

## 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.

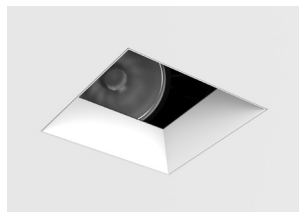
**Color Lock**—maintains your desired color point at a one-step MacAdam Ellipse across all Ketra product families and over each product’s lifetime.

### Features:

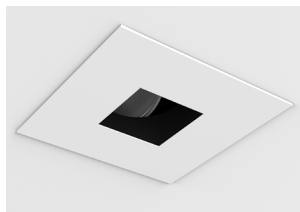
Ketra’s D3 adjustable downlight features low-profile housing, wireless communication, and field-replaceable optics and electronics. With a wealth of trim and optic accessories, the D3 is ideal for a large variety of applications. The D3 family is fully Title 24 JA8 compliant and is equipped with Ketra’s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



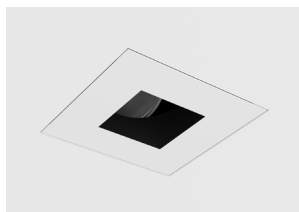
Flanged Bevel



Flangeless Mud-in Bevel



Flanged Pinhole



Flangeless Mud-in Pinhole

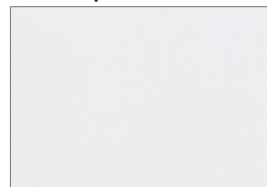


Flangeless Millwork Shallow



Flangeless Millwork Shallow Pinhole

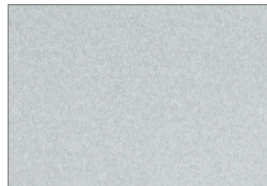
### Color Options



White



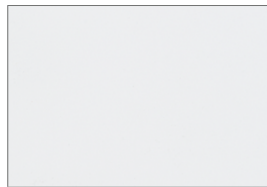
Black



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)	<b>CM-</b>	Spot (15°) High Output	<b>15H</b>
		Flood (25°) High Output	<b>25H</b>
Residential (HomeWorks compatible)	<b>HW-</b>	Wide Flood (40°) High Output	<b>40H</b>
		Very Wide Flood (60°) High Output	<b>60H</b>
Fixture / Trim		Region/Voltage	
D3 Adjustable, Square Flanged <sup>1,2</sup>	<b>D3ADSQ</b>	120 V~ 60 Hz, North America	<b>11</b>
D3 Adjustable, Square Flangeless <sup>3,4</sup>	<b>D3ADSM</b>	277 V~ 60 Hz, North America	<b>12</b>
Wattage		Housing Type	
9 W	<b>09</b>	New Construction, IC/Airtight	<b>NCIC</b>
13 W	<b>13</b>	New Construction, IC/Airtight, Flangeless Millwork Trim <sup>3</sup>	<b>NCIM</b>
18 W	<b>18</b>		
System		Optic Accessory <sup>5</sup> (See diagram on p. 3)	
KetraNet	<b>BT</b>	None	<b>N</b>
Clear Connect-Type X	<b>GT</b>	Solite Lens	<b>S</b>
		Frost Lens	<b>F</b>
		Hex Louver	<b>H</b>
Beam Angle		Shipping Option	
Spot (15°) Low Glare	<b>15L</b>	Single Pack	<b>SP</b>
Flood (25°) Low Glare	<b>25L</b>	(Default, ships with Butterfly Brackets & 24 in Nailers to be installed in field)	
Wide Flood (40°) Low Glare	<b>40L</b>		
Very Wide Flood (60°) Low Glare	<b>60L</b>		

### Trim

Product Line	Model	Trim Color	Trim Accessory
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Order code: \_\_\_\_\_

Product Line	Code
Universal	<b>UN-</b>
Model	Code
Flanged Trim <sup>1,2</sup>	
D3 Square Adjustable Bevel	<b>D3TFSQ1</b>
D3 Square Adjustable Pinhole	<b>D3TFSPA</b>
Flangeless Mud-In Trim <sup>4</sup>	
D3 Square Adjustable Bevel	<b>D3TXSQ1</b>
D3 Square Adjustable Pinhole	<b>D3TXSPA</b>
Flangeless Millwork Trim <sup>3,4</sup>	
D3 Square Adjustable Bevel	<b>D3TMSQ1</b>
D3 Square Adjustable Pinhole	<b>D3TMSPA</b>
Trim Color	
White	<b>PWH</b>
Black	<b>PBK</b>
Silver	<b>PSR</b>
Bronze	<b>PBZ</b>
Paintable White	<b>CWH</b>
Trim Accessory <sup>5,6</sup> (See diagram on p. 3)	
None	<b>N</b>
Solite Lens	<b>S</b>
Frost Lens	<b>F</b>

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

<sup>2</sup> 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 housing type.

