

## D3 Wall Wash, 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.

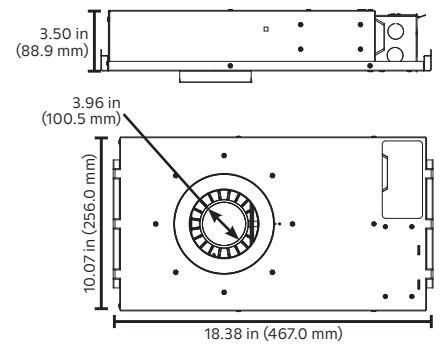
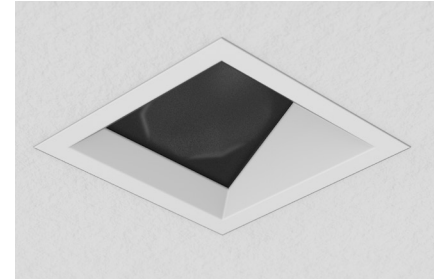
### FEATURES

**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.

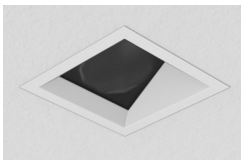
**Dynamic Spectrum**—precisely tunes the amount of energy across the visible spectrum to produce Natural Light, Natural Dimming and Vibrancy.

**TruBeam**—produces uniform color across any available beam angle.

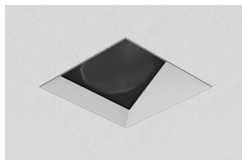
**Color Lock**—maintains your desired color point at a one-step MacAdam Ellipse across all Ketra product families and over each product’s lifetime.



### OPTIONS



Flanged

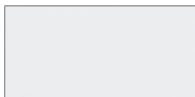


Flangeless Mud-in



Millwork Shallow

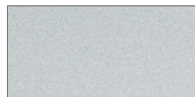
### Colors



White



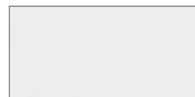
Black



Silver



Bronze



Paintable White

## SPECIFICATIONS<sup>1</sup>

### Optical Performance

Delivered Lumen Output <sup>2</sup>			
Beam Angle (1 in [25.4 mm] recess)	<b>9 W</b>	<b>13 W</b>	<b>18 W</b>
Wall Wash	<b>414 lm</b>	<b>573 lm</b>	<b>705 lm</b>
CRI (Ra)	<b>&gt;90 (R9&gt;90) 2400K-5000K TYP</b>		
Lumen Maintenance <sup>4</sup>	<b>50,000 hours to L70 @ 25°C T<sub>A</sub></b>		
Color Point Range <sup>4</sup>	<b>1400K – 10,000K, Fully Saturated, &amp; Pastel</b>		
Equivalent Traditional Lamp	<b>75 W halogen</b>		
Dimming Range <sup>4</sup>	<b>0.1 - 100%</b>		
Delivered Efficacy			
Beam Angle (1 in [25.4 mm] recess)	<b>9 W</b>	<b>13 W</b>	<b>18 W</b>
Wall Wash	<b>46 lm/W</b>	<b>44 lm/W</b>	<b>39 lm/W</b>
Surge Protection	<b>2.5 KV</b>		

### Environmental

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

### Mechanical

Mounting Options	<b>Hanger Bars/ Butterfly Brackets</b>
Field Replaceable Optics	<b>Yes</b>
Field Replaceable Light Engine	<b>Yes</b>
Field Replaceable Power Supply	<b>Yes</b>
Fixture Weight	<b>7.75 lb (3.51 kg)</b>
Housing Material	<b>Powder Coated Steel, Polymer</b>
Lens Material	<b>PMMA</b>

