

D3 Wall Wash, 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.

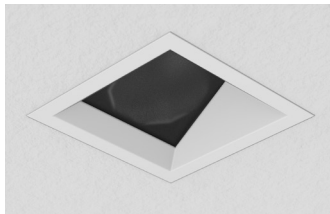
Dynamic Spectrum—precisely tunes the amount of energy across the visible spectrum to produce Natural Light, Natural Dimming and Vibrancy.

TruBeam—produces uniform color across any available beam angle.

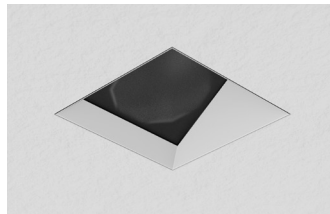
Color Lock—maintains your desired color point at a one-step MacAdam Ellipse across all Ketra product families and over each product's lifetime.

Features:

Ketra's D3 wall wash 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

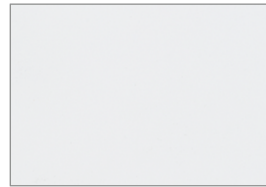


Mud-in



Millwork Shallow

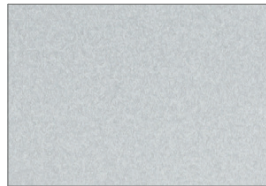
Color Options



White



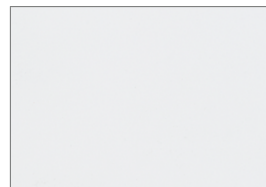
Black



Silver



Bronze



Paintable White



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D3 WALL WASH SQUARE

P/N 3662373 Rev I

Specifications are subject to change without notice

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	Shipping Option

Order code: _____

Trim

Product Line		
Model	Trim Color	Trim Accessory

Order code: _____

Product Line	Code	Beam Angle	Code	Product Line	Code
Commercial (Athena compatible)	CM-	Wall Wash	WW	Universal	UN-
Residential (HomeWorks compatible)	HW-	Region/Voltage		Model	
Fixture / Trim		120 V~ 60 Hz, North America	11	D3 Square Flanged Wall Wash ^{1,2}	D3TFSW1
D3 Wall Wash, Square Flanged ^{1,2}	D3WWSQ	277 V~ 60 Hz, North America	12	D3 Square Flangeless Mud-In Wall Wash ⁴	D3TXSW1
D3 Wall Wash, Square Flangeless ^{3,4,9}	D3WWSM	Housing Type		D3 Square Flangeless Millwork Wall Wash ^{3,4}	D3TMSW1
D3 Wall Wash, Collar Adapter Not Specified ⁸	D3WWXX	New Construction, IC/Airtight	NCIC	Trim Color	
Wattage		New Construction, IC/Airtight, Flangeless Millwork Trim ³	NCIM	White	PWH
9 W	09	New Construction, IC/Airtight, Outdoor/Patio ⁵	NCOC	Black	PBK
13 W	13	New Construction, IC/Airtight, Outdoor/Patio, Flangeless Millwork Trim ⁶	NCOM	Silver	PSR
18 W	18	Shipping Option		Bronze	PBZ
System		Single Pack	SP	Paintable White	CWH
KetraNet	BT	(Default, ships with Butterfly Brackets & 24 in Nailer Bars to be installed in field)		Trim Accessory⁷	
Clear Connect-Type X	GT			Wall Wash	W

¹ 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.

² 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.

³ 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.

⁴ 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.

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.