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

<sup>4</sup> 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 housing type.

<sup>5</sup> Downlight is wet location rated when trim is installed with lens.



# D3 ADJUSTABLE SQUARE

P/N 3662371 Rev G

Specifications are subject to change without notice

## SPECIFICATIONS<sup>1</sup>

### Optical & Electrical Performance

Delivered Lumen Output <sup>2</sup>				
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 <sup>3</sup>	50,000 hours to L70 @ 25 °C T <sub>A</sub>			
Color Point Range <sup>4</sup>	1400 °K – 10,000 °K, Fully Saturated, & Pastel			
Equivalent Traditional Lamp	75 W halogen			
Dimming Range <sup>4</sup>	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 Current <sup>5</sup>	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 UL <sup>6</sup> for use in emergency lighting systems in accordance with standard UL <sup>6</sup> 924 and CSA C22.2 No. 141 when paired with the LVS <sup>TM</sup> model LUT-SHUNT-A-TD (UL <sup>6</sup> file E206507). See Lutron Application Note 106 (P/N 048106) at <a href="http://www.lutron.com">www.lutron.com</a> for wiring details. This is only applicable to CCX fixtures used in an Athena system.			

### Environmental

Operating Temperature (T <sub>A</sub> )	0 - 40 °C <sup>6</sup>
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	Not for use in outdoor applications

### 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)

<sup>1</sup> 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.

<sup>2</sup> Lumen measurement complies with IES LM-79-08 testing procedures.

<sup>3</sup> Lumen maintenance values calculated in accordance to TM-21 procedures based on LM-80 compliant measurement data.

<sup>4</sup> Intensity and color point control requires compatible system.

<sup>5</sup> For more information on inrush current, refer to Ketra's Inrush App Note in the Support section of our website.

<sup>6</sup> 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.

\* All products in the D3 family are Title 24 JA8 compliant. For more information please contact customer service at [ketrasales@lutron.com](mailto:ketrasales@lutron.com) or 844.588.6445.



### COMPONENT ORDERING GUIDE

#### Replacement Optics

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

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

#### Accessories

Product Line/Series	Accessory
Order code: _____	

Product Line/Series	Code
Universal Part - Recessed Downlight	<b>UN-D3</b>
Accessory	
Trim Lens, Square Bevel, Solite Flanged Trims Only	<b>TLSQFS</b>
Trim Lens, Square Bevel, Frost Flanged Trims Only	<b>TLSQFF</b>
Trim Lens, Square Mud-in, Solite Mud-in Trims Only	<b>TLSQXS</b>
Trim Lens, Square Mud-in, Frost Mud-in Trims Only	<b>TLSQXF</b>
Trim Lens, Pinhole, Solite	<b>TLPINS</b>
Trim Lens, Pinhole, Frost	<b>TLPINF</b>
Optic Accessory Solite	<b>OAS</b>
Optic Accessory Frost	<b>OAF</b>
Optic Accessory Hex Louver	<b>OAH</b>