### Dimensions

Ceiling Square Cut-out	<b>4 in (101.6 mm) flanged; 5.5 in (139.70 mm) flangeless mud-in; 4 in (101.6 mm) flangeless millwork</b>
Trim Outside Dimension	<b>4.63 in (117.6 mm) flanged; 3.75 in (95.2 mm) flangeless mud-in; 4 in (101.6 mm) flangeless millwork</b>
Trim Thickness	<b>¼ in (1.6 mm)</b>
Optics Outside Dimension	<b>2.5 in (63.5 mm)</b>
Trim Depth	<b>1 in (25.4 mm)</b>
Ceiling Thickness (min-max)	<b>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)</b>
Adjustability	<b>Tilt Fixed at 20° 364° Rotation</b>
Service Position	<b>Tilt to 40° Full 364° Rotation</b>
Modular Emitter/LED Module (tool-free)	<b>0.75 in (19 mm)</b>
Housing Vertical Adjustment via Butterfly Bracket	<b>1.75 in (44.5 mm)</b>
Housing Height	<b>3.50 in (88.9 mm)</b>
Housing Length	<b>18.38 in (466.8 mm)</b>
Housing Width	<b>10 in (254 mm)</b>

### Electrical

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

<sup>1</sup> 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.

<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.

<sup>7</sup> Color accuracy not guaranteed in Extended Operating Temperature range.

<sup>8</sup> See Lutron Application Note 106 (P/N 048106) at [www.lutron.com](http://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](mailto: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	Shipping Option

Order code: \_\_\_\_\_

### Trim

Product Line	Model	Trim Finish	Trim Lens
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Order code: \_\_\_\_\_

Product Line	Code	Beam Angle	Code	Product Line	Code
Commercial (Athena compatible)	<b>CM-</b>	Wall Wash	<b>WW</b>	Universal	<b>UN-</b>
Residential (HomeWorks compatible)	<b>HW-</b>	<b>Region/Voltage</b>		<b>Model</b>	
		120 V~ 60 Hz, North America	<b>11</b>	D3 Square Flanged Wall Wash <sup>1,2</sup>	<b>D3TFSW1</b>
		277 V~ 60 Hz, North America	<b>12</b>	D3 Square Flangeless Mud-In Wall Wash <sup>4</sup>	<b>D3TXSW1</b>
<b>Fixture / Trim</b>		<b>Housing Type</b>		D3 Square Flangeless Millwork Wall Wash <sup>3,4</sup>	<b>D3TMSW1</b>
D3 Wall Wash, Square Flanged <sup>1,2</sup>	<b>D3WWSQ</b>	New Construction, IC/Airtight	<b>NCIC</b>	<b>Trim Finish</b>	
D3 Wall Wash, Square Flangeless <sup>3,4,9</sup>	<b>D3WWSM</b>	New Construction, IC/Airtight, Flangeless Millwork Trim <sup>3</sup>	<b>NCIM</b>	White	<b>PWH</b>
D3 Wall Wash, Collar Adapter Not Specified <sup>8</sup>	<b>D3WWXX</b>	New Construction, IC/Airtight, Exterior Enclosed/Covered Porch <sup>5,6</sup>	<b>NCOC</b>	Black	<b>PBK</b>
<b>Power Consumption</b>		New Construction, IC/Airtight, Exterior Enclosed/Covered Porch, Flangeless Millwork Trim <sup>5,6</sup>	<b>NCOM</b>	Silver	<b>PSR</b>
9 W	<b>09</b>			Bronze	<b>PBZ</b>
13 W	<b>13</b>			Paintable White	<b>CWH</b>
18 W	<b>18</b>			<b>Trim Lens<sup>7</sup></b>	
<b>Control System</b>		<b>Shipping Option</b>		Wall Wash	<b>W</b>
CCX (Clear Connect-Type X)	<b>GT</b>	Single Pack	<b>SP</b>		
		(Default, ships with Butterfly Brackets & 24 in Hanger Bars to be installed in field)			

