

D3 Adjustable, Square

PRODUCT DESCRIPTION

Ketra full spectrum 3 in (76.2 mm) recessed LED downlights are available in fixed, adjustable, and wall-wash options to complete any lighting design project.

FEATURES

High Def Palette—covers a wide range of 16.7 million colors, including pastels, saturated colors and high CRI whites spanning from 1,400K to 10,000K.

Dynamic Spectrum—precisely tunes the amount of energy across the visible spectrum to produce Natural Light, Natural Dimming and Vibrancy.

TruBeam—produces uniform color across any available beam angle.

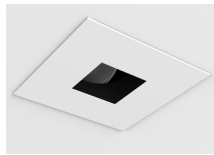
Color Lock—maintains your desired color point at a one-step MacAdam Ellipse across all Ketra product families and over each product's lifetime.

OPTIONS

Flanged



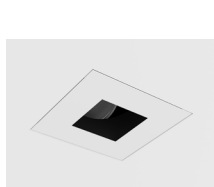
Bevel



Pinhole



Flangeless Mud-in



Pinhole

Bevel

Flangeless Millwork

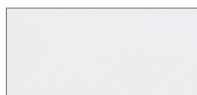


Shallow



Shallow Pinhole

Colors



White



Black



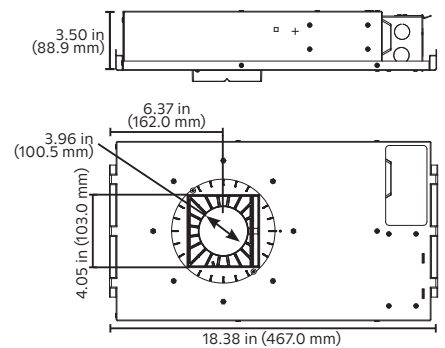
Silver



Bronze



Paintable White



SPECIFICATIONS¹

Optical Performance

Delivered Lumen Output ²				
Beam Angle (1 in [25.4 mm] recess)	9 W	13 W	18 W	Pinhole lm multiplier
15° beam, low glare	650 lm	882 lm	1092 lm	0.57
25° beam, low glare	623 lm	845 lm	1046 lm	0.48
40° beam, low glare	569 lm	772 lm	955 lm	0.61
60° beam, low glare	561 lm	760 lm	941 lm	0.60
15° beam, high output	682 lm	928 lm	1148 lm	0.62
25° beam, high output	678 lm	923 lm	1142 lm	0.48
40° beam, high output	646 lm	878 lm	1087 lm	0.54
60° beam, high output	630 lm	857 lm	1061 lm	0.55
CRI (Ra)	>90 (R9 >90)			
Lumen Maintenance ³	50,000 hours to L70 @ 25 °C T _A			
Color Point Range ⁴	1400K – 10,000K, Fully Saturated, & Pastel			
Dimming Range ⁴	0.1-100%			
Delivered Efficacy				
Beam Angle (1 in [25.4 mm] recess)	9 W	13 W	18 W	
15° beam, low glare	72 lm/W	68 lm/W	61 m/W	
25° beam, low glare	69 lm/W	65 lm/W	58 lm/W	
40° beam, low glare	63 lm/W	59 lm/W	53 lm/W	
60° beam, low glare	62 lm/W	58 lm/W	52 lm/W	
15° beam, high output	76 lm/W	71 lm/W	63 lm/W	
25° beam, high output	75 lm/W	71 lm/W	62 lm/W	
40° beam, high output	72 lm/W	68 lm/W	59 lm/W	
60° beam, high output	70 lm/W	66 lm/W	58 lm/W	
Surge Protection	2.5 KV			

Environmental

Ambient Temperature (T _A)	0 - 40 °C ⁶
Storage Temperature	-20 - 80 °C
Humidity	0 - 95%, Non-condensing
Certification	UL, cUL, 120 V~: FCC Class B, 277 V~: FCC Class A , Title 24 [JA8]*
Location	UL Damp Location, UL Wet Location (shower) available with Trim Lens
Exterior/Interior	Exterior use available for residential applications with Trim Lens
Extended Ambient Temperature	-35 - 0 °C ^{6,7}

Mechanical

Mounting Options	Hanger Bars/ Butterfly Brackets
Field Replaceable Optics	Yes
Field Replaceable Light Engine	Yes
Field Replaceable Power Supply	Yes
Additional Optic Lens	2.5 in (63.5 mm) lens, ⅛ in (3.18 mm) thick
Additional Trim Lens	2.75 in (69.85 mm) lens, ⅛ in (3.18 mm) thick
Fixture Weight	7.75 lb (3.51 kg)
Housing Material	Powder Coated Steel, Polymer
Lens Material	Glass

