denotes maximum possible size of framed image (height & width) and distance below ceiling (c) for given fixture distance from the wall.

Photometric Data

3/4" MR16 Open Aperture TC43-437, TC943-437, IC43-437

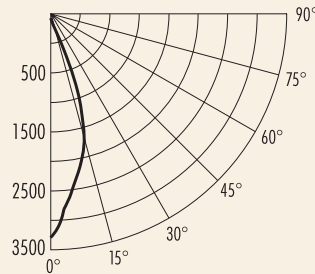
50W MR16 IR FL40

Luminaire Spacing Criterion: 0.5

Total Luminaire Efficiency: 77.7%

Candlepower Distribution (candelas)

Degrees Vertical	Average
0	3322
5	2711
10	2256
15	1653
20	994
25	489
30	233
35	95
40	38
45	12
50	1
55	0
60	0
65	0
70	0
75	0
80	0
85	0
90	0



*Multipliers: 75W MR16 - 0.92, 50W MR16 - 0.68, 42W MR16 - 0.53, 35W MR16 - 0.44, 20W MR16 - 0.23, Gold - 0.9, Black - 0.7, Haze - 0.95

Initial Footcandles

One Unit, 50W MR16, 30° Beam

Footcandles Beam Edge	Footcandles Beam Center	Beam Diameter	Distance to Illuminated Work Plane (Feet)
41.6	92.3	3.2'	6
23.4	51.9	4.3'	8
15.0	33.2	5.3'	10
10.4	23.1	6.4'	12
7.6	16.9	7.5'	14
5.9	13.0	8.5'	16
4.6	10.3	9.6'	18

(Beam Edge defined as 50% of Maximum Nadir Candlepower)

Average Initial Footcandles

Multiple Units (square array, 60' x 60' room)

Ceiling Spacing	80% Wall RCR1	50% Floor 20% RCR3	RCR5
4.0'	71	64	59
5.0'	45	41	37
6.0'	31	29	26
7.0'	25	23	21
8.0'	20	18	17
9.0'	15	14	13
10.0'	11	10	9

6" Open Aperture IC906-643

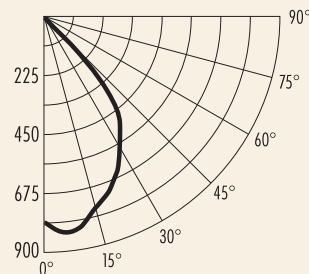
100W A19

Luminaire Spacing Criterion: 1.1

Total Luminaire Efficiency: 62.6%

Candlepower Distribution (candelas)

Degrees Vertical	Average
0	778
5	815
10	817
15	747
20	709
25	653
30	581
35	495
40	374
45	214
50	42
55	0
60	0
65	0
70	0
75	0
80	0
85	0
90	0



*Multipliers: Gold - 0.9, Haze - 0.95

Initial Footcandles

One Unit, 150W A21, 76° Beam

Footcandles Beam Edge	Footcandles Beam Center	Beam Diameter	Distance to Illuminated Work Plane (Feet)
5.6	18.5	7.6'	6
3.1	10.4	10.1'	8
2.0	6.7	12.6'	10
1.4	4.6	15.1'	12
1.0	3.4	17.6'	14
0.8	2.6	20.2'	16
0.6	2.1	22.7'	18

(Beam Edge defined as 50% of Maximum Nadir Candlepower)

Average Initial Footcandles

Multiple Units (square array)

Ceiling Spacing	80% Wall RCR1	50% Floor 20% RCR3	RCR5
4.0'	71	61	52
5.0'	45	39	34
6.0'	31	27	23
7.0'	25	22	19
8.0'	20	17	15
9.0'	15	13	11
10.0'	11	10	8

6" Vertical CFL, Open Aperture ICV6-126/32T-600C

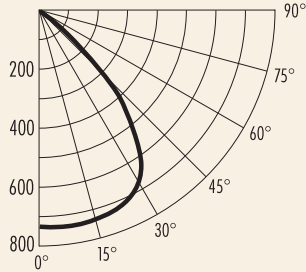
One 26W Triple Tube

Luminaire Spacing Criterion: 1.0

Total Luminaire Efficiency: 70.7%

Candlepower Distribution (candelas)

Degrees Vertical	Average
0	725
5	753
10	778
15	765
20	761
25	729
30	671
35	585
40	475
45	342
50	138
55	16
60	0
65	0
70	0
75	0
80	0
85	0
90	0



*Multipliers: 32W - 1.33, Gold - 0.9, Haze - 0.95

Initial Footcandles

One Unit, 26 Watt, 66° Beam

Footcandles Beam Edge	Footcandles Beam Center	Beam Diameter	Distance to Illuminated Plane (Feet)
5.9	20.1	7.9'	6
3.3	11.3	10.5'	8
2.1	7.3	13.1'	10
1.5	5.0	15.7'	12
1.1	3.7	18.3'	14
0.8	2.8	21.0'	16
0.7	2.2	23.6'	18
0.5	1.8	26.2'	20

(Beam Edge defined as 50% of Maximum Nadir Candlepower)

*Note: Multipliers are provided for estimating purposes only. Use IES photometric files for precise photometric information.