- <sup>1</sup> D3 Wall Wash, Square flanged fixture (D3WWSQ) can only be used with flanged trims (D3TFSW1) and is compatible with NCIC/NCOC housing type, but is incompatible with NCIM/NCOM.
- <sup>2</sup> Use flanged trims (D3TFSW1) 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.
- <sup>3</sup> D3 Wall Wash, Square flangeless fixture (D3WWSM) can be used with a flangeless mud-in trim (D3TXSW1) with NCIC/NCOC housing type, or with a flangeless millwork trim (D3TMSW1) with NCIM/NCOM housing type.
- <sup>4</sup> Use the flangeless millwork trims (D3TMSW1) 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.
- <sup>5</sup> D3s are available for residential exterior applications only and must have a trim installed with a lens.
- <sup>6</sup> D3s installed outdoors must use housing type NCOC or NCOM.
- <sup>7</sup> Downlight is wet location rated when trim is installed with lens.
- <sup>8</sup> Ceiling installation cannot begin until the collar adapter is installed (see the Component Ordering Guide for details).
- <sup>9</sup> Millwork Trim Retainer supplied with Millwork Trim to ensure color match.

## COMPONENT ORDERING GUIDE

### Replacement Optics

Product Line	Accessory Type	Beam Angle
Order code: _____		

Product Line	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>

### Optics Accessories

Product Line	Accessory
Order code: _____	

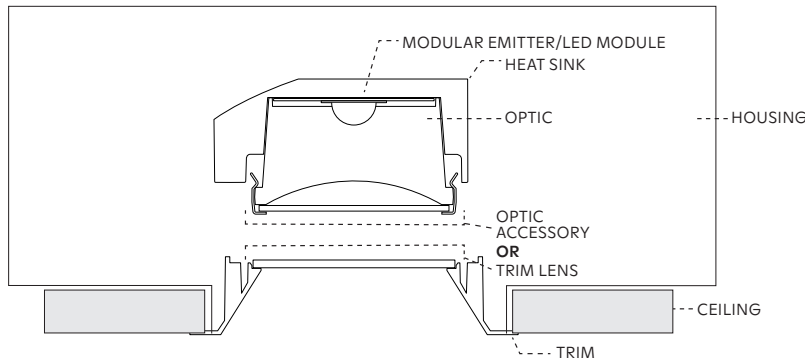
Product Line	Code
Universal Part - Recessed Downlight	<b>UN-D3</b>
Accessory <sup>1,2,3</sup>	
Trim Lens, Round Bevel, Solite Flanged Trims Only	<b>TLRDFS</b>
Trim Lens, Round Bevel, Frost Flanged Trims Only	<b>TLRDFE</b>
Trim Lens, Round Mud-In, Solite Mud-in Trims Only	<b>TLRDXS</b>
Trim Lens, Round Mud-In, Frost Mud-in Trims Only	<b>TLRDXF</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	Accessory	Collar Adapters
Order code: _____		

Product Line	Code
Universal Part - Recessed Downlight	<b>UN-D3</b>
Accessory	
(2) Butterfly brackets	<b>MA B</b>
(2) 24 in (609 mm) Hanger bars	<b>MA N</b>
Collar Adapters <sup>4</sup>	
Collar Adapter, Round Flanged	<b>CTFR</b>
Collar Adapter, Round Flangeless Mud-in <sup>5</sup>	<b>CTXR</b>
Collar Adapter, Round Flangeless Millwork <sup>6</sup>	<b>CTMR</b>

