

D3 Adjustable, Square

The Ketra Difference:

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.

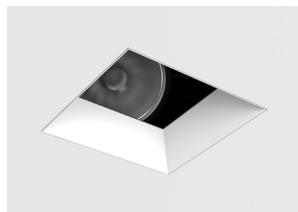
Color Lock—maintains your desired color point at a one-step MacAdam Ellipse across all Ketra product families and over each product's lifetime.

Features:

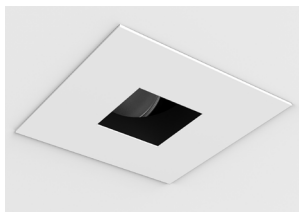
Ketra's D3 adjustable downlight features low-profile housing, wireless communication, and field-replaceable optics and electronics. With a wealth of trim and optic accessories, the D3 is ideal for a large variety of applications. The D3 family is fully Title 24 JA8 compliant and is equipped with Ketra's full suite of unique solutions.



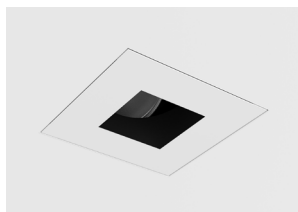
Flanged Bevel



Flangeless Mud-in Bevel



Flanged Pinhole



Flangeless Mud-in Pinhole

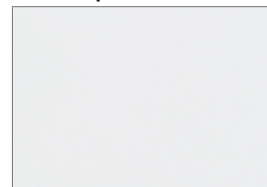


Flangeless Millwork Shallow



Flangeless Millwork Shallow Pinhole

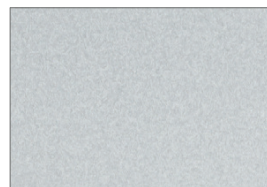
Color Options



White



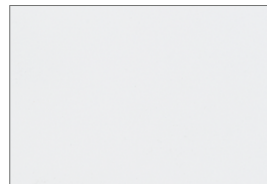
Black



Silver



Bronze



Paintable White

ORDERING GUIDE

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

Housing

Product Line	Fixture / Trim	Wattage	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, Outdoor/Patio ⁵	NCOC
		New Construction, IC/Airtight, Outdoor/Patio, Flangeless Millwork Trim ⁶	NCOM
		Optic Accessory ⁷ (See diagram on p. 3)	
		None	N
		Solite Lens	S
		Frost Lens	F
		Hex Louver	H
		Shipping Option	
		Single Pack	SP
		(Default, ships with Butterfly Brackets & 24 in Nailer Bars to be installed in field)	

Trim

Product Line		
Model	Trim Color	Trim Accessory

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 Color	
White	PWH
Black	PBK
Silver	PSR
Bronze	PBZ
Paintable White	CWH
Trim Accessory ⁷ (See diagram on p. 3)	
None	N
Solite Lens	S
Frost 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 Outdoor/Patio D3s 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.



D3 ADJUSTABLE SQUARE

P/N 3662371 Rev J

Specifications are subject to change without notice

SPECIFICATIONS¹

Optical & Electrical Performance

Delivered Lumen Output²

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 Maintenance³ 50,000 hours to L70 @ 25 °C T_A

Color Point Range⁴ 1400K – 10,000K, Fully Saturated, & Pastel

Equivalent Traditional Lamp 75 W halogen

Dimming Range⁴ 0.1-100%

Power consumption
D3.09 9 W
D3.13 13 W
D3.18 18 W

Voltage
120 V~ 60 Hz
277 V~ 60 Hz

Power Factor >0.9

Inrush Current⁵ 800 mA, 0.2 mS duration

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

Emergency Lighting
Evaluated by UL⁶ for use in emergency lighting systems in accordance with standard UL⁶ 924 and CSA C22.2 No. 141 when paired with the LVSTM model LUT-SHUNT-A-TD (UL⁶ file E206507). 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.

Environmental

Operating Temperature (T_A)

0 - 40 °C⁶

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 Available with Trim Lens

Outdoor Use

Outdoor use available with Trim Lens

Extended Operating 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, 1/8 in (3.18 mm) thick

Additional Trim Lens

2.75 in (69.85 mm) lens, 1/8 in (3.18 mm) thick

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

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)

Emitter Vertical Adjustment (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)

Unit Weight

7.75 lb (3.51 kg)

¹ All performance measurements taken with 1 in (25.4 mm) trim, with light engine at nadir at the low regress position, at 3000 K, 25 °C ambient, 100% power input, 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 operating temperature.