Average Initial Footcandles

Multiple Units (square array)

Ceiling Spacing	80% Wall 20% Floor RCR1	50% Floor 20% RCR3	RCR5
4.0'	87	73	62
5.0'	55	47	40
6.0'	39	33	28
7.0'	31	26	22
8.0'	25	21	18
9.0'	19	16	13
10.0'	14	12	10

6" A-Lamp Wall Wash Footcandles on Wall From Multiple Fixtures

Fixture Distance to Wall

2'

3'

Fixture Centers (spacing)

distance from ceiling	2'			3'			3'			4'		
	1	2	3	1	2	3	1	2	3	1	2	3
IC906	13	15	13	7	12	7	3	4	3	2	3	2
662C-WH	24	25	24	13	19	13	9	9	9	6	8	6
100W A19	27	28	27	16	20	16	11	11	11	7	9	7
	25	25	25	17	17	17	12	13	12	8	10	8
	21	21	21	14	14	14	13	13	13	9	10	9
	17	17	17	11	11	11	12	12	12	9	9	9
	13	13	13	9	9	9	10	11	10	8	8	8
	11	11	11	7	7	7	9	9	9	7	7	7
	9	9	9	6	6	6	8	8	8	6	6	6

Multipliers: Gold - 0.9, Haze - 0.95

6" Universal A-Lamp Scoop Wall Wash Footcandles on Wall From Multiple Fixtures

Fixture Distance to Wall

2'

3'

Fixture Centers (spacing)

distance from ceiling	2'			3'			3'			4'		
	1	2	3	1	2	3	1	2	3	1	2	3
TC2	19	21	19	12	15	12	5	6	5	4	5	4
261-WH	27	27	27	18	18	18	11	12	11	8	10	8
75W A19	19	19	19	12	13	12	12	12	12	9	9	9
	13	13	13	8	8	8	10	10	10	7	8	7
	9	9	9	6	6	6	8	8	8	6	6	6
	6	6	6	4	4	4	6	6	6	4	4	4
	5	5	5	3	3	3	4	4	4	3	3	3
	3	3	3	2	2	2	3	3	3	2	3	3
	3	3	3	2	2	2	3	3	3	2	2	2

*Note: Multipliers are provided for estimating purposes only. Use IES photometric files for precise photometric information.

Photometric Data

6" Vertical CFL Wall Wash Footcandles on Wall From Multiple Fixtures

Fixture Distance to Wall		2'						3'					
Fixture Centers (spacing)		2'		3'		3'		3'		4'			
distance from ceiling	1'	20	22	20	10	19	10	5	6	5	3	5	3
	2'	32	33	32	17	26	17	12	14	12	8	13	8
	3'	28	30	28	20	20	20	15	15	15	10	13	10
	4'	25	25	25	17	16	17	13	15	13	11	10	11
	5'	20	20	20	14	13	14	13	13	13	9	10	9
	6'	16	16	16	11	11	11	12	11	12	9	9	9
	7'	13	13	13	9	9	9	10	10	10	8	7	8
	8'	10	10	10	7	7	7	9	9	9	7	6	7
	9'	9	8	9	6	6	6	7	7	7	6	5	6

Multipliers: 32W - 1.33, Gold-0.9, Haze-0.95

3/4" MR16 Lensed Wall Wash Footcandles on Wall From Multiple Fixtures

Fixture Distance to Wall		18"			24"			18"			24"		
distance from ceiling	1'	18	16	18	15	10	15	10	9	10	8	7	8
	2'	26	24	26	21	17	21	17	16	17	13	12	13
	3'	24	23	24	18	17	18	19	19	19	15	14	15
	4'	18	18	18	14	14	14	18	18	18	13	13	13
	5'	14	14	14	10	10	10	15	15	15	11	11	11
	6'	10	10	10	8	8	8	12	12	12	9	9	9
	7'	8	8	8	6	6	6	10	10	10	7	7	7
	8'	6	6	6	5	5	5	8	8	8	6	6	6
	9'	5	5	5	4	4	4	6	6	6	5	5	5

Multipliers: 42W MR16 - 0.86, 35W MR16 - 0.72, 20W MR16 - 0.38, Gold - 0.9, Black - 0.7, Haze - 0.9