## COMPONENT DIAGRAM



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

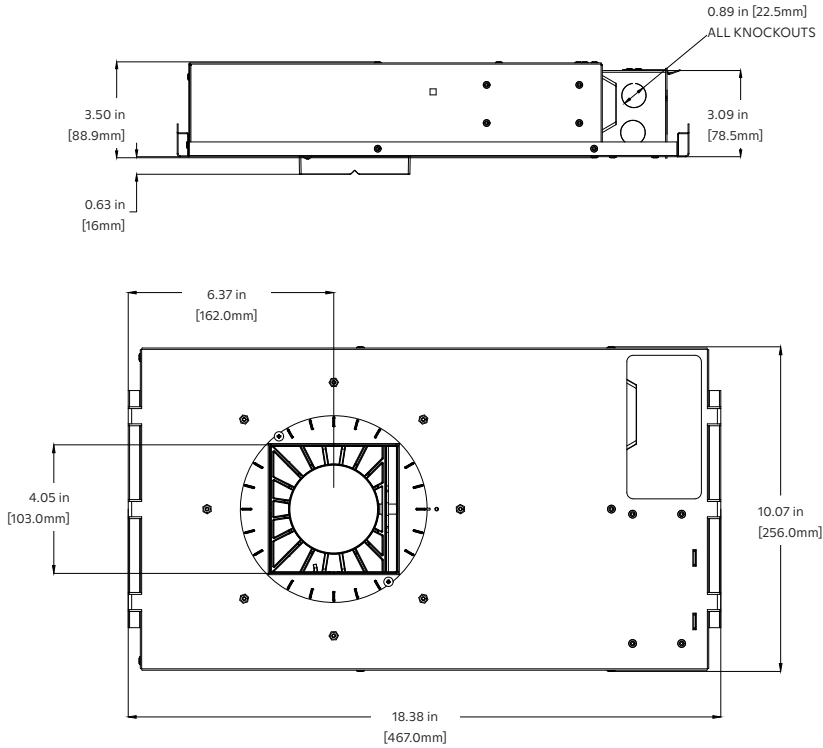
<b>Rough-in Housing</b>	<b>Code</b>
Housing, No Collar	<b>UN-D3ADXX</b>
Housing, Flanged Square Collar	<b>UN-D3ADFS</b>
Housing, Mud-In Square Collar	<b>UN-D3ADXS</b>
Housing, Millwork Square Collar	<b>UN-D3ADMS</b>

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

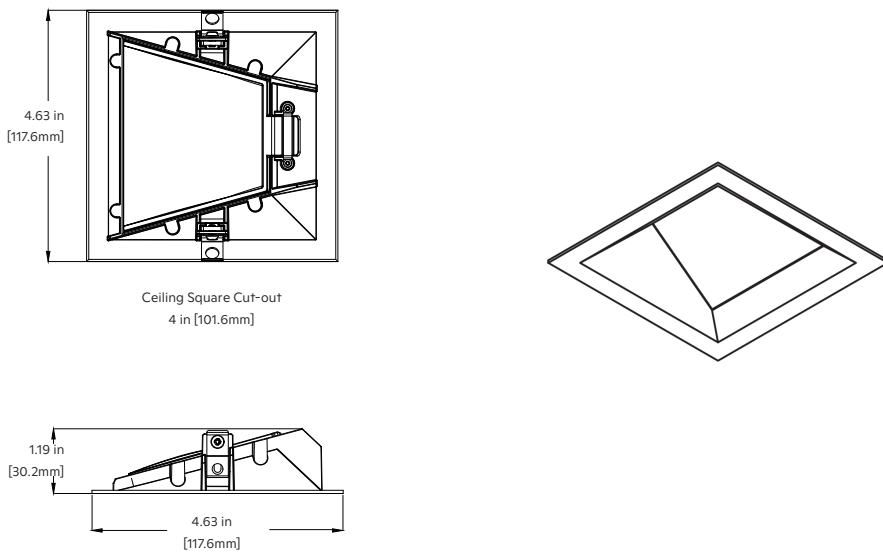
<b>Power Supply</b>	<b>Code</b>
Comm 9 W CCX 120 V~	<b>CM-D3PS09GT11</b>
Comm 9 W CCX 277 V~	<b>CM-D3PS09GT12</b>
Comm 13 W CCX 120 V~	<b>CM-D3PS13GT11</b>
Comm 13 W CCX 277 V~	<b>CM-D3PS13GT12</b>
Comm 18 W CCX 120 V~	<b>CM-D3PS18GT11</b>
Comm 13 W CCX 277 V~	<b>CM-D3PS18GT12</b>
Resi 9 W CCX 120 V~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