⁷ Color accuracy not guaranteed in Extended Operating Temperature range.

* 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.



D3 ADJUSTABLE SQUARE

P/N 3662371 Rev J

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COMPONENT ORDERING GUIDE

Replacement Optics

Product Line/Series	Accessory Type	Beam Angle
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Order code: _____

Product Line/Series	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

Accessories

Product Line/Series	Accessory
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Order code: _____

Product Line/Series	Code
Universal Part - Recessed Downlight	UN-D3
Accessory	
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

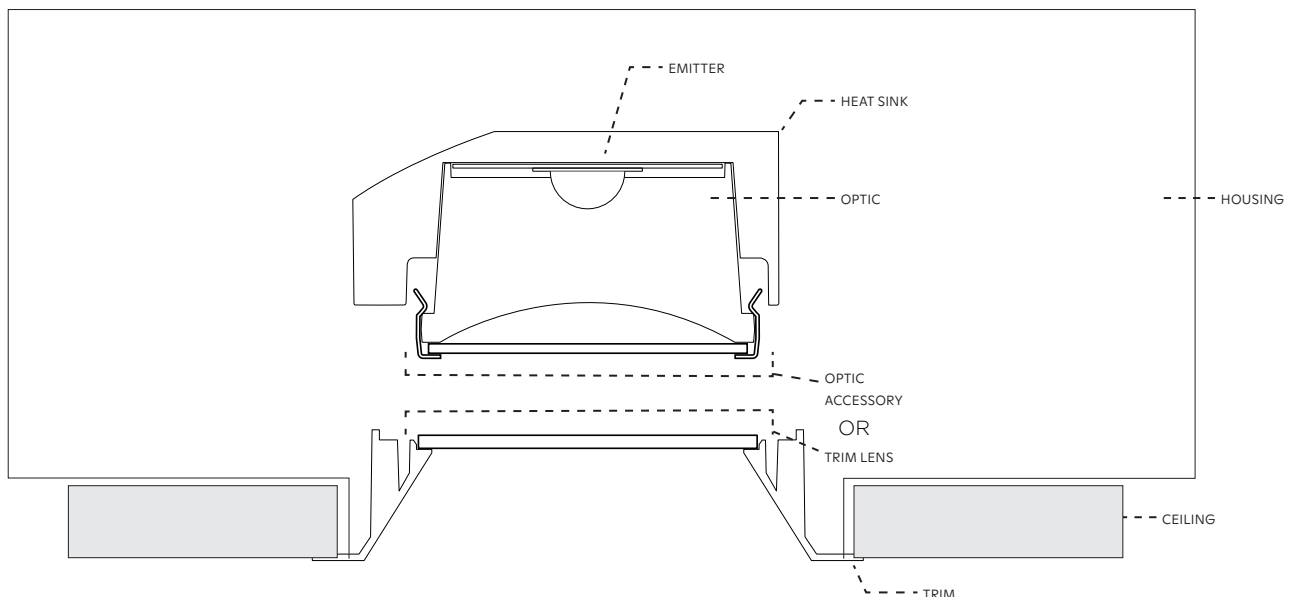
Product Line/Series	Accessory	Collar Adapters
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Order code: _____

Product Line/Series	Code
Universal Part - Recessed Downlight	UN-D3
Accessory	
(2) Butterfly brackets	MA B
(2) 24 in (609 mm) Nailer bar	MA N
Collar Adapters ¹	
Collar Adapter, Square Flanged	CTFS
Collar Adapter, Square Flangeless Mud-in ²	CTXS
Collar Adapter, Square Flangeless Millwork ³	CTMS

Note: Downlight is wet location rated when trim is installed with lens.
Note: Only one optional optical or trim accessory can be used at a time.
Note: Downlights with outdoor housings require a trim installed with lens.

LENS ACCESSORY PLACEMENT



¹ Ceiling installation cannot begin until collar adapter is installed.
² Mud-In Trim Retainer supplied with Mud-In Collar Adapter.
³ Millwork Trim Retainer supplied with Millwork Trim to ensure color match.