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SPECIFICATIONS¹

Optical & Electrical Performance

Delivered Lumen Output ²			
Beam Angle (1 in [25.4 mm] recess)	9 W	13 W	18 W
Wall Wash	414 lm	573 lm	705 lm
CRI (Ra)	>90 (R9>90) 2400K-5000K TYP		
Lumen Maintenance ⁴	50,000 hours to L70 @ 25°C T _A		
Color Point Range ⁴	1400K – 10,000K, Fully Saturated, & Pastel		
Equivalent Traditional Lamp	75 W halogen		
Dimming Range ⁴	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 ⁵	800 mA, 0.2 mS duration		
Delivered Efficacy			
Beam Angle (1 in [25.4 mm] recess)	9 W	13 W	18 W
Wall Wash	46 lm/W	44 lm/W	39 lm/W
Surge Protection	2.5 KV		
Emergency Lighting	Evaluated by UL _s for use in emergency lighting systems in accordance with standard UL _s 924 and CSA C22.2 No. 141 when paired with the LVS _™ model LUT-SHUNT-A-TD (UL _s 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 °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 Wet Location
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
Housing Material	Powder Coated Steel, Polymer
Lens Material	PMMA
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 Thickness	1/16 in (1.6 mm)
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)
Aiming	Tilt Fixed at 20° 364° Rotation
Service Position	Tilt to 40° Full 364° Rotation
Emitter Vertical Adjustment (tool-free)	0.75 in (19 mm)
Housing Vertical Adjustment via Butterfly Bracket	1.75 in (44.5 mm)
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.



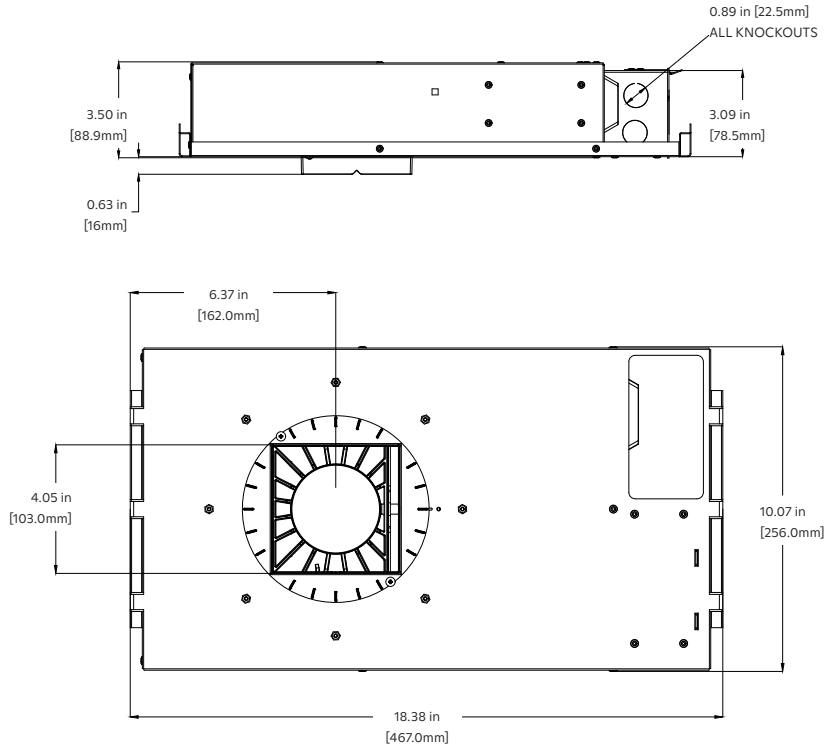
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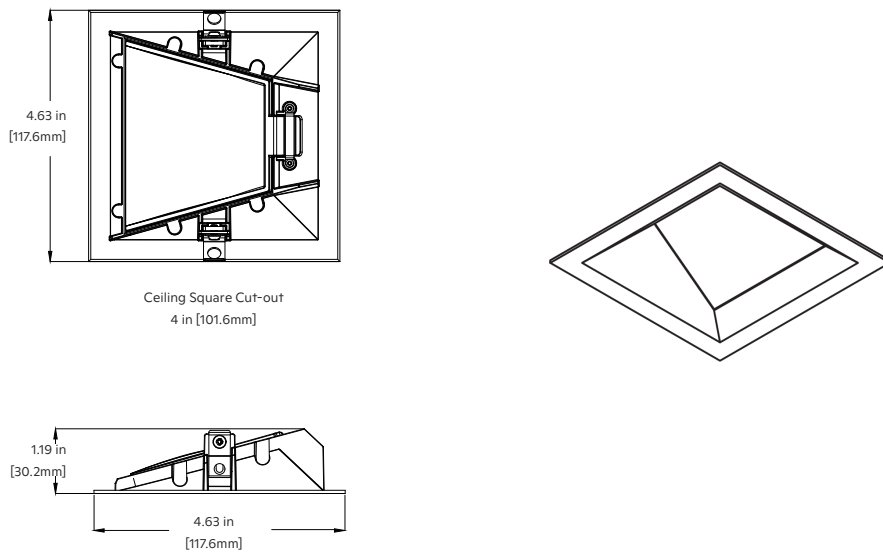
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PRODUCT DIMENSIONS