## PRODUCT DIMENSIONS

### Flanged Housing

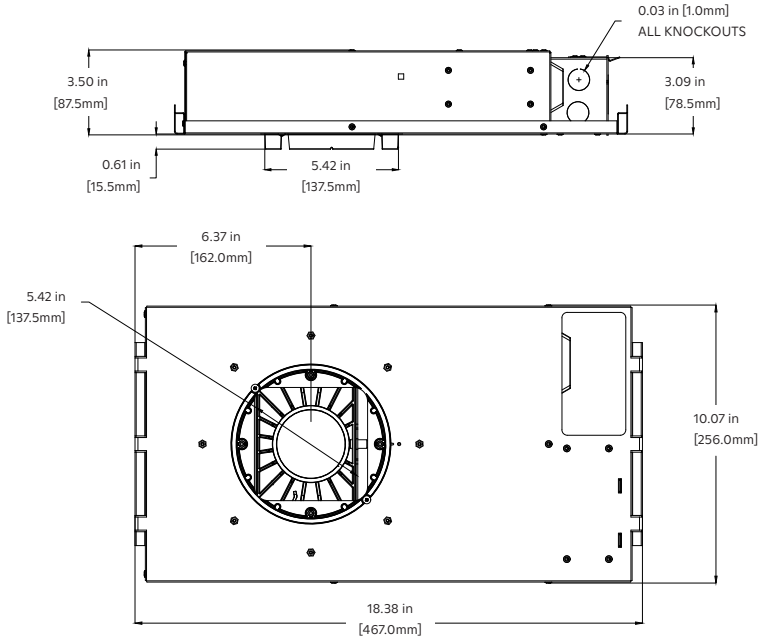


### Flanged Trim

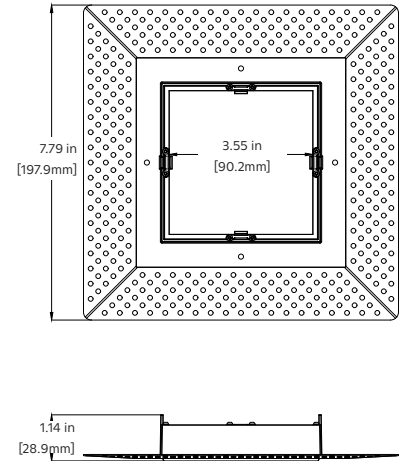


**PRODUCT DIMENSIONS**

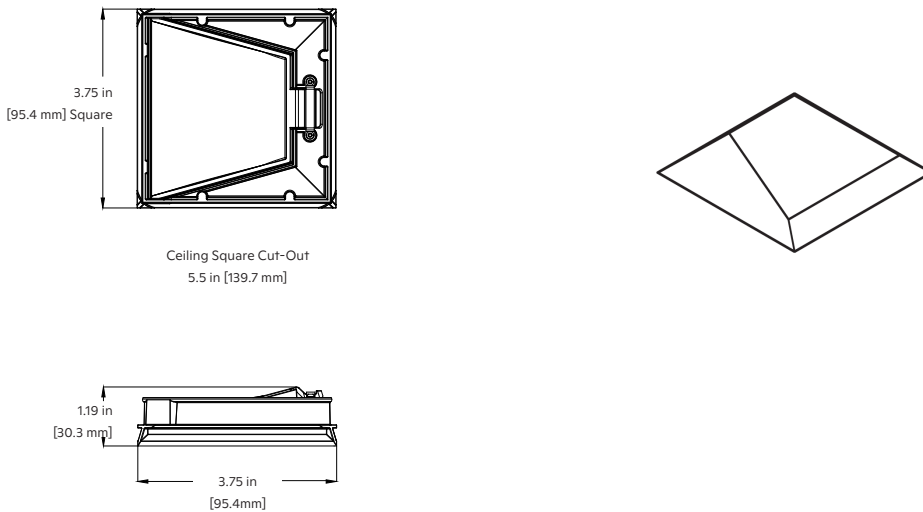
**Flangeless Mud-in Housing**



**Flangeless Mud-in Trim Retainer**

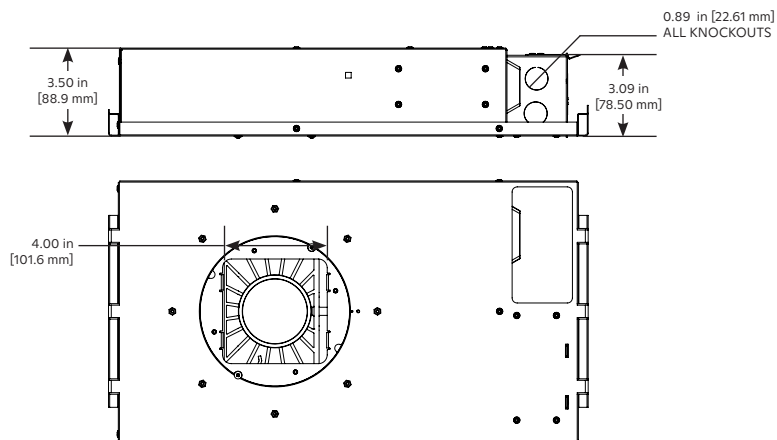


**Flangeless Mud-in Trim**

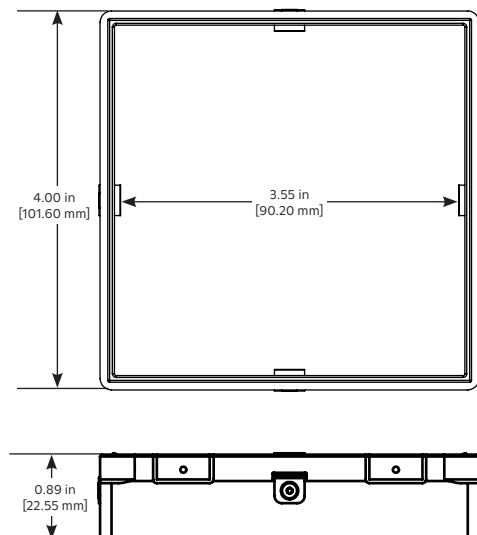