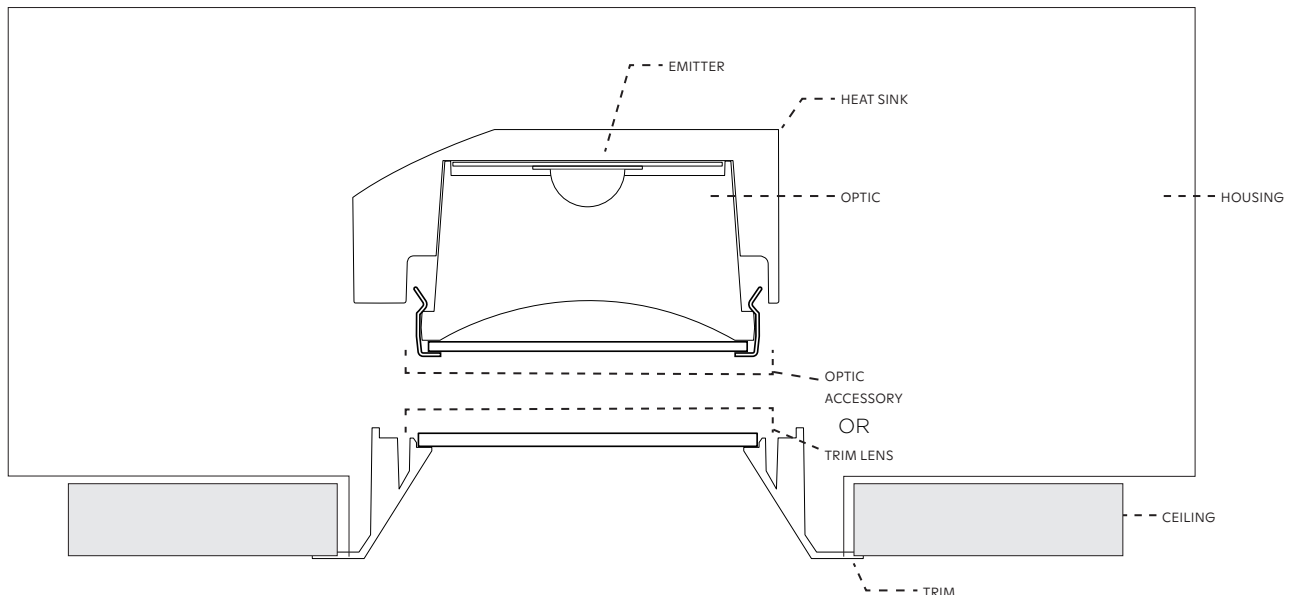
#### Mounting & Installation Kits

Product Line/Series	Accessory
Order code: _____	

Product Line/Series	Code
Universal Part - Recessed Downlight	<b>UN-D3</b>
Accessory	
( 2 ) Butterfly brackets	<b>MA B</b>
( 2 ) 24 in (609 mm) Nailer bar	<b>MA N</b>

**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.

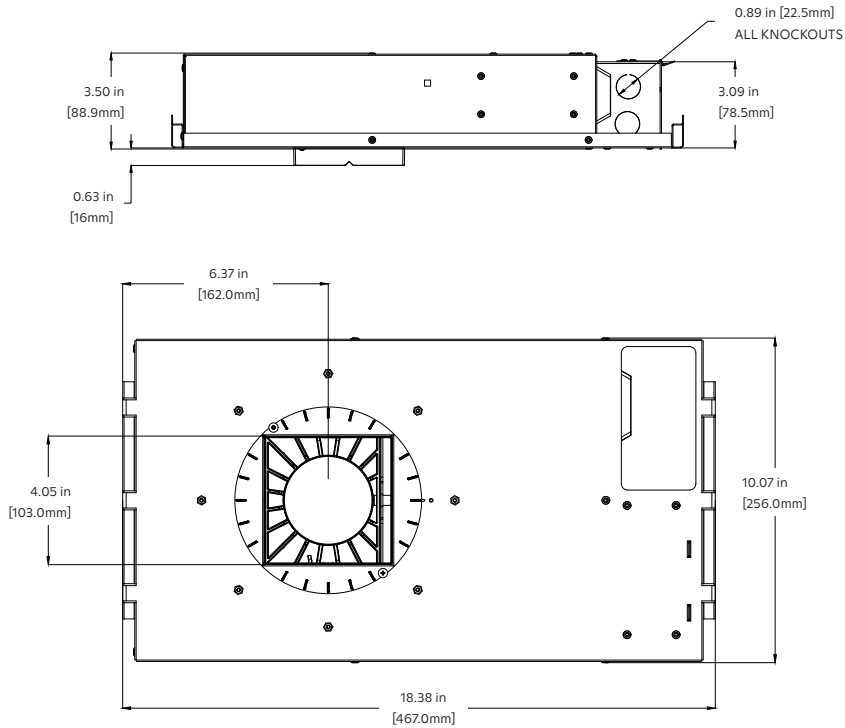
### LENS ACCESSORY PLACEMENT



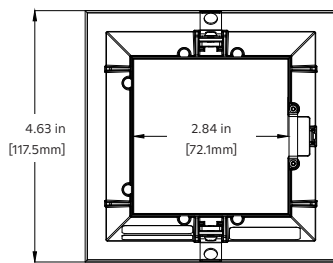
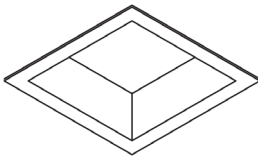


