

Ketra D2 Wall Wash

PRODUCT DESCRIPTION

Ketra full spectrum D2 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 1,400 K to 10,000 K.

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

Round Wall Wash Square Wall Wash

Flanged



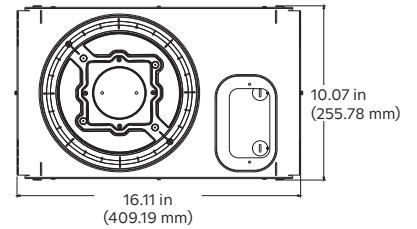
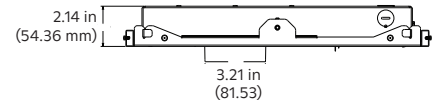
Flangeless
Mud-In



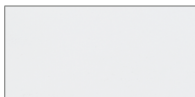
Flangeless
Millwork



Wall Wash, IC Fixture



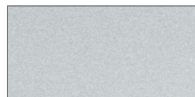
Trim Finish



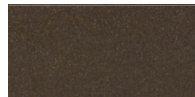
White



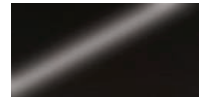
Black



Silver



Bronze



Gloss Black¹



Silver / White²



Black / White²



Gloss Black / White²

¹ Flangeless trims only.

² White flange standard with flanged trims.



D2 WALL WASH DOWNLIGHT

P/N 3663023 Rev A

Specifications are subject to change without notice

SPECIFICATIONS¹

Optical Performance

Delivered Lumens ²	855 lm
CRI (Ra)	>90 from 2,700 K to 5,000 K
R9	>90
Lumen Maintenance ³	50,000 hours to L70 @ 25 °C T _A
Color Point Range	1400 K – 10,000 K, Fully Saturated, & Pastel
Dimming Protocol	Wireless RF/CCX (Lutron Clear Connect-Type X)
Dimming Range	0.1-100%
Delivered Efficacy ²	54.5 lm/w

Environmental

Ambient Temperature ⁵	32 – 104 °F (0 – 40 °C)
Extended Ambient Temperature	-32 – 32 °F (-35 – 0 °C) ⁴
Humidity	0 – 95%, Non-condensing
Certification	UL, cUL, 120 V~: FCC Class B, IC Rated; T24(JA8) ⁶
Location	UL Damp Location, UL Wet Location (shower) available with Trim Lens Installation not compatible with Metal Ceilings UL2043 and CAN/ULC-S142 rated for use in air handling spaces (plenums)
Outdoor/Indoor	Outdoor use available for fixed and adjustable option only in residential enclosed/covered patio applications. Trim lens required. Wall Wash option not available for outdoor applications.
Limited Warranty	www.lutron.com/warranty or call 1.844.LUTRON1 for a printed copy

Mechanical

Mounting Options	Supplied with standard 14 in to 24 in (356 mm to 610 mm) adjustable hanger bars and optional butterfly brackets
Field Replaceable Optics	Yes
Field Replaceable Light Engine	Yes
Field Replaceable Power Supply	Yes
Field Fixture Type Convertibility	Wall Wash Fixture can only be used as a Wall Wash Fixture.
Fixture Weight	5.7 lb (2.59 kg)
Housing Material	Pre-painted Steel, Polymer
Lens Material	Plastic

¹ All measurements are considered typical performance and were taken with 1 in (25.4 mm) white trim, with light engine at nadir, at 3000 K, 25 °C ambient, 100% power input, no accessory, unless otherwise stated.

² Lumen measurement is the 60° beam, high output option and complies with IES LM-79-08 testing procedures. Wall wash measurements coming soon. Wall wash IES files are available on www.lutron.com

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

⁴ Color accuracy not guaranteed in Extended Ambient Temperature range.

⁵ Rated for direct application of spray foam compatible with low and medium density spray foam building insulation with a maximum of R6.8 per inch.