## PRODUCT DIMENSIONS

### Flangeless Millwork Housing



### Flangeless Millwork Trim Retainer

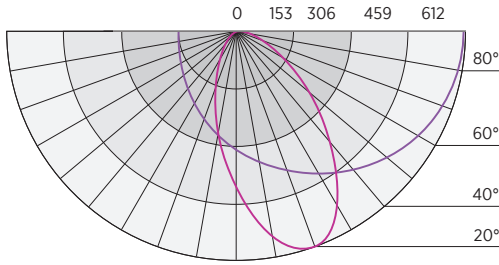




**PHOTOMETRIC DATA: 2700 - 5000K VALUES ONLY, DELIVERED LUMENS**

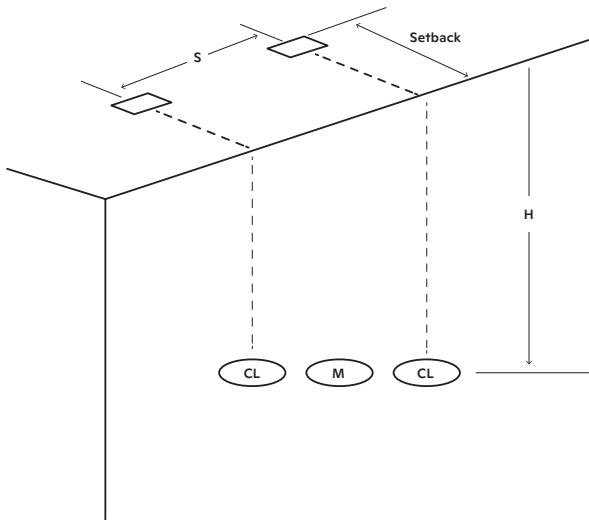
**Beam Angle: Wall Wash**

Product Code	Wattage	Lumens
D3WWSQ18BTWW	18 W	705



- 1 Vertical plane through horizontal angles (0-180) (through max. cd.)
- 2 Horizontal cone through vertical angle (20) (through max. cd.)