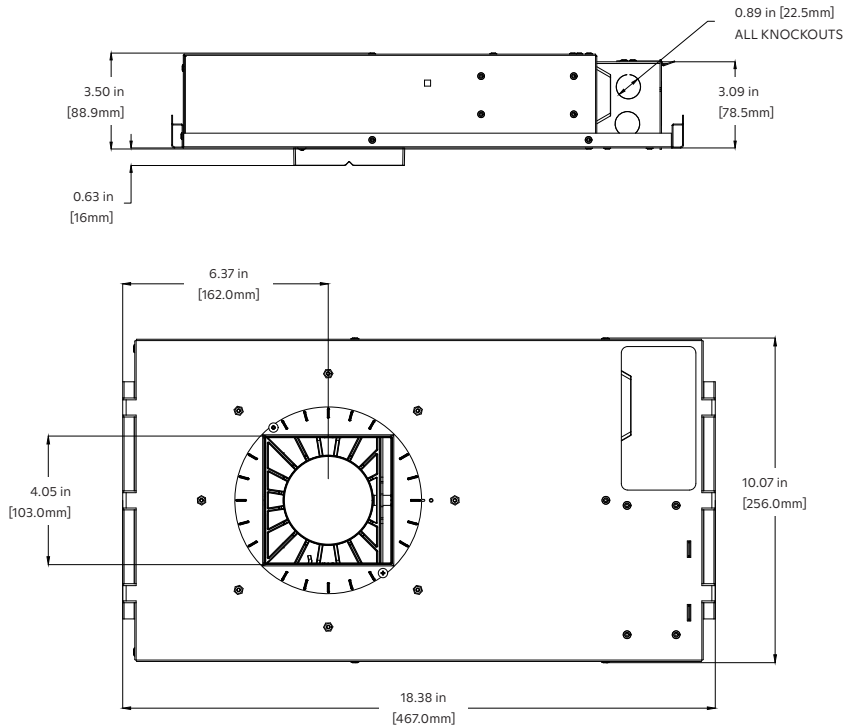
D3 ADJUSTABLE SQUARE

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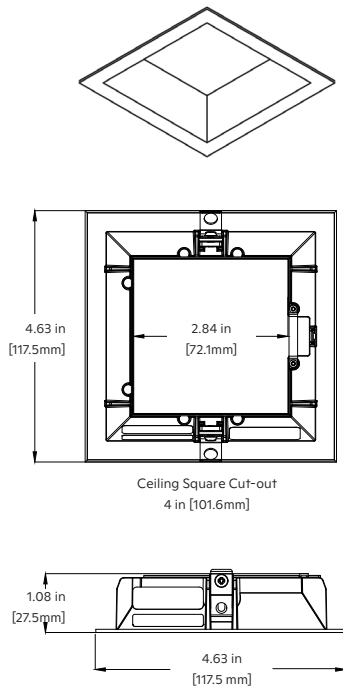
Specifications are subject to change without notice