Dimensions

Ceiling Square Cut-out	4 in (101.6 mm) flanged; 5.5 in (139.70 mm) flangeless mud-in; 4 in (101.6 mm) flangeless millwork
Trim Outside Dimension	4.63 in (117.6 mm) flanged; 3.75 in (95.2 mm) flangeless mud-in; 4 in (101.6 mm) flangeless millwork
Trim Inside Dimension	Flanged: 2.84 in (72.14 mm) Bevel 1.97 in (50 mm) Pinhole Flangeless: 2.76 in (70.1 mm) Bevel 1.97 in (50 mm) Pinhole
Optics Outside Dimension	2.5 in (63.5 mm)
Trim Depth	1 in (25.4 mm)
Ceiling Thickness (min-max)	Flanged, flangeless mud-in: 0.625 - 1.5 in (15.8 - 38.1 mm) Flangeless millwork collar: 0.625 - 2.5 in (15.8 - 63.5 mm)
Modular Emitter/LED Module (tool-free)	0.75 in (19 mm)
Housing Vertical Adjustment via Butterfly Bracket	1.75 in (44.5 mm)
Adjustability	Tilt to 40° Full 364° Rotation
Housing Height	3.50 in (88.9 mm)
Housing Length	18.38 in (466.8 mm)
Housing Width	10 in (254 mm)

Electrical

Power Consumption	D3.09 9 W D3.13 13 W D3.18 18 W
Power Factor	>0.9
Inrush Current ⁵	800 mA, 0.2 mS duration
Voltage	120 V~ 60 Hz 277 V~ 60 Hz
Emergency Lighting	Evaluated by UL ⁸ for use in emergency lighting systems in accordance with standard UL ⁸ 924 and CSA C22.2 No. 141 when paired with the LVS™ model LUT-SHUNT-A-TD (UL ⁸ file E206507) ⁸ .

¹ All performance measurements taken with 1 in (25.4 mm) white trim, with light engine at nadir and 1 in (25.4 mm) regress, at 3000 K, 25 °C ambient, 100% power input, default vibrancy, unless otherwise stated.
² Lumen measurement complies with IES LM-79-08 testing procedures.
³ Lumen maintenance values calculated in accordance to TM-21 procedures based on LM-80 compliant measurement data.
⁴ Intensity and color point control requires compatible system.
⁵ For more information on inrush current, refer to Ketra's Inrush App Note in the Support section of our website.
⁶ Rated for direct application of spray foam with less than R-21 insulative value or 3 in (76.2 mm) of closed cell spray foam. 95 °F (35 °C) maximum ambient temperature.
⁷ Color accuracy not guaranteed in Extended Ambient Temperature range.
⁸ See Lutron Application Note 106 (P/N 048106) at www.lutron.com for wiring details. This is only applicable to CCX fixtures used in an Athena system.
^{*} All products in the D3 family are Title 24 JA8 compliant. For more information please contact customer service at ketrasales@lutron.com or 844.588.6445.

ORDERING GUIDE

Please download this PDF to use the interactive drop down features of the ordering guide.

Housing

Product Line	Fixture / Trim	Power Consumption	Control System	
Beam Angle	Region / Voltage	Housing Type	Optic Accessory	Shipping Option

Order code: _____

Product Line	Code	Beam Angle (cont.)	Code
Commercial (Athena compatible)	CM-	Spot (15°) High Output	15H
Residential (HomeWorks compatible)	HW-	Flood (25°) High Output	25H
		Wide Flood (40°) High Output	40H
		Very Wide Flood (60°) High Output	60H
Fixture / Trim		Region/Voltage	
D3 Adjustable, Square Flanged ^{1,2}	D3ADSQ	120 V~ 60 Hz, North America	11
D3 Adjustable, Square Flangeless ^{3,4,9}	D3ADSM	277 V~ 60 Hz, North America	12
D3 Adjustable, Collar Adapter Not Specified ⁸	D3ADXX	Housing Type ¹⁰	
		New Construction, IC/Airtight	NCIC
		New Construction, IC/Airtight, Flangeless Millwork Trim ³	NCIM
		New Construction, IC/Airtight, Exterior Enclosed/Covered Porch ^{5,6}	NCOC
		New Construction, IC/Airtight, Exterior Enclosed/Covered Porch, Flangeless Millwork Trim ^{5,6}	NCOM
Power Consumption		Optic Accessory ⁷ (See diagram on p. 3)	
9 W	09	None	N
13 W	13	Solite Lens	S
18 W	18	Frosted Lens	F
		Hex Louver	H
Control System		Shipping Option	
CCX (Clear Connect-Type X)	GT	Single Pack	SP
		(Default, ships with Butterfly Brackets & 24 in Hanger Bars to be installed in field)	
Beam Angle			
Spot (15°) Low Glare	15L		
Flood (25°) Low Glare	25L		
Wide Flood (40°) Low Glare	40L		
Very Wide Flood (60°) Low Glare	60L		