Flanged Housing

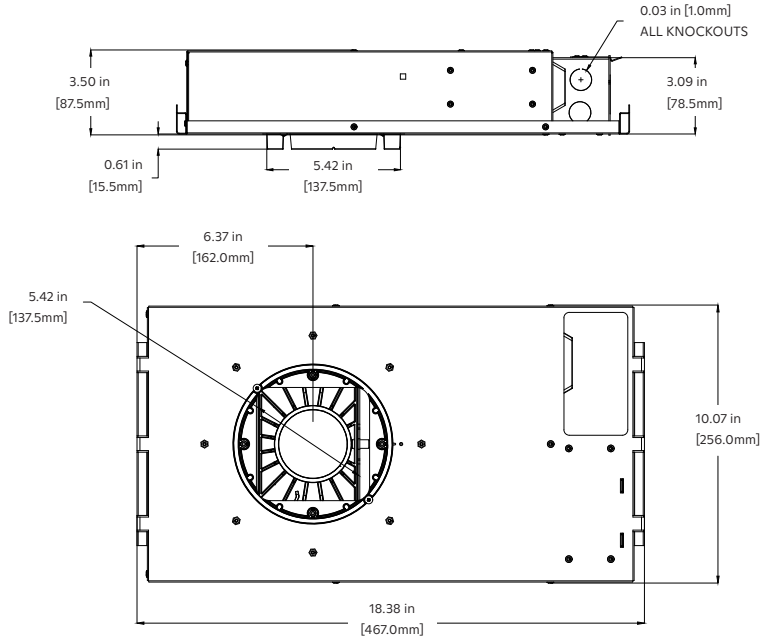


Flanged Trim

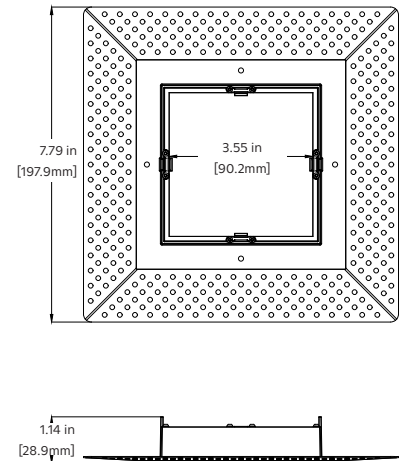


PRODUCT DIMENSIONS

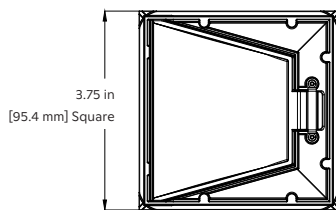
Flangeless Mud-in Housing



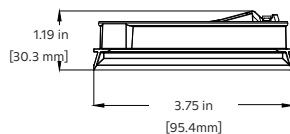
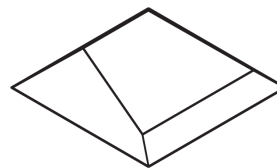
Flangeless Mud-in Trim Retainer



Flangeless Mud-in Trim



Ceiling Square Cut-Out
5.5 in [139.7 mm]