3/4" PAR16/PAR 20 Lensed Wall Wash Footcandles on Wall From Multiple Fixtures

Fixture Distance to Wall		18"			24"			18"			24"		
distance from ceiling	1'	11	9	11	9	6	9	6	5	6	5	4	5
	2'	11	11	11	9	8	9	9	9	9	7	6	7
	3'	9	9	9	7	7	7	8	8	8	6	6	6
	4'	8	8	8	6	6	6	7	7	7	5	5	5
	5'	7	7	7	5	5	5	6	6	6	5	5	5
	6'	5	5	5	4	4	4	6	6	6	4	4	4
	7'	4	4	4	3	3	3	5	5	5	4	4	4
	8'	3	3	3	3	3	3	4	4	4	3	3	3
	9'	3	3	3	2	2	2	3	3	3	2	2	2

Multipliers: 35W PAR20 - 0.89, Gold - 0.9, Black - 0.7, Haze - 0.95

5/8" PAR30 Lensed Wall Wash Footcandles on Wall From Multiple Fixtures

Fixture Distance to Wall		2'			3'			2'			3'		
distance from ceiling	1'	8	11	8	4	9	4	2	3	2	1	2	1
	2'	20	24	20	9	20	9	6	7	7	3	6	3
	3'	25	27	25	13	21	13	9	11	9	6	9	6
	4'	21	21	21	13	16	13	11	12	11	7	10	7
	5'	16	16	16	10	11	10	11	12	11	8	9	8
	6'	12	12	12	8	8	8	10	10	10	7	8	7
	7'	9	9	9	6	6	6	8	8	8	6	6	6
	8'	7	7	7	5	5	5	7	7	7	5	5	5
	9'	6	6	6	4	4	4	6	6	6	4	4	4

Multipliers: 50W PAR30HIR - 0.75, 50W PAR30H - 0.58, Gold - 0.9, Black - 0.7, Haze - 0.95

5½" PAR, Open Aperture IC62-627

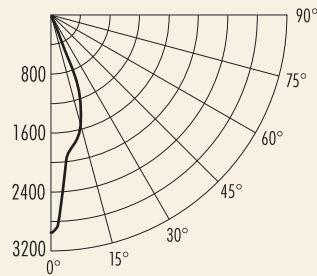
75W PAR30 FL35

Luminaire Spacing Criterion: 0.5

Total Luminaire Efficiency: 94.9%

Candlepower Distribution (candelas)

Degrees Vertical	Average
0	3169
5	2173
10	1872
15	1573
20	959
25	559
30	299
35	95
40	37
45	21
50	11
55	0
60	0
65	0
70	0
75	0
80	0
85	0
90	0



*Multipliers: 50W PAR30HIR - 0.75, 50W PAR30H - 0.58, Gold - 0.9, Haze - 0.95, Black - 0.7

Initial Footcandles

One Unit, 75W PAR30, 30° Beam

Footcandles Beam Edge	Footcandles Beam Center	Beam Diameter	Distance to Illuminated Plane (Feet)
39.8	88.0	3.2'	6
22.4	49.5	4.2'	8
14.3	31.7	5.3'	10
9.9	22.0	6.4'	12
7.3	16.2	7.4'	14
5.6	12.4	8.5'	16
4.4	9.8	9.5'	18
3.6	7.9	10.6'	20

(Beam Edge defined as 50% of Maximum Nadir Candlepower)

Average Initial Footcandles

Multiple Units (square array, 60' x 60' room)

Ceiling Spacing	80% Wall RCR1	50% Floor 20% RCR3	20% RCR5
4.0'	68	61	56
5.0'	44	39	36
6.0'	30	27	25
7.0'	25	22	20
8.0'	19	17	16
9.0'	15	13	12
10.0'	11	10	9

5½" PAR, Open Aperture TC62-627

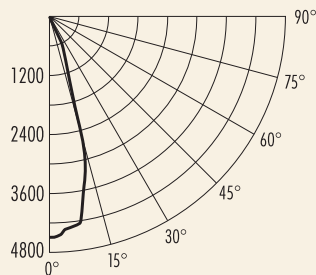
120W PAR38 FL30

Luminaire Spacing Criterion: 0.5

Total Luminaire Efficiency: 94.5%

Candlepower Distribution (candelas)

Degrees Vertical	Average
0	4433
5	4315
10	4153
15	2145
20	967
25	579
30	428
35	377
40	360
45	242
50	106
55	48
60	26
65	14
70	8
75	0
80	0
85	0
90	0



*Multipliers: 90W PAR38HIR - 0.77, 90W PAR38H - 0.68, 75W PAR38H - 0.55, 60W PAR38HIR - 0.58, 60W PAR38H - 0.47, Gold - 0.9, Black - 0.7, Haze - 0.95

Initial Footcandles

One Unit, 120W PAR38, 30° Beam

Footcandles Beam Edge	Footcandles Beam Center	Beam Diameter	Distance to Illuminated Work Plane (Feet)
55.6	123.1	3.2'	6
31.3	69.3	4.2'	8
20.0	44.3	5.3'	10
13.9	30.8	6.4'	12
10.2	22.6	7.4'	14
7.8	17.3	8.5'	16
6.2	13.7	9.5'	18
5.0	11.1	10.6'	20

(Beam Edge defined as 50% of Maximum Nadir Candlepower)

*Note: Multipliers are provided for estimating purposes only. Use IES photometric files for precise photometric information.