Trim

Product Line		
Model	Trim Finish	Trim Lens

Order code: _____

Product Line	Code
Universal	UN-
Model	Code
Flanged Trim ^{1,2}	
D3 Square Adjustable Bevel	D3TFSQ1
D3 Square Adjustable Pinhole	D3TFSPA
Flangeless Mud-In Trim ⁴	
D3 Square Adjustable Bevel	D3TXSQ1
D3 Square Adjustable Pinhole	D3TXSPA
Flangeless Millwork Trim ^{3,4}	
D3 Square Adjustable Bevel	D3TMSQ1
D3 Square Adjustable Pinhole	D3TMSPA
Trim Finish	
White	PWH
Black	PBK
Silver	PSR
Bronze	PBZ
Paintable White	CWH
Trim Lens ⁷ (See diagram on p. 3)	
None	N
Solite Lens	S
Frosted Lens	F

¹ D3 Adjustable, Square flanged fixture (D3ADSQ) can only be used with flanged trims (D3TFS--) and is compatible with NCIC/NCOC housing type, but is incompatible with NCIM/NCOM.

² Use flanged trims (D3TFS--) on wood and stone ceilings with thickness in the range of 0.625 in - 1.5 in (15.8 mm - 38.1 mm) with NCIC/NCOC housing type.

³ D3 Adjustable, Square flangeless fixture (D3ADSM) can be used with a flangeless mud-in trim (D3TXS--) with NCIC/NCOC housing type, or with a flangeless millwork trim (D3TMS--) with NCIM/NCOM housing type.

⁴ Use the flangeless millwork trims (D3TMS--) on wood and stone ceilings with thickness in the range of 0.625 in - 2.5 in (15.8 mm - 63.5 mm) with NCIM/NCOM housing type.

⁵ D3s are available for residential exterior applications only and must have a trim installed with a lens.

⁶ D3s installed outdoors must use housing type NCOC or NCOM.

⁷ Downlight is wet location rated when trim is installed with lens.

⁸ Ceiling installation cannot begin until the collar adapter is installed (see the Component Ordering Guide for details).

⁹ Millwork Trim Retainer supplied with Millwork Trim to ensure color match.

¹⁰ Rough-in housings with no electronics are available with a shorter lead time. For more information please contact customer service at 844.588.6445.

COMPONENT ORDERING GUIDE

Replacement Optics

Product Line	Accessory Type	Beam Angle
Order code: _____		

Product Line	Code
Universal Part - Recessed Downlight	UN-D3
Accessory Type	
Optic	OP
Beam Angle	
Spot (15°) Low Glare	15L
Flood (25°) Low Glare	25L
Wide Flood (40°) Low Glare	40L
Very Wide Flood (60°) Low Glare	60L
Spot (15°) High Output	15H
Flood (25°) High Output	25H
Wide Flood (40°) High Output	40H
Very Wide Flood (60°) High Output	60H

Optics Accessories

Product Line	Accessory
Order code: _____	

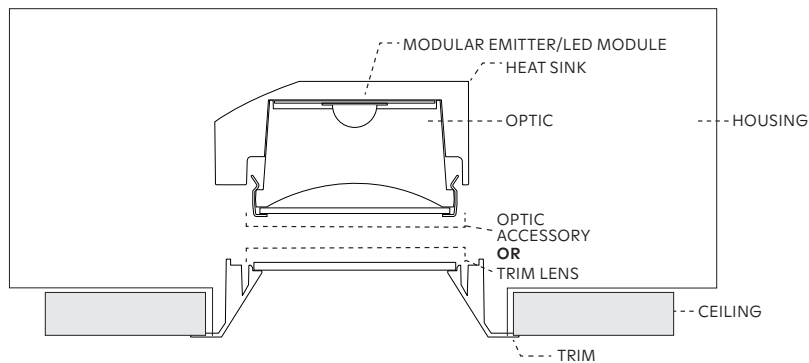
Product Line	Code
Universal Part - Recessed Downlight	UN-D3
Accessory ^{1,2,3}	
Trim Lens, Square Bevel, Solite Flanged Trims Only	TLSQFS
Trim Lens, Square Bevel, Frost Flanged Trims Only	TLSQFF
Trim Lens, Square Mud-in, Solite Mud-in Trims Only	TLSQXS
Trim Lens, Square Mud-in, Frost Mud-in Trims Only	TLSQXF
Trim Lens, Pinhole, Solite	TLPINS
Trim Lens, Pinhole, Frost	TLPINF
Optic Accessory Solite	OAS
Optic Accessory Frost	OAF
Optic Accessory Hex Louver	OAH

Mounting & Installation Kits

Product Line	Accessory	Collar Adapters
Order code: _____		

Product Line	Code
Universal Part - Recessed Downlight	UN-D3
Accessory	
(2) Butterfly brackets	MA B
(2) 24 in (609 mm) Hanger bars	MA N
Collar Adapters ⁴	
Collar Adapter, Square Flanged	CTFS
Collar Adapter, Square Flangeless Mud-in ⁵	CTXS
Collar Adapter, Square Flangeless Millwork ⁶	CTMS

COMPONENT DIAGRAM



- ¹ Downlight is wet location rated when trim is installed with lens.
- ² Only one optional optical or trim accessory can be used at a time.
- ³ Downlights with outdoor housings require a trim installed with lens.
- ⁴ Ceiling installation cannot begin until collar adapter is installed.
- ⁵ Mud-In Trim Retainer supplied with Mud-In Collar Adapter.
- ⁶ Millwork Trim Retainer supplied with Millwork Trim to ensure color match.