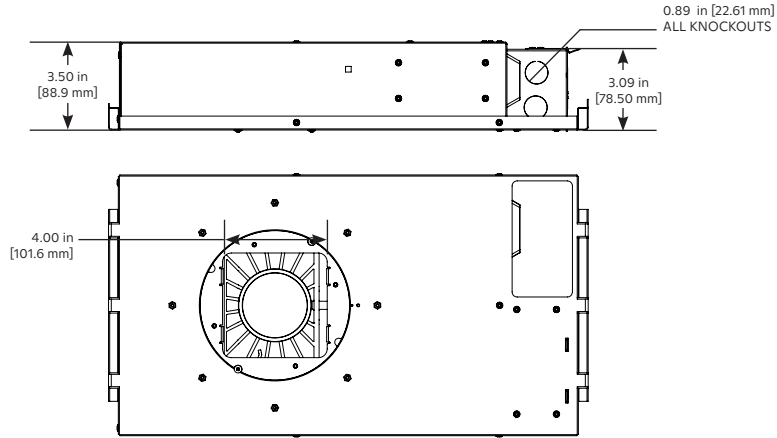
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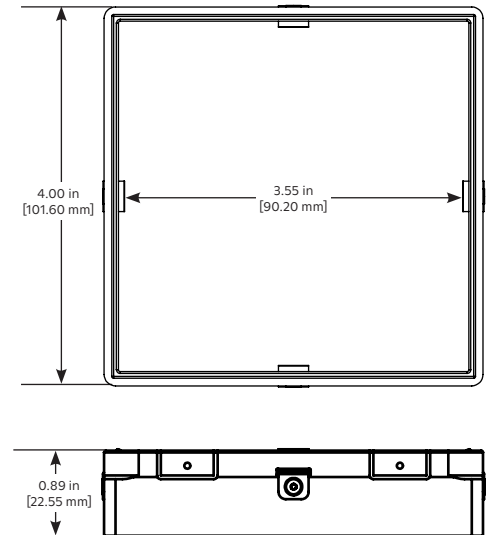
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PRODUCT DIMENSIONS

Flangeless Millwork Housing



Flangeless Millwork Trim Retainer





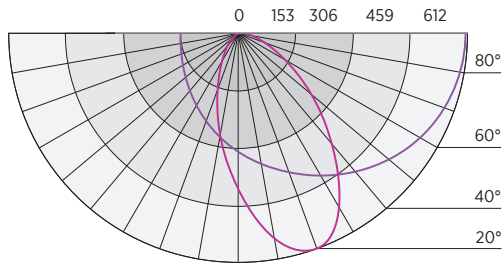
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ISO FOOTCANDLE CHARTS: 2700 - 5000K VALUES ONLY, DELIVERED LUMENS

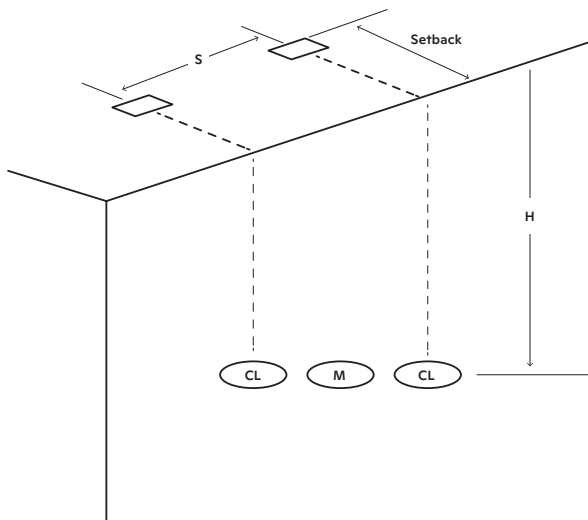
Beam Angle: Wall Wash

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 ("Setback")	2 ft on Center (S)			3 ft on Center (S)			4 ft on Center (S)		
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 ("Setback")	2 ft on Center (S)			3 ft on Center (S)			4 ft on Center (S)		
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

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



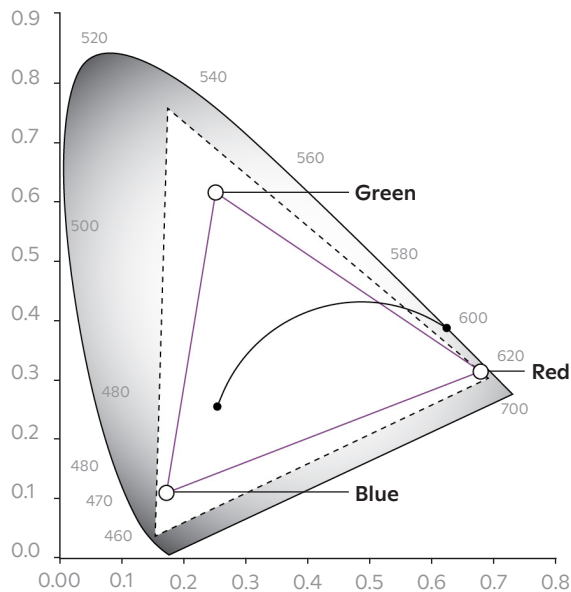
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WIDE GAMUT

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.