PRODUCT DIMENSIONS

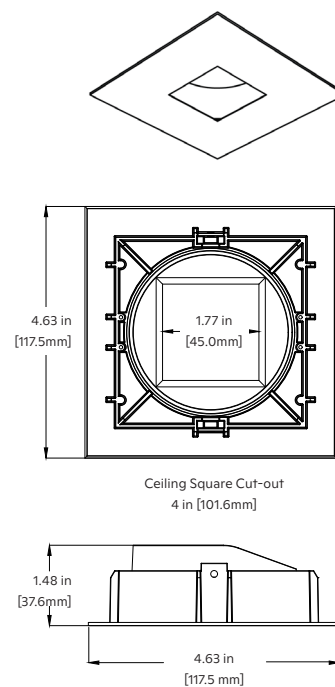
Flanged Housing



Flanged Bevel Trim



Flanged Adjustable Pinhole Trim





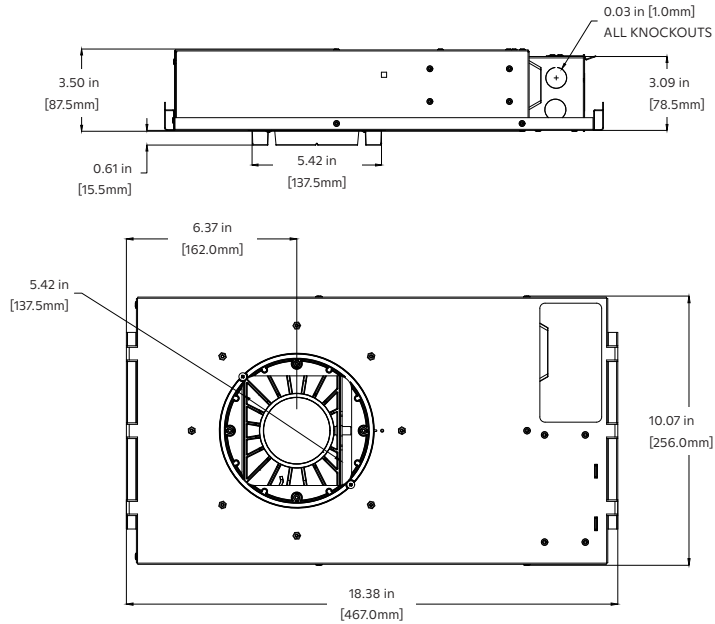
D3 ADJUSTABLE SQUARE

P/N 3662371 Rev J

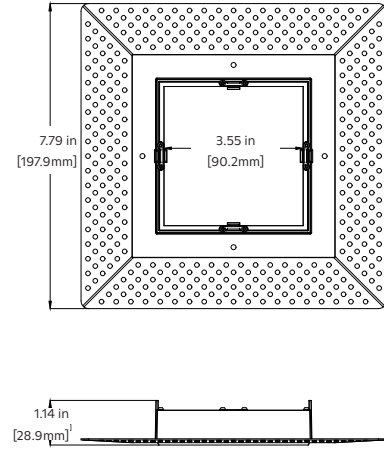
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PRODUCT DIMENSIONS

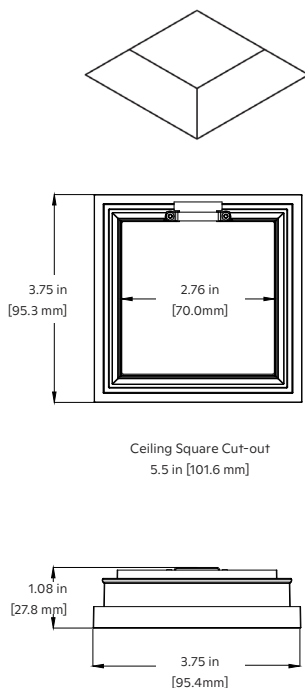
Flangeless Mud-in Housing



Flangeless Mud-in Trim Retainer

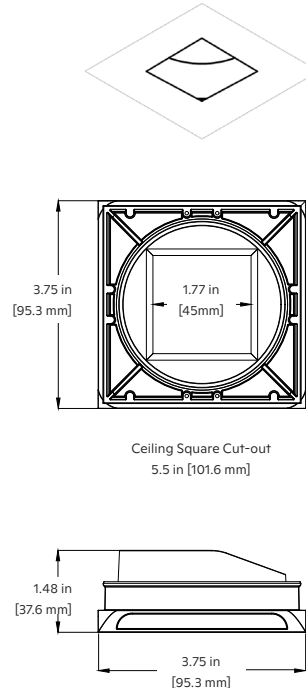


Flangeless Mud-in Bevel Trim



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]