COMPONENT ORDERING GUIDE (cont.)

Rough-in
Housing

Order code: _____

Modular Emitter/
LED Module

Order code: _____

Power Supply

Order code: _____

Rough-in Housing	Code
Housing, No Collar	UN-D3ADXX
Housing, Flanged Square Collar	UN-D3ADFS
Housing, Mud-In Square Collar	UN-D3ADX5
Housing, Millwork Square Collar	UN-D3ADMS

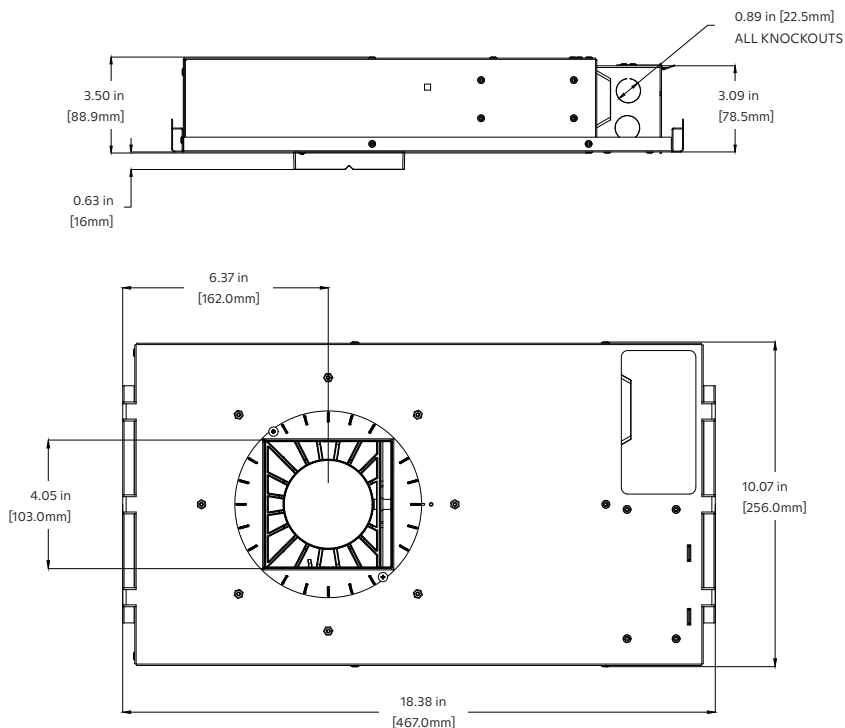
Modular Emitter/LED Module	Code
Standard (25°, 40°, 60°) Modular Emitter/LED Module	UN-D3MEMTRST
Spot (15°) Modular Emitter/ LED Module	UN-D3MEMTRSP

Power Supply	Code
Comm 9 W CCX 120 V~	CM-D3PS09GT11
Comm 9 W CCX 277 V~	CM-D3PS09GT12
Comm 13 W CCX 120 V~	CM-D3PS13GT11
Comm 13 W CCX 277 V~	CM-D3PS13GT12
Comm 18 W CCX 120 V~	CM-D3PS18GT11
Comm 13 W CCX 277 V~	CM-D3PS18GT12
Resi 9 W CCX 120 V~	HW-D3PS09GT11
Resi 9 W CCX 277 V~	HW-D3PS09GT12
Resi 13 W CCX 120 V~	HW-D3PS13GT11
Resi 13 W CCX 277 V~	HW-D3PS13GT12
Resi 18 W CCX 120 V~	HW-D3PS18GT11
Resi 13 W CCX 277 V~	HW-D3PS18GT12

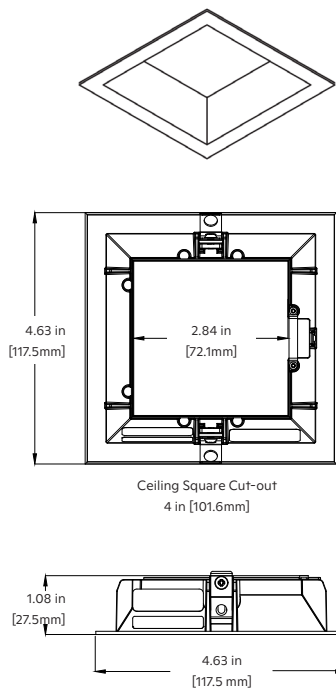
NOTE: See the Trim Ordering Guide for trim options and the Replacement Optic Section for optic options.