Average Initial Footcandles

Multiple Units (square array, 60' x 60' room)

Ceiling Spacing	80% Wall RCR1	50% Floor 20% RCR3	20% RCR5
4.0'	125	109	97
5.0'	80	70	62
6.0'	55	49	43
7.0'	45	39	35
8.0'	35	31	28
9.0'	27	24	21
10.0'	20	17	16

Photometric Data

7" PAR, Open Aperture TC973-727C

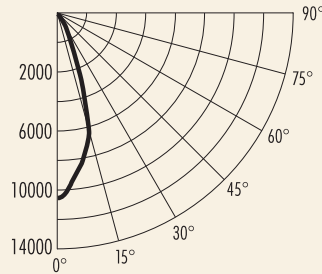
250W PAR38 FL30

Luminaire Spacing Criterion: 0.51

Total Luminaire Efficiency: 90.4%

Candlepower Distribution (candelas)

Degrees Vertical	Average
0	10811
5	9776
10	8307
15	6344
20	2911
25	918
30	315
35	151
40	91
45	55
50	7
55	3
60	1
65	0
70	0
75	0
80	0
85	0
90	0



*Multipliers: Gold - 0.9, Haze - 0.95, Black - 0.7

Initial Footcandles

One Unit, 250W PAR38, 30° Beam

Footcandles Beam Edge	Footcandles Beam Center	Beam Diameter	Distance to Illuminated Plane (Feet)
133.0	300.3	3.5'	6
74.8	168.9	4.7'	8
47.9	108.1	5.9'	10
33.3	75.1	7.0'	12
24.4	55.2	8.2'	14
18.7	42.2	9.4'	16
14.8	33.4	10.6'	18
12.0	27.0	11.7'	20

(Beam Edge defined as 50% of Maximum Nadir Candlepower)

Average Initial Footcandles

Ceiling 80% Spacing	Wall 50% RCR1	Floor 20% RCR3	RCR5
5.0'	143	130	120
6.0'	99	90	84
7.0'	80	73	68
8.0'	63	58	54
9.0'	49	44	41
10.0'	36	33	30
12.0'	25	23	21

7" CAMH PAR, Open Aperture MCTC973-100E-727

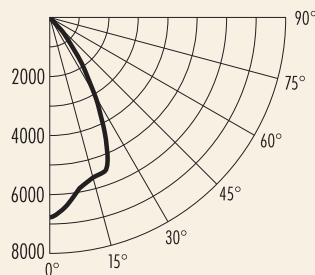
100W PAR38 WFL60

Luminaire Spacing Criterion: 0.88

Total Luminaire Efficiency: 89.0%

Candlepower Distribution (candelas)

Degrees Vertical	Average
0	6807
5	6465
10	5844
15	5669
20	5559
25	4679
30	3241
35	1977
40	858
45	247
50	91
55	9
60	4
65	3
70	0
75	0
80	0
85	0
90	0



*Multipliers: Gold - 0.9, Black - 0.7, Haze - 0.95

Initial Footcandles

One Unit, 100W PAR38, 60° Beam

Footcandles Beam Edge	Footcandles Beam Center	Beam Diameter	Distance to Illuminated Work Plane (Feet)
62.3	189.1	6.8'	6
35.0	106.4	9.1'	8
22.4	68.1	11.3'	10
15.6	47.3	13.6'	12
11.4	34.7	15.9'	14
8.8	26.6	18.1'	16
6.9	21.0	20.4'	18
5.6	17.0	22.7'	20

(Beam Edge defined as 50% of Maximum Nadir Candlepower)

*Note: Multipliers are provided for estimating purposes only. Use IES photometric files for precise photometric information.

Average Initial Footcandles

Ceiling 80% Spacing	Wall 50% RCR1	Floor 20% RCR3	RCR5
5.0'	257	224	198
6.0'	179	155	137
7.0'	145	126	111
8.0'	114	99	88
9.0'	88	76	67
10.0'	64	56	49
12.0'	45	39	34

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TC20R	43	228	46, 51, 53, 55	617	48	T5520	15
TC2R	45	229	46, 51, 53, 55	619	48	T5521	15
						T5522	15
						T5559	15



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Printed in the U.S.A. LIT-JUNO-ACULUXREC 02/05