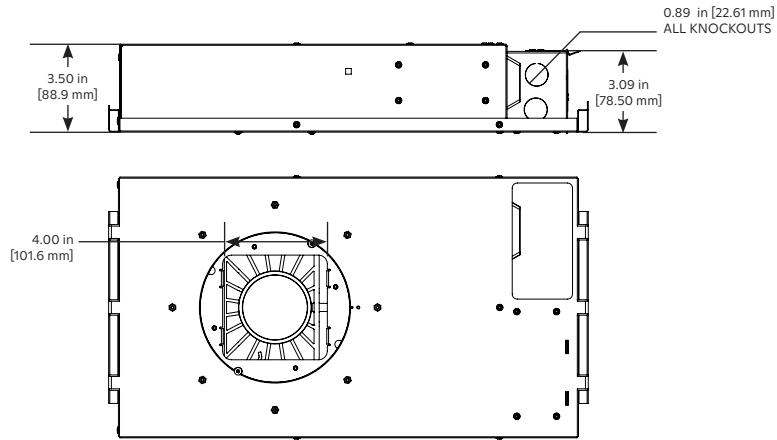
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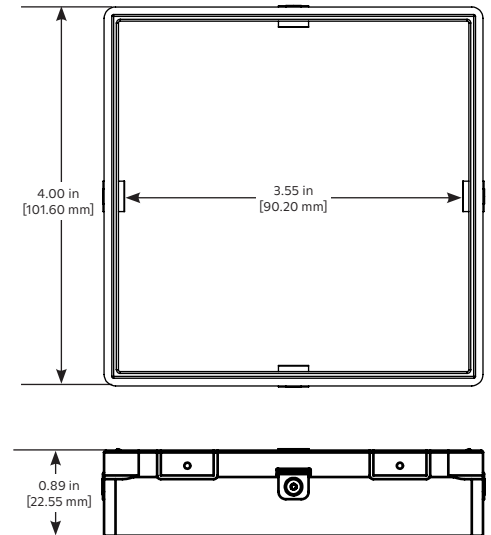
Specifications are subject to change without notice

PRODUCT DIMENSIONS

Flangeless Millwork Housing



Flangeless Millwork Trim Retainer





D3 ADJUSTABLE SQUARE

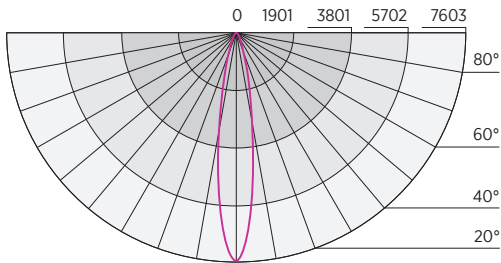
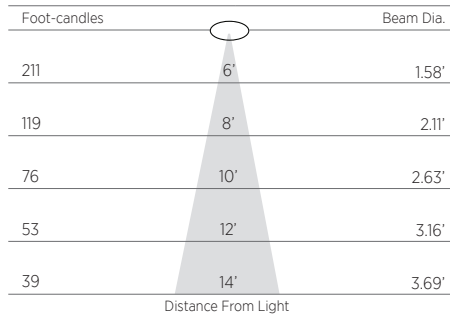
P/N 3662371 Rev J

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ISO FOOTCANDLE CHARTS: 2700 - 5000 K VALUES ONLY, DELIVERED LUMENS

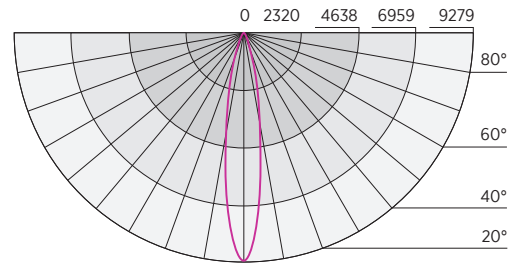
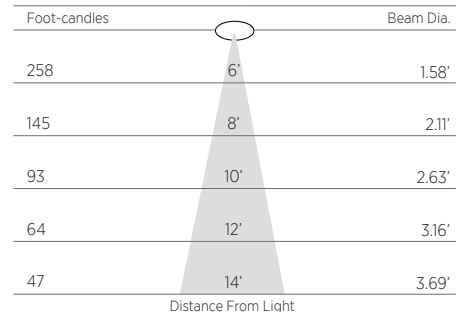
Beam Angle: 15° Spot, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT15L	18 W	1092	7603