PRODUCT DIMENSIONS

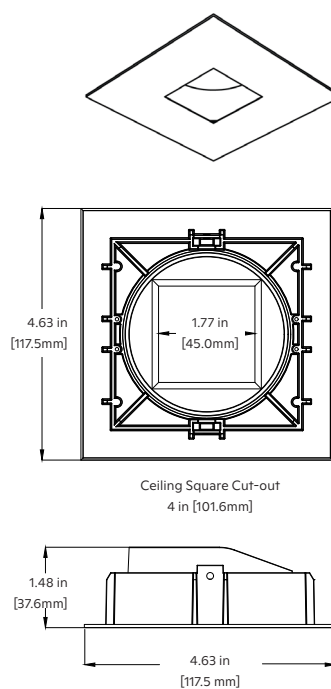
Flanged Housing



Flanged Bevel Trim

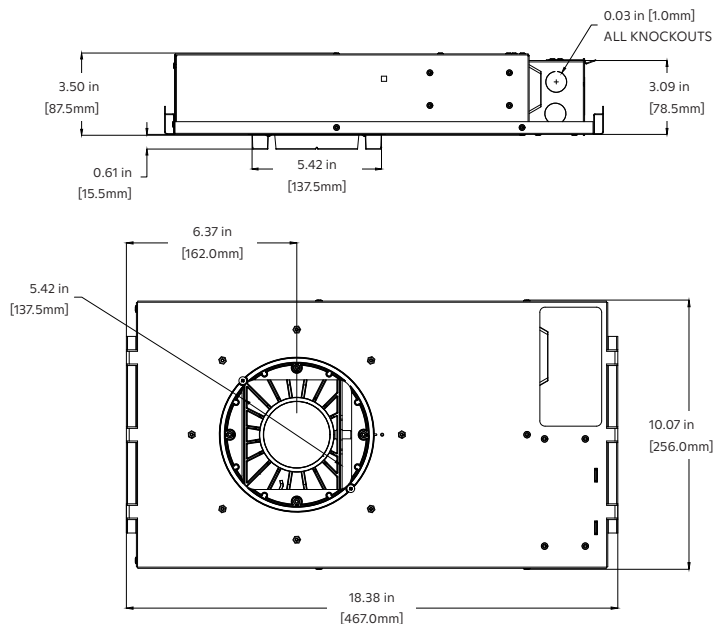


Flanged Adjustable Pinhole Trim

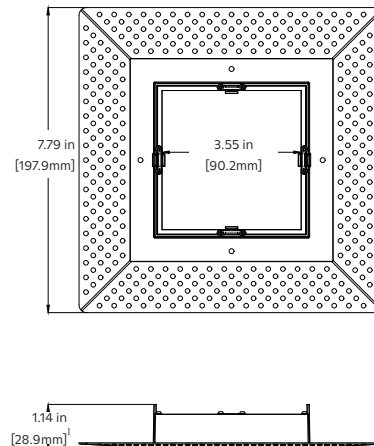


PRODUCT DIMENSIONS

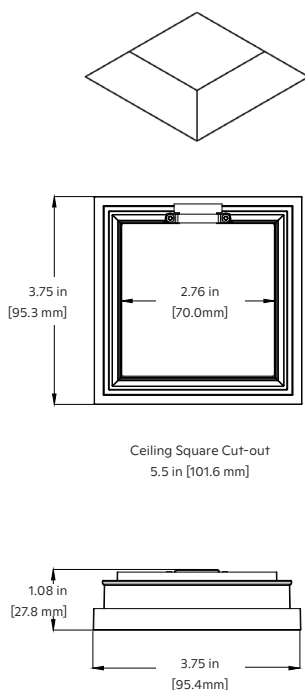
Flangeless Mud-in Housing



Flangeless Mud-in Trim Retainer

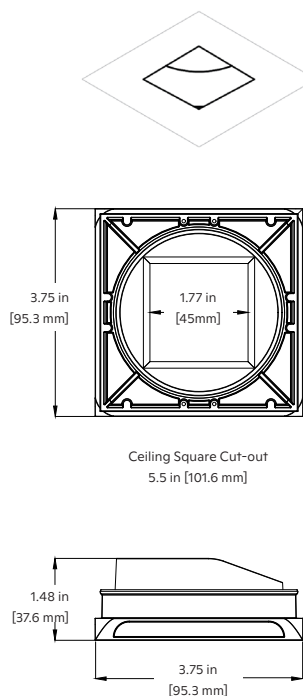


Flangeless Mud-in Bevel Trim



Ceiling Square Cut-out
5.5 in [101.6 mm]