⁶ All products in the D2 family are Title 24 JA8 compliant when installed with a Trim Accessory lens on the trim. For more information, please contact Lighting Technical Support at lightingsupport@lutron.com or 1.844.LUTRON1 (1.844.588.7661).

SPECIFICATIONS¹ (continued)

Dimensions

Ceiling Hole Diameter/Width	3.25 in (82.55 mm) flanged; 4.25 in (108.0 mm) flangeless round mud-in; 4.00 in (101.6 mm) flangeless square mud-in; 2.83 in (71.88 mm) flangeless millwork
Ceiling Thickness (min-max)	0.625 – 2 in (15.8 – 50.8 mm)
Joist Width (min-max)	Standard Hanger Bar Install: 18.25 × 14 – 24.875 in (463.6 × 355.6 – 631.83 mm) Butterfly Bracket Install: 16 in x 16.25 – 24.875 in (406.4 × 412.75 – 631.83 mm)
Modular Emitter/LED Module Diameter	2.15 in (54.61 mm)
Housing Vertical Adjustment via Butterfly Bracket	1.75 in (44.5 mm)
Trim Thickness	0.050 in (12.7 mm)
Adjustability	Emitter full 365 degree rotation Collar 95 degree rotation
Housing Height	3.48 in (88.39 mm)
Housing Length	16.36 in (415.54 mm)
Housing Width	10.07 in (255.78 mm)

Electrical

Power Consumption	18 W
Power Factor	>0.9
Inrush Current	800 mA, 0.2 mS duration
Surge Protection	2.5 KV
Voltage	120 V~ 60 Hz
Emergency Lighting	Evaluated by UL [®] for use in emergency lighting systems in accordance with standard UL [®] 924 and CSA C22.2 No. 141 when paired with the LVS [™] model LUT-SHUNT-A-TD (UL [®] file E206507) ² .

¹ All measurements are considered typical performance and were taken with 1 in (25.4 mm) white trim, with light engine at nadir, at 3000 K, 25 °C ambient, 100% power input, no accessory, unless otherwise stated.

² See Lutron Application Note 106 (P/N 048106) at www.lutron.com for wiring details of emergency lighting in commercial systems.

HOUSING ORDERING GUIDE

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

Housing

	D2	FS	WW				18
Product Line	Series	LED Type	Fixture Type	Shape	Ceiling Interface	Ceiling Thickness	Power Consumption
GT	WW	W	11	I	XX	XX	
Control System	Beam Angle	Optic Style	Region/Voltage	Location	Primary Optic Accessory	Secondary Optic Accessory	

Order code: _____

Product Line	Code	Control System	Code
Residential (HomeWorks compatible)	HW-	CCX (Clear Connect-Type X)	GT
Commercial (Athena compatible)	CM-	Beam Angle	
		Wall Wash ¹	WW
Series		Optic Style	
D2 Fixture	D2	Wall Wash ¹	W
LED Type		Region/Voltage	
Ketra	FS	120 V~ 60 Hz, North America	11
Fixture Type		Location	
Wall Wash ¹	WW	Indoor	I
Shape		Primary Optic Accessory	
Square	SQ	None	XX
Round	RD	Secondary Optic Accessory	
No Collar (to be specified later)	XX	None	XX
Ceiling Interface			
Flanged	F		
Flangeless Mud-In	X		
Flangeless Millwork	M		
Ceiling Thickness ²			
Thin Ceiling	N		
Standard Ceiling	S		
Thick Ceiling	T		
Deep Ceiling	D		
Power Consumption			
18 W	18		

¹ Wall wash fixture is unique and cannot be converted to other fixture types and vice versa.

² The required ceiling thickness option varies by ceiling interface. See Ceiling Thickness Options table on page 6 for details.