### PRODUCT DIMENSIONS

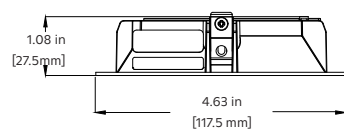
#### Flanged Housing



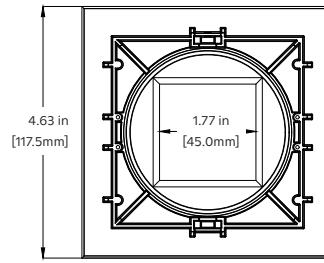
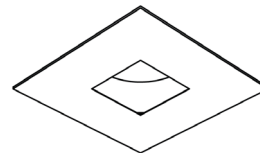
#### Flanged Bevel Trim



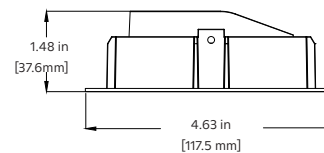
Ceiling Square Cut-out  
4 in [101.6mm]



#### Flanged Adjustable Pinhole Trim



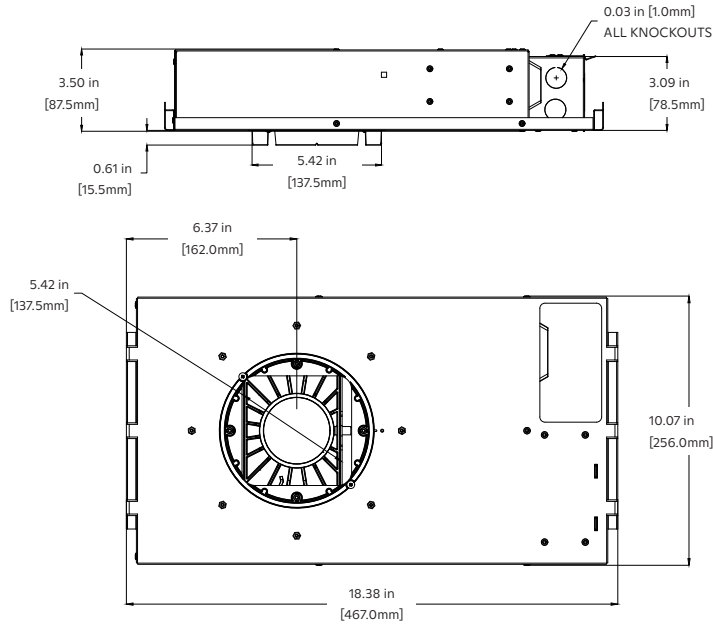
Ceiling Square Cut-out  
4 in [101.6mm]