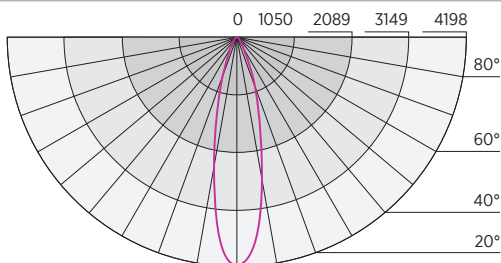
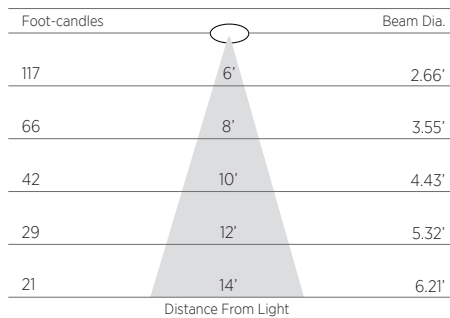
Beam Angle: 15° Spot, High Output

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT15H	18 W	1148	9279



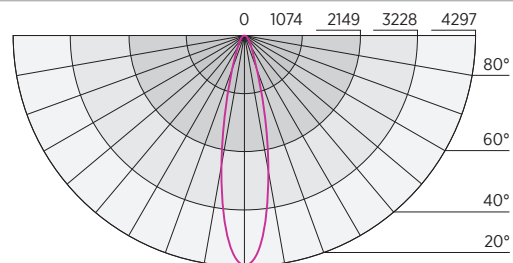
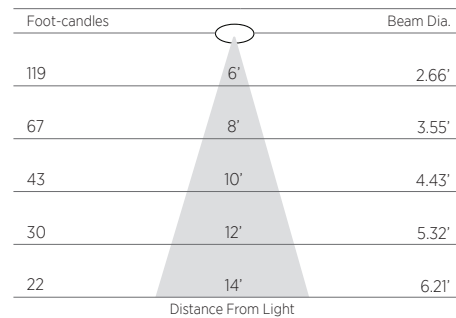
Beam Angle: 25° Spot, Low Glare

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) trim, with light engine at nadir at the low regress position, at 3000 K, 25 °C ambient, 100% power input, unless otherwise stated.



D3 ADJUSTABLE SQUARE

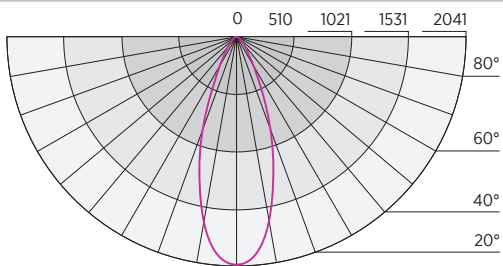
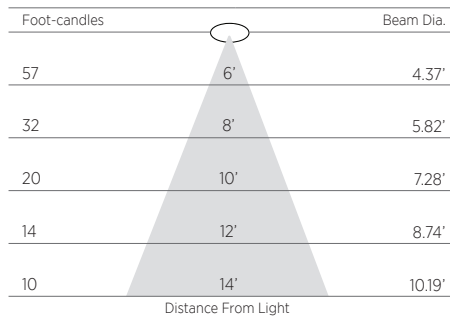
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ISO FOOTCANDLE CHARTS: 2700 - 5000 K VALUES ONLY, DELIVERED LUMENS

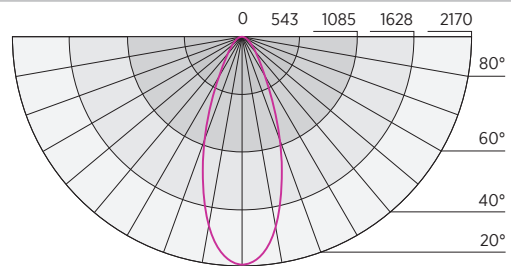
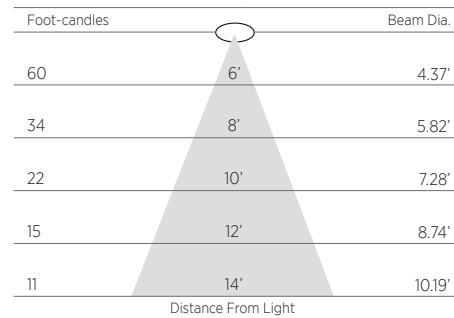
Beam Angle: 40° Wide Flood, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT40L	18 W	955	2041