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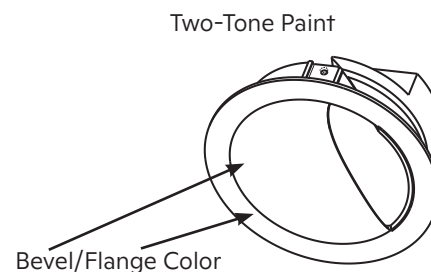
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TRIM ORDERING GUIDE

Trim

UN-	D2			
Product Line	Series			
		W		WW
Shape	Ceiling Interface	Aperture Profile	Trim Finish	Trim Accessory

Order code: _____



Product Line	Code	Trim Finish	Trim Accessory	Code	
Universal	UN-	White	WH	Wall Wash Lens ¹	WW
Series		Black ²	BK		
D2 Fixture	D2	Gloss Black ²	GB		
Shape		Bronze	RB		
Round	RD	Silver	SR		
Square	SQ	Silver/White	SW		
Ceiling Interface		Black/White ²	BW		
Flanged	F	Gloss Black/White ²	GW		
Flangeless Mud-In	X				
Flangeless Millwork	M				
Aperture Profile					
Wall Wash ¹	W				

1 Wall wash fixture is unique and cannot be converted to other fixture types and vice versa.

2 Recommended finish for best performance.



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COMPONENT ORDERING GUIDE

Mounting & Installation Kits

UN-D2

Product Line Accessory

Order code: _____

Product Line	Code
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Universal Part - Recessed Downlight	UN-D2
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Accessory

Millwork Template, Round	MTRD
Millwork Template, Square	MTSQ
Butterfly Brackets & Hanger Bars	MAX
Trim Retainer, Round Mud-In	TRRD
Trim Retainer, Round Millwork	TRRD
Trim Retainer, Square Mud-In	TRSQ
Trim Retainer, Square Millwork	TRSQ

Collar Adapters

UN-D2

Product Line Collar Adapter Ceiling Thickness

Order code: _____

Product Line	Code
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Universal Part - Recessed Downlight	UN-D2
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Collar Adapters^{1,2}

Millwork Round	MCARD
Millwork Square	MCASQ
Mud-In Round	XCARD
Mud-In Square	XCASQ
Flanged Round	FCARD
Flanged Square	FCASQ
Millwork Extender Round	MCERD
Millwork Extender Square	MCESQ
Mud-in Extender Round	XCERD
Mud-in Extender Square	XCESQ

Ceiling Thickness³

Thin	N
Standard	S
Thick	T
Deep	D

Replacement Optics

UN-D2

OP

WWXX

Product Line Accessory Type Beam Angle

Order code: **UN-D2OPWWXX**

Product Line	Code
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Universal Part - Recessed Downlight	UN-D2
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Accessory Type

Optic	OP
Beam Angle	
Wall Wash	WWXX

Ceiling Thickness Options Table

Ceiling Type	Dimensions: in (mm)	Ceiling Thickness (collar type)
Flanged	0.625-1.25 (15.875-31.75)	Standard (S)
	1.3-2.0 (33.02-50.8)	Thick (T)
Flangeless Mud In	0.625-1.0 (15.875-25.4)	Thin (N)
	1.0625-1.375 (27.0-34.9)	Standard (S)
	1.4375-2.0 (36.51-50.8)	Thick (T)
Flangeless Millwork	0.625-0.9375 (15.875-23.8125)	Thin (N)
	1.0-1.3125 (25.4-33.34)	Standard (S)
	1.375-1.6875 (34.9-42.8625)	Thick (T)
	1.75-2.0 (44.45-50.8)	Deep (D)