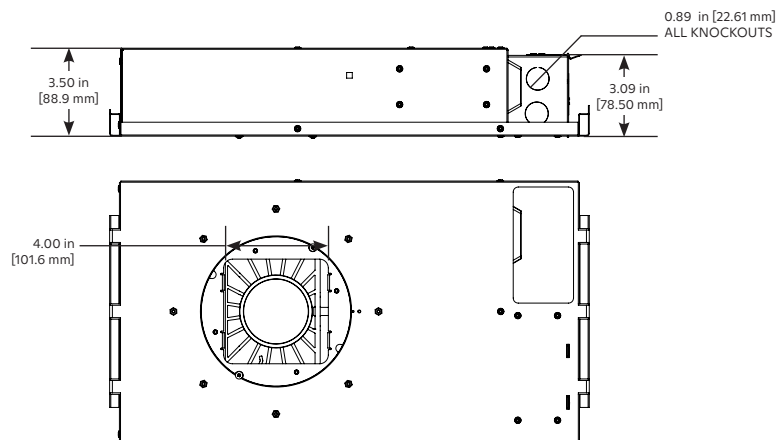
Flangeless Mud-in Adjustable Pinhole Trim



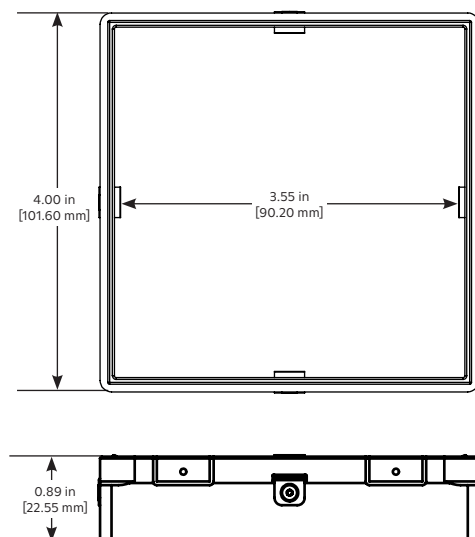
Ceiling Square Cut-out
5.5 in [101.6 mm]

PRODUCT DIMENSIONS

Flangeless Millwork Housing



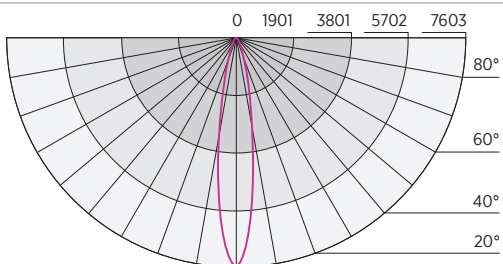
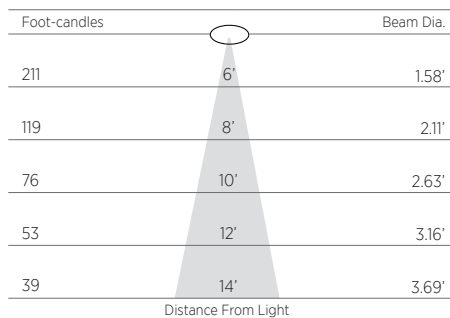
Flangeless Millwork Trim Retainer



PHOTOMETRIC DATA¹: 2700 - 5000 K VALUES ONLY, DELIVERED LUMENS

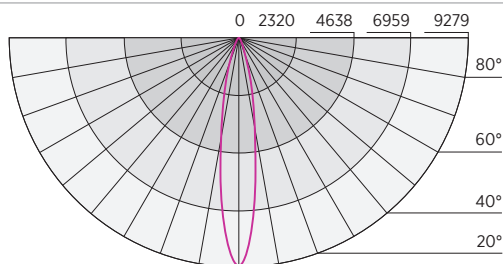
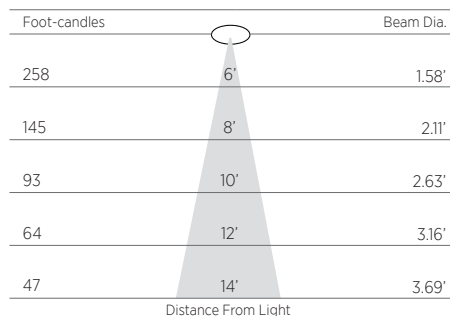
Beam Angle: 15° Spot, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT15L	18 W	1092	7603



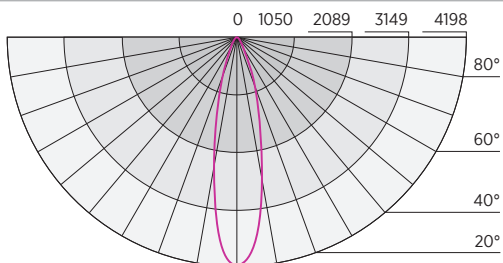
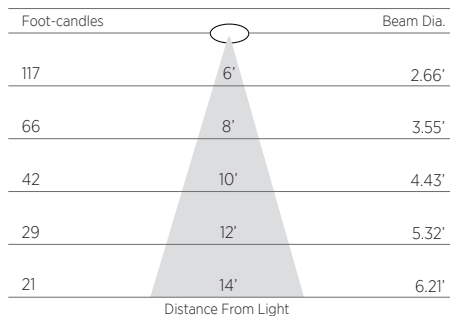
Beam Angle: 15° Spot, High Output