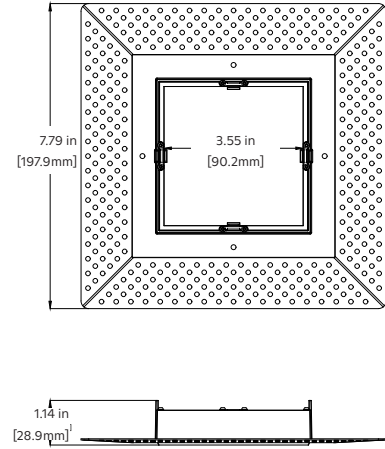


**PRODUCT DIMENSIONS**

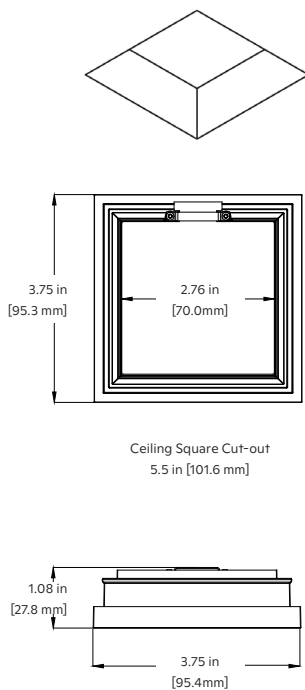
**Flangeless Mud-in Housing**



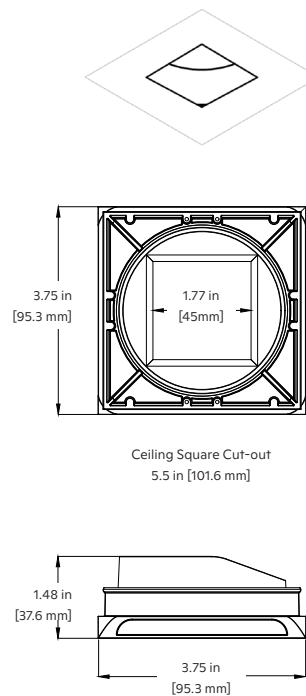
**Flangeless Mud-in Trim Retainer**



**Flangeless Mud-in Bevel Trim**



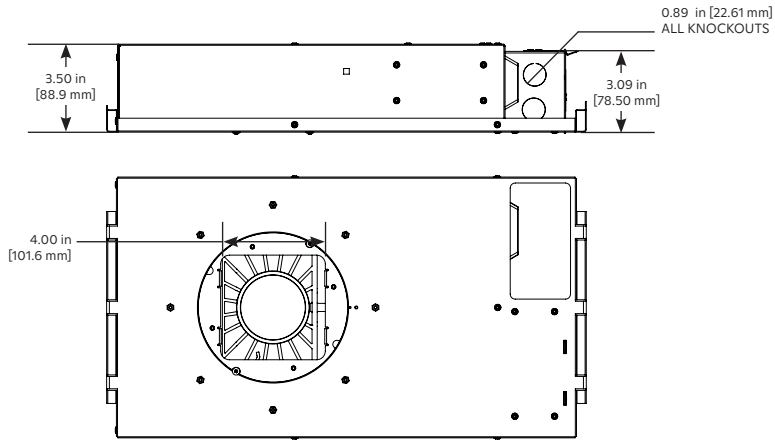
**Flangeless Mud-in Adjustable Pinhole Trim**



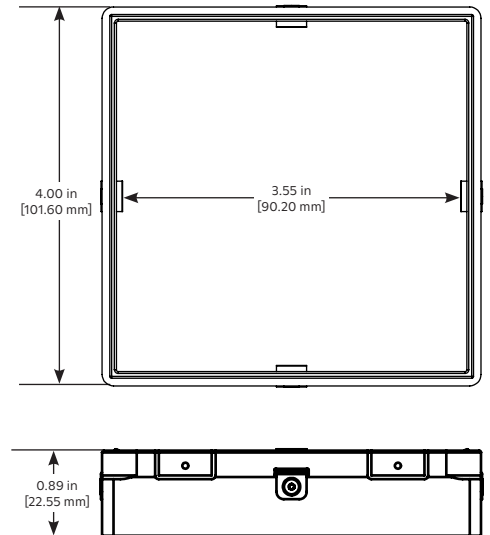


### PRODUCT DIMENSIONS

#### Flangeless Millwork Housing



#### Flangeless Millwork Trim Retainer





# D3 ADJUSTABLE SQUARE

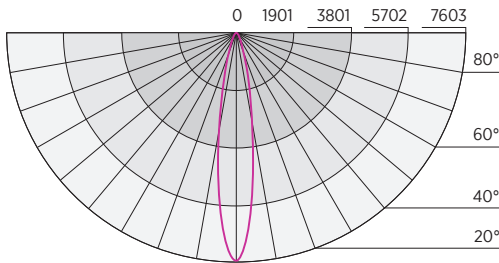
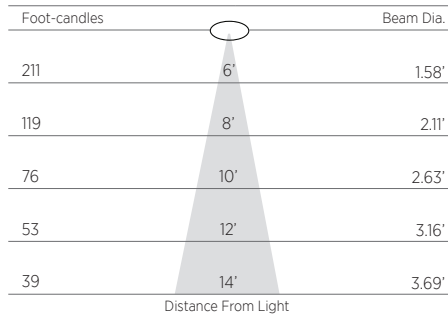
P/N 3662371 Rev G