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

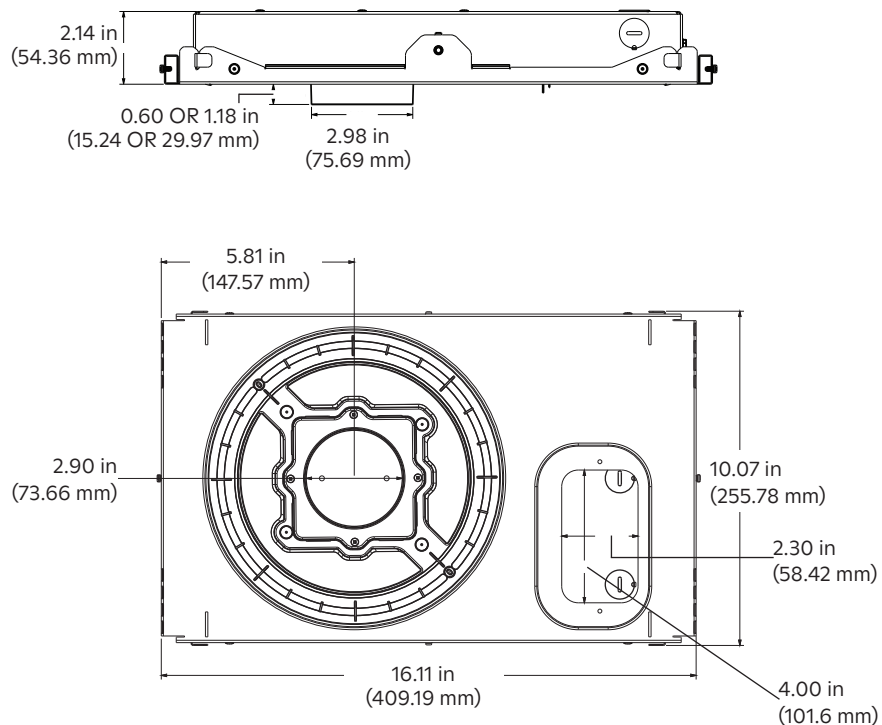
¹ Ceiling installation cannot begin until collar adapter is installed.

² Mud-in trim retainer supplied with mud-in collar adapter.

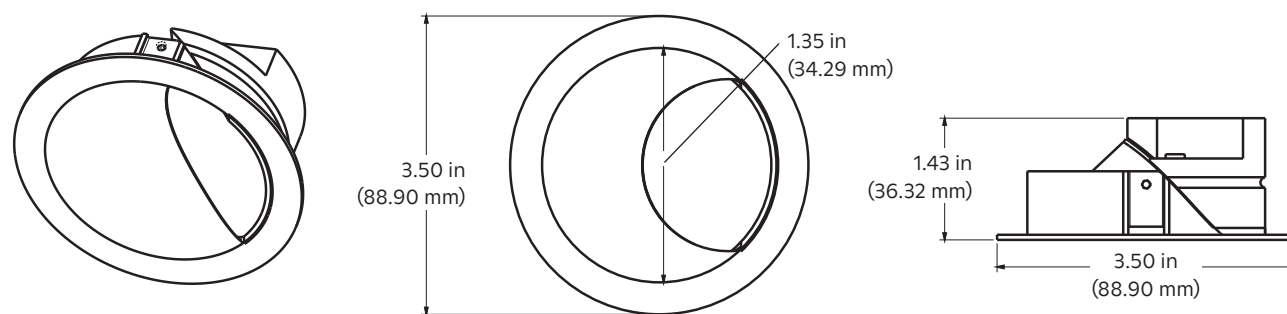
³ The required ceiling thickness option varies by ceiling interface. See Ceiling Thickness Options table above for details.