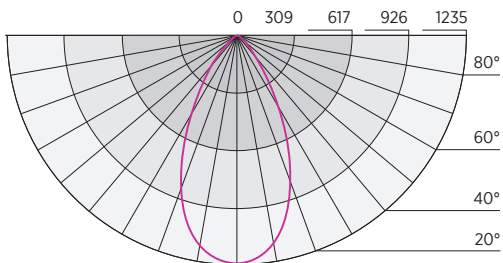
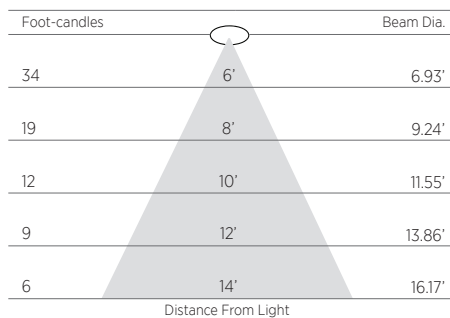
Beam Angle: 40° Wide Flood, High Output

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT40H	18 W	1087	2170



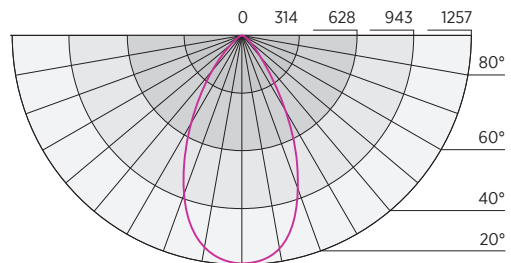
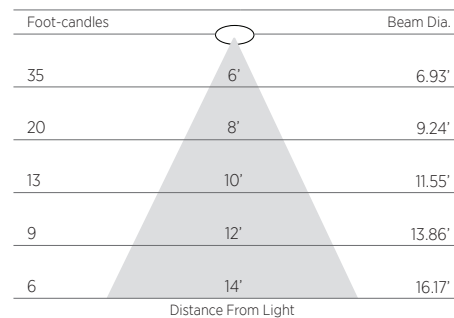
Beam Angle: 60° Very Wide Flood, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT60L	18 W	941	1235



Beam Angle: 60° Very Wide Flood, High Output

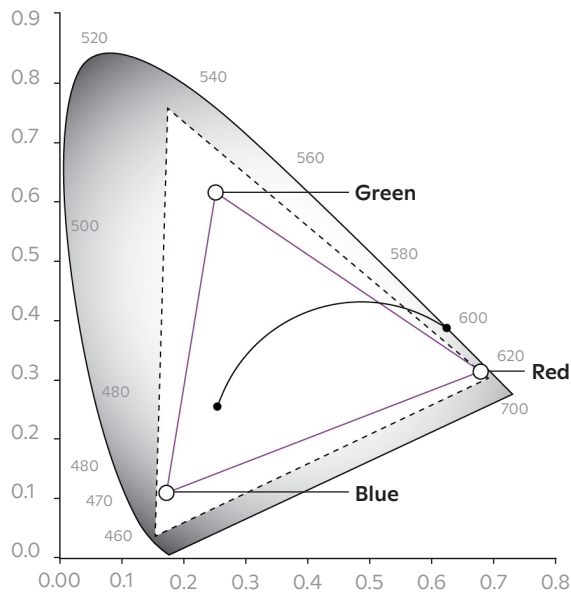
Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT60H	18 W	1061	1257





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 Emitter Design: Employ a single source multi-die emitter 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 warrantied 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.

TROUBLESHOOTING

The D3 uses built-in tests to check wiring and wireless connectivity. These tests run each time the D3 turns on, and may take several minutes.

Note: The D3 will NOT run these tests while provisioned to a Design Studio installation.

If the D3 finds a problem, it will let you know by emitting a corresponding color or, if no emitter is connected, by flashing the indicator lights on its power supply.

DIAGNOSTIC COLORS (REQUIRES EMITTER)

The D3 will emit a color to tell you the type of problem.

Product Code	Wattage	Lumens
Red	Invalid input voltage on the power line	Ensure the input voltage matches the expected voltage for the D3's model.
Magenta	Poor wireless connectivity	Ensure that the D3 is not in a metal enclosure and that there are no significant obstructions between the D3 and other Ketra devices. Note: In some circumstances, magenta is expected.
Yellow	Fair wireless connectivity	Ensure that the D3 is not in a metal enclosure and that there are no significant obstructions between the D3 and other Ketra devices.