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT15H	18 W	1148	9279



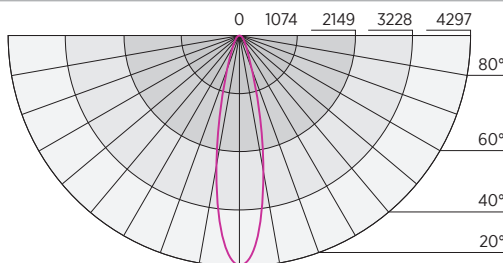
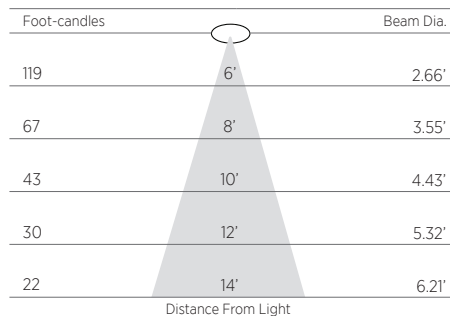
Beam Angle: 25° Spot, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT25L	18 W	1046	4198



Beam Angle: 25° Spot, High Output

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT25H	18 W	1142	4297

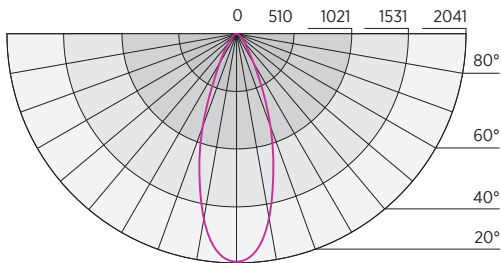
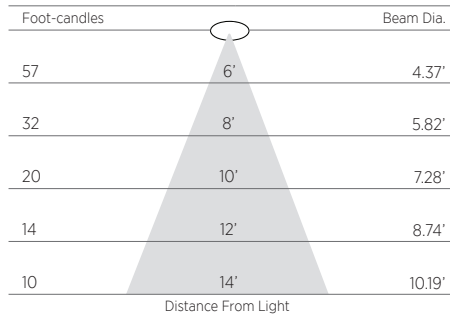


¹ All performance measurements taken with 1 in (25.4 mm) white trim, with light engine at nadir and 1 in (25.4 mm) regress, at 3000 K, 25 °C ambient, 100% power input, default vibrancy, unless otherwise stated.

PHOTOMETRIC DATA¹: 2700 - 5000 K VALUES ONLY, DELIVERED LUMENS

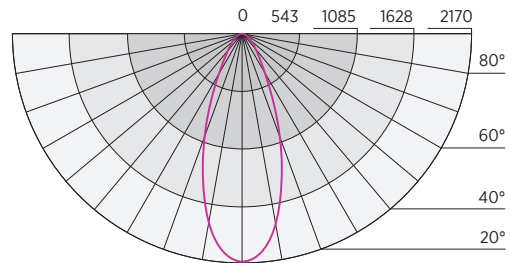
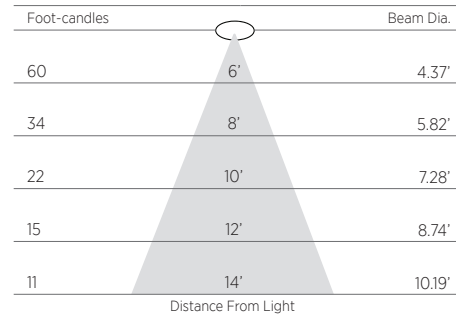
Beam Angle: 40° Wide Flood, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT40L	18 W	955	2041



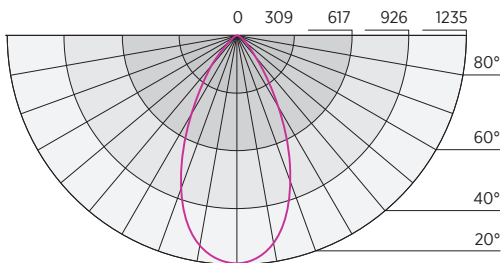
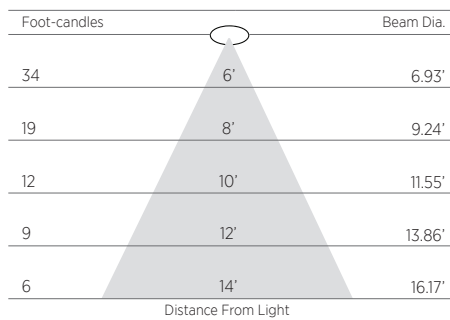
Beam Angle: 40° Wide Flood, High Output