PRODUCT DIMENSIONS

Flanged Housing, Round

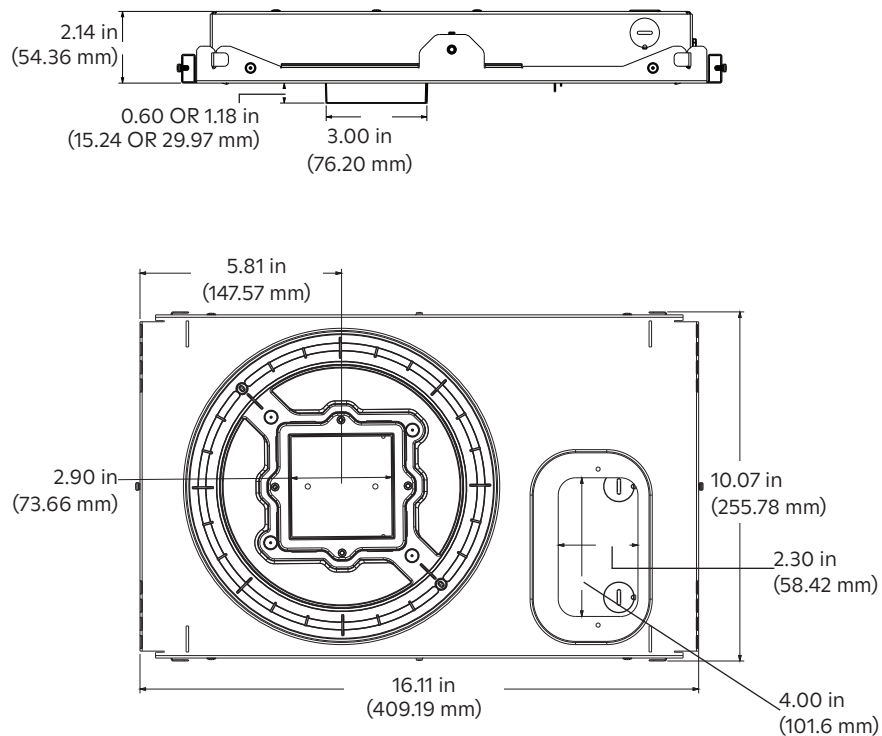


Trim

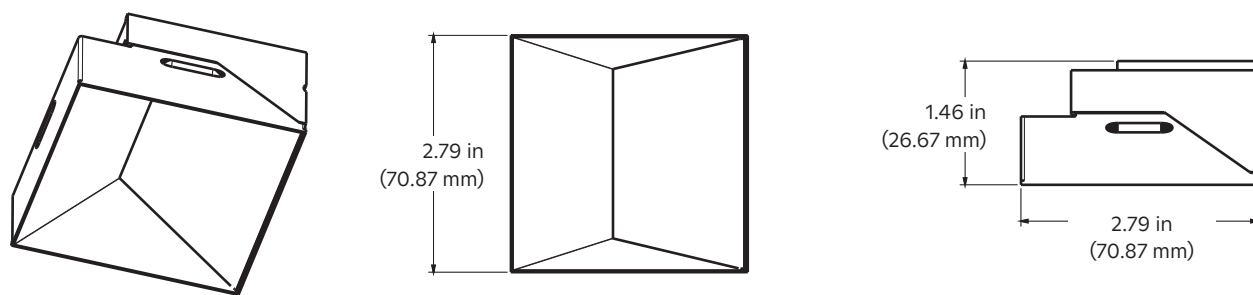


PRODUCT DIMENSIONS (cont.)