Specifications are subject to change without notice

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

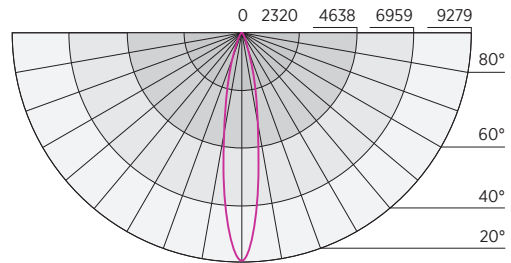
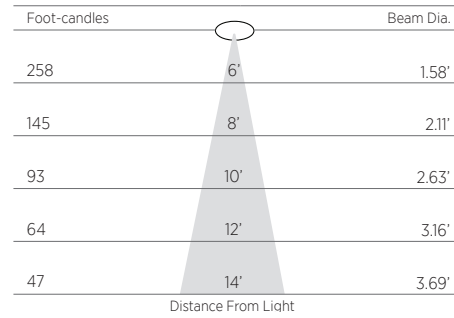
### Beam Angle: 15° Spot, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT15L	18 W	1092	7603



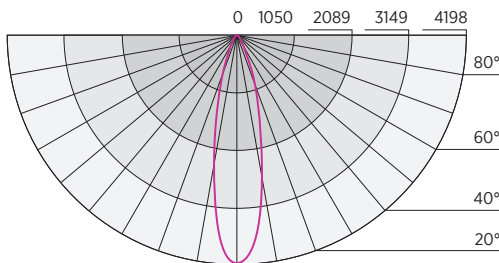
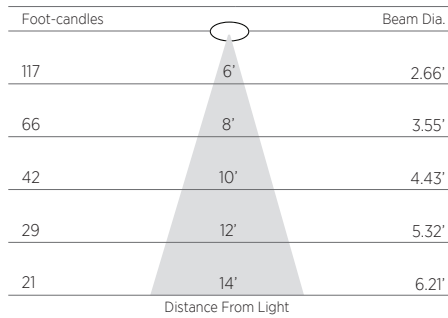
### Beam Angle: 15° Spot, High Output

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT15H	18 W	1148	9279



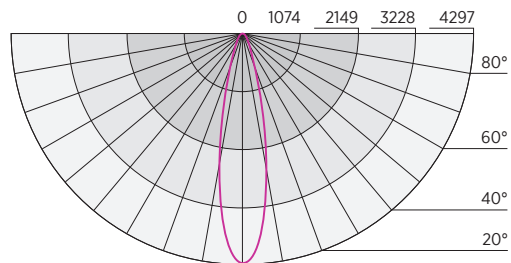
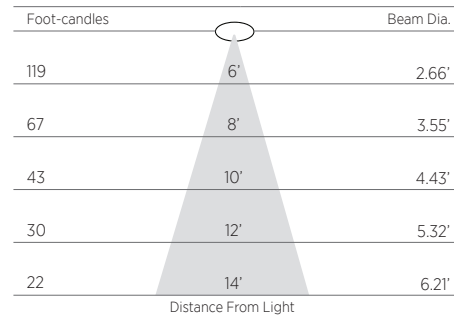
### Beam Angle: 25° Spot, Low Glare

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



<sup>1</sup> 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.

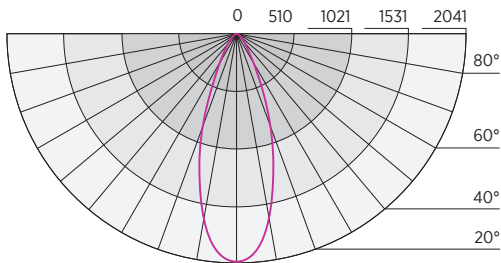
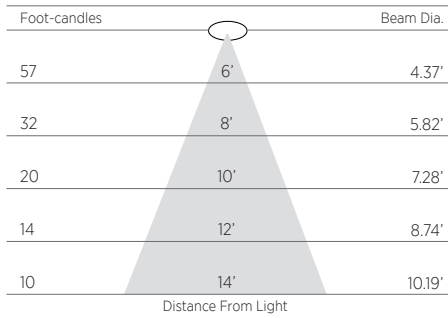