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT40H	18 W	1087	2170



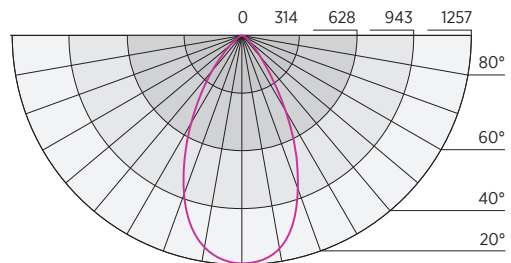
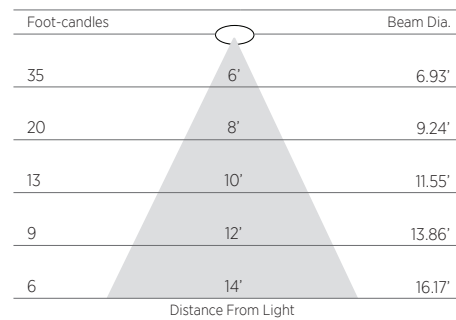
Beam Angle: 60° Very Wide Flood, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT60L	18 W	941	1235



Beam Angle: 60° Very Wide Flood, High Output

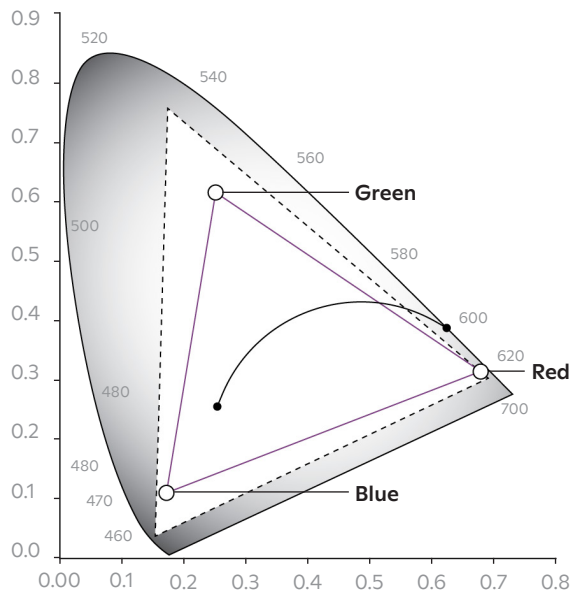
Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT60H	18 W	1061	1257



¹ All performance measurements taken with 1 in (25.4 mm) white trim, with light engine at nadir and 1 in (25.4 mm) regress, at 3000 K, 25 °C ambient, 100% power input, default vibrancy, unless otherwise stated.

WIDE GAMUT

CIE 1931 Color Chart



Ketra's D3 LED Downlight can easily be commissioned into Lutron HomeWorks or Athena systems. The product can reproduce any color point with the triangle shaped gamut indicated in the chart to the left. With Ketra's Color Lock tool, the color point is maintained to an accuracy of one-step MacAdam Ellipse over the lifetime of the product and across operating temperature ranges.

- **Color Lock**—Color point is maintained to an accuracy of one-step MacAdam Ellipse over the lifetime of the product and across operating temperature range.
- **Expanded Gamut**—Color calibration is relaxed such that each product produces the most saturated color it is capable of.

D3 General Specifications

Color Point Maintenance: Employ closed loop optical and thermal feedback capable of maintaining color point accuracy at a one-step MacAdam ellipse over product lifetime.¹

Wireless Capability: LED light source shall have an integrated wireless control on board.

Color Rendering Index (CRI): Capable of CRI greater than 90 at any point along the Black Body Curve from 2,700K to 5,000K.

Single Source Multi-Die Modular Emitter/LED Module Design: Employ a single source multi-die modular emitter/LED module consisting of both monochromatic and phosphor converted blue LED die.

LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

Warranty: Ketra's light source is warranted to be free from defects in material and workmanship for five (5) years or 25,000 hours from date of shipment, whichever is less.

Lighting System Capable of the Following Dimming Functionality:

1. Automatically mimicking natural daylight by shifting Correlated Color Temperature (CCT) and intensity based on time-of-day.
2. Shifting from high CCT at high intensity to low CCT at low intensity, mimicking dimming curve of an incandescent lamp.
3. Changing intensity while maintaining full color spectrum or CCT.
4. Changing full color spectrum or CCT while maintaining intensity.

Spectral Power Distribution Manipulation: Light system capable of manipulating the Spectral Power Distribution (SPD) by automatically adjusting distributions of color intensity while maintaining the same Correlated Color Temperature (CCT).

Dimming Range: Dimmable from 100 to 0.1 percent measured luminous flux.

Color Point Range: Single light source capable of producing 16.7 million colors and white from 1,400K to 10,000K Correlated Color Temperature (CCT).

¹ Color point maintenance not guaranteed while operating at ambient temperatures between -35 °C and 0 °C.