Flanged Housing, Square

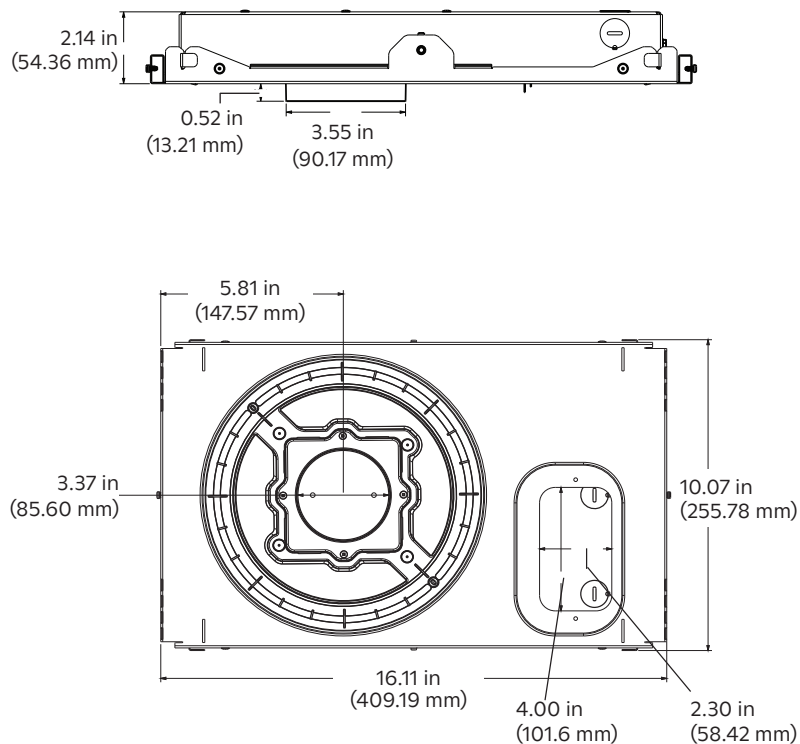


Trim

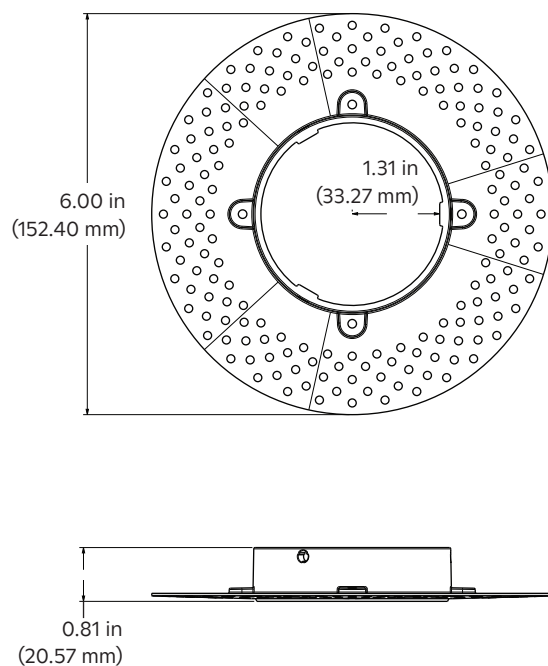


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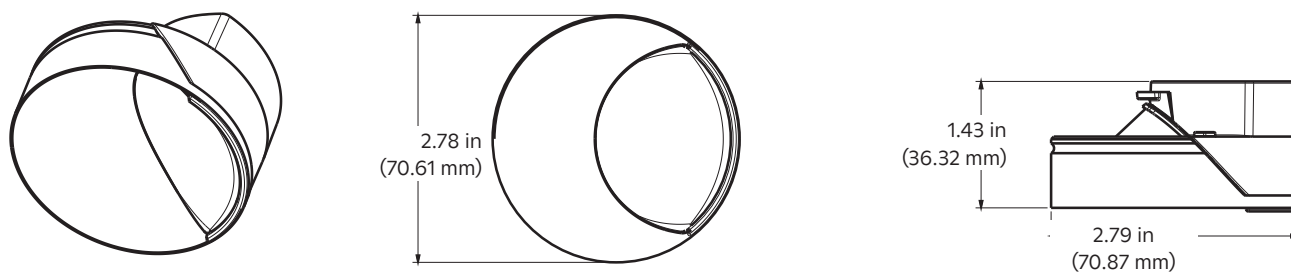
Flangeless Mud-In Housing, Round