**MULTIPLE UNITS DIAGRAM**



**2 ft from wall 2 ft on Center (S) 3 ft on Center (S) 4 ft on Center (S) ("Setback")**

Distance from Ceiling (H)	CL	M	CL	CL	M	CL	CL	M	CL
1 ft (0.305 m)	30	29	30	21	20	21	17	14	17
2 ft (0.609 m)	42	43	43	30	30	30	24	21	24
3 ft (0.914 m)	43	45	43	32	31	31	25	23	25
4 ft (1.219 m)	35	36	36	26	26	25	20	20	20
5 ft (1.524 m)	25	26	27	20	19	19	15	15	15
6 ft (1.828 m)	18	19	20	15	15	14	12	12	11
7 ft (2.133 m)	14	14	15	11	11	11	9	9	9
8 ft (2.438 m)	10	11	11	9	9	9	7	7	7
9 ft (2.743 m)	8	9	9	7	7	7	6	6	6
10 ft (3.048 m)	7	7	7	6	6	6	5	5	5

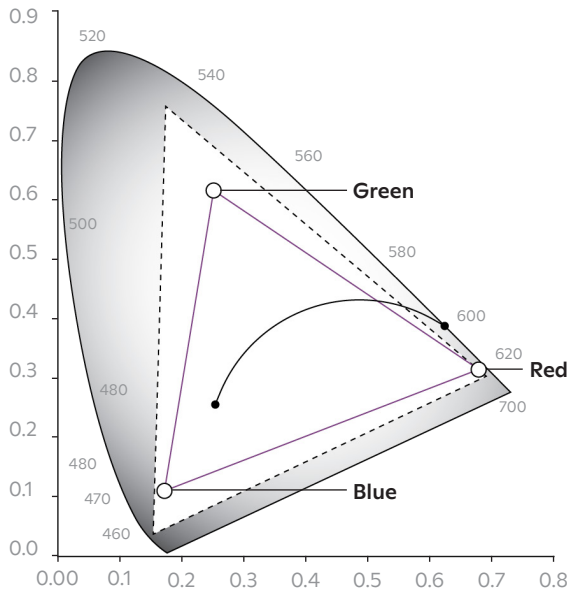
**3 ft from wall 2 ft on Center (S) 3 ft on Center (S) 4 ft on Center (S) ("Setback")**

Distance from Ceiling (H)	CL	M	CL	CL	M	CL	CL	M	CL
1 ft (0.305 m)	14	15	15	11	11	11	9	8	9
2 ft (0.609 m)	24	25	25	18	18	18	14	13	14
3 ft (0.914 m)	30	31	31	22	23	23	18	16	18
4 ft (1.219 m)	29	30	31	22	23	23	18	16	18
5 ft (1.524 m)	25	26	26	19	20	20	16	14	16
6 ft (1.828 m)	20	21	21	16	16	17	13	12	13
7 ft (2.133 m)	16	17	17	13	14	14	11	10	11
8 ft (2.438 m)	13	14	14	11	11	11	9	8	9
9 ft (2.743 m)	11	11	11	9	10	10	8	7	8
10 ft (3.048 m)	9	9	9	8	8	8	7	6	7

<sup>1</sup> Calculated with five luminaires. Reflectances: 80, 50, 20.  
<sup>2</sup> Values are rounded to the nearest footcandle.

## 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.<sup>1</sup>

**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).

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