ISO FOOTCANDLE CHARTS: 2700 - 5000 K VALUES ONLY, DELIVERED LUMENS

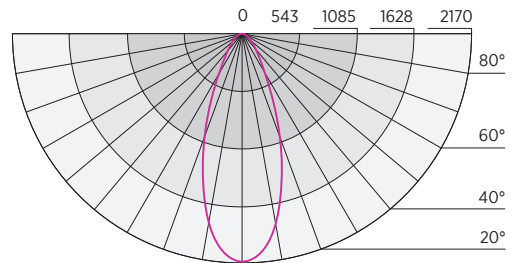
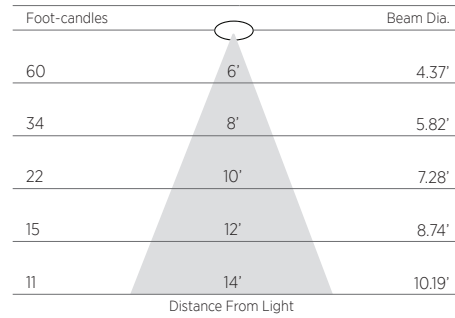
Beam Angle: 40° Wide Flood, Low Glare

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT40L	18 W	955	2041



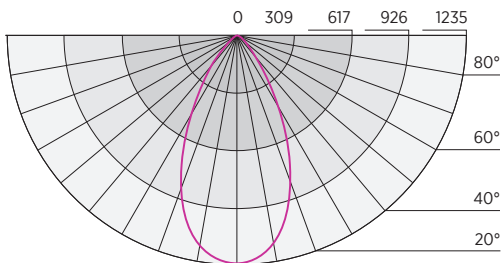
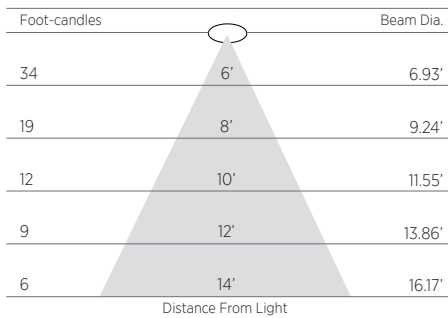
Beam Angle: 40° Wide Flood, High Output

Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT40H	18 W	1087	2170



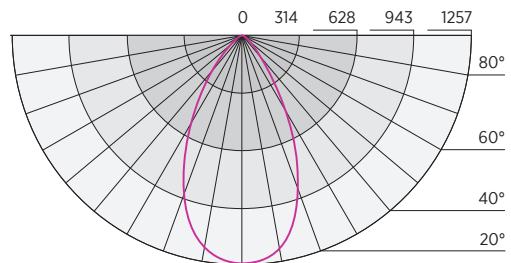
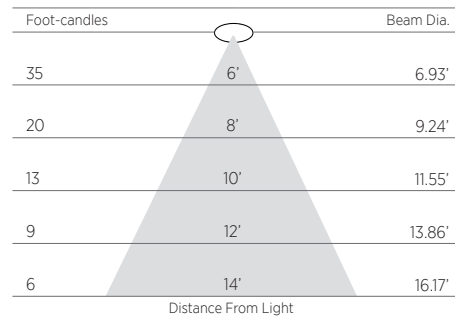
Beam Angle: 60° Very Wide Flood, Low Glare

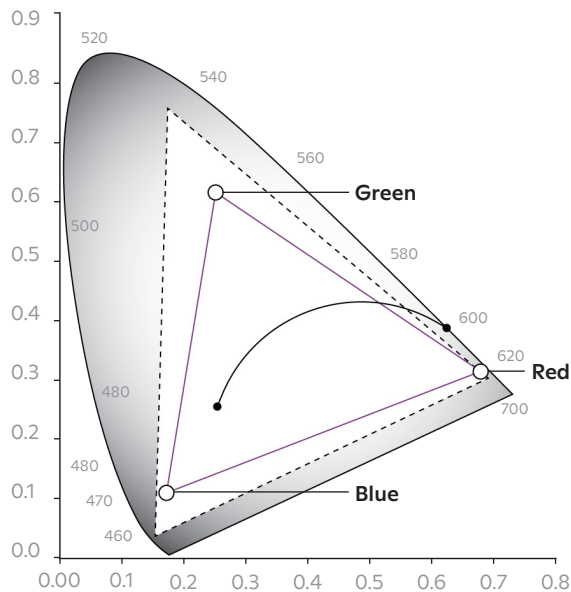
Product Code	Wattage	Lumens	CBCP
D3ADSQ18BT60L	18 W	941	1235



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.

**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-Dye Emitter Design:** Employ a single source multi-dye emitter consisting of both monochromatic and phosphor converted blue LED dye.

**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).



## 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.  <b>Note:</b> 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.