Flangeless Mud-In Trim Retainer, Round

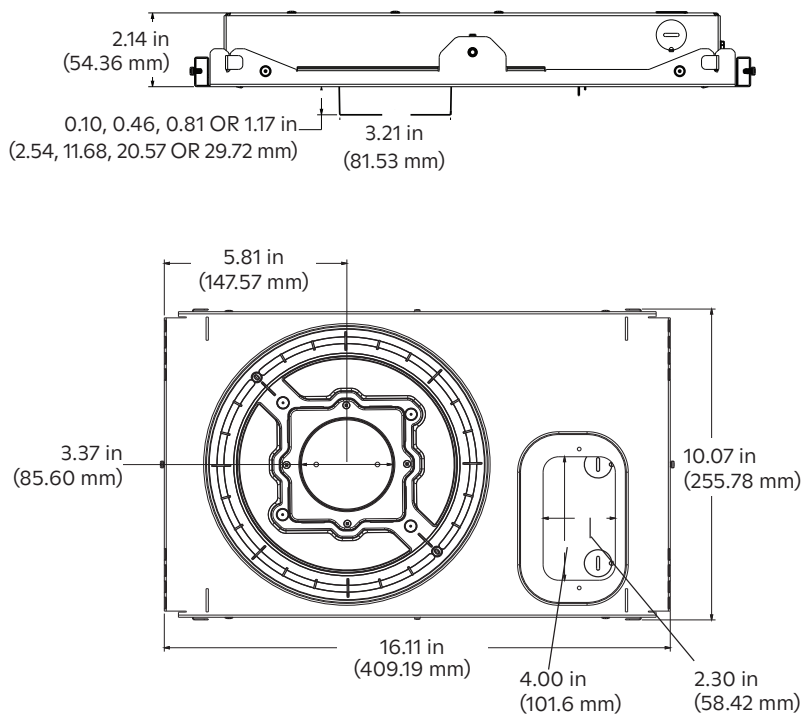


Trim

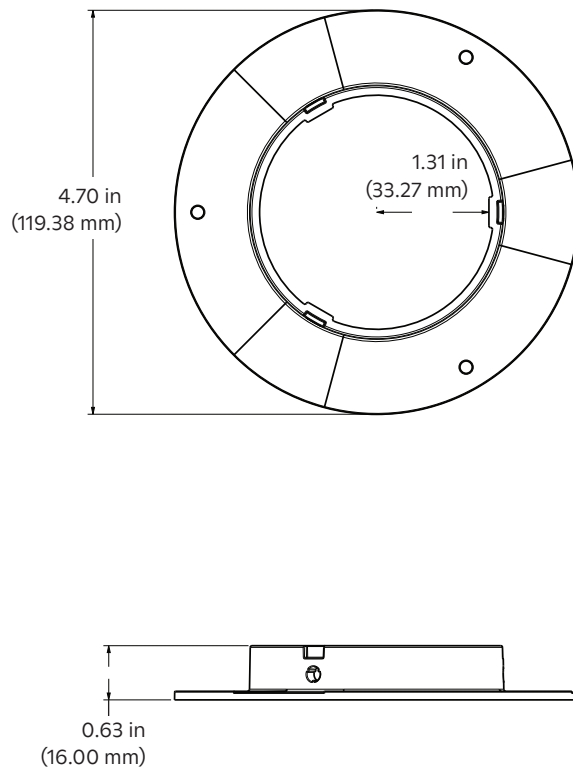


PRODUCT DIMENSIONS (cont.)

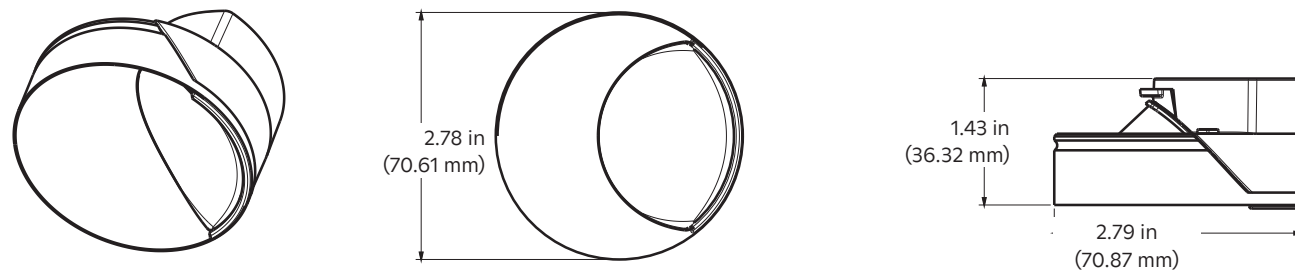
Flangeless Millwork Housing, Round



Flangeless Millwork Trim Retainer, Round

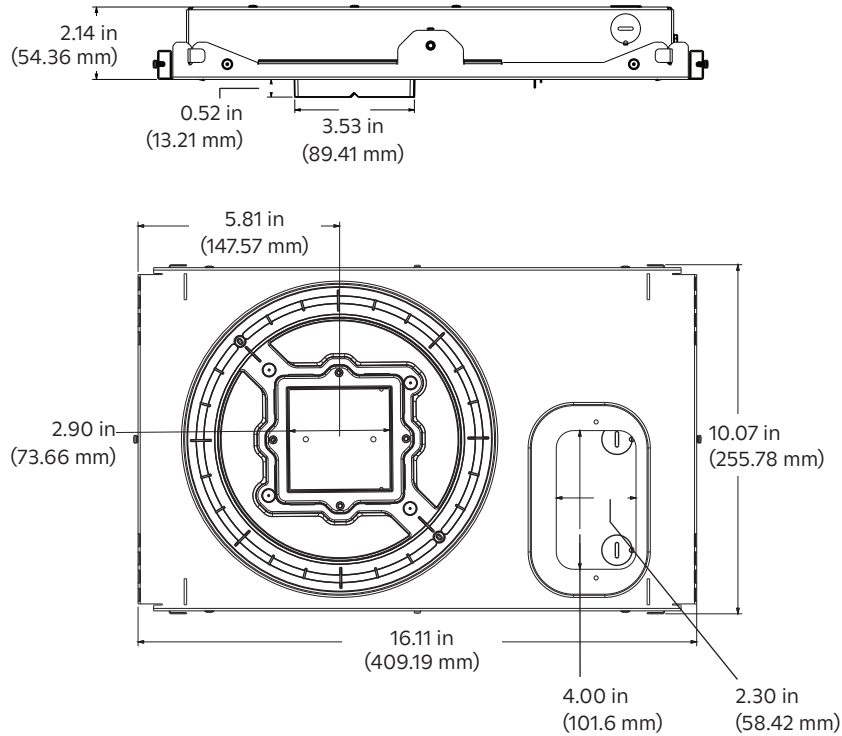


Trim

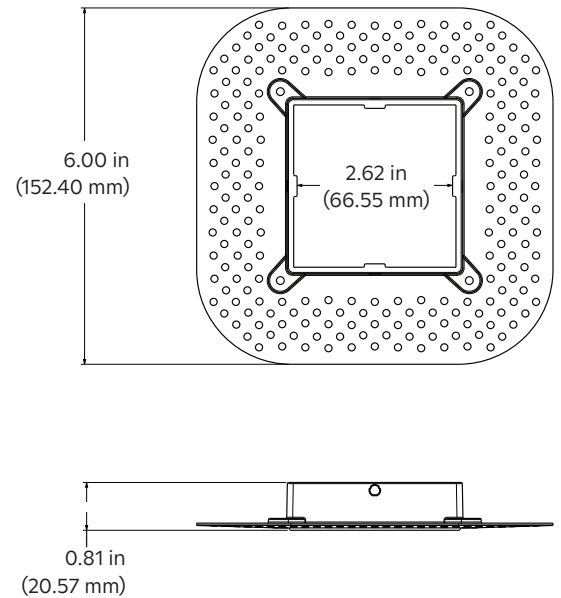


PRODUCT DIMENSIONS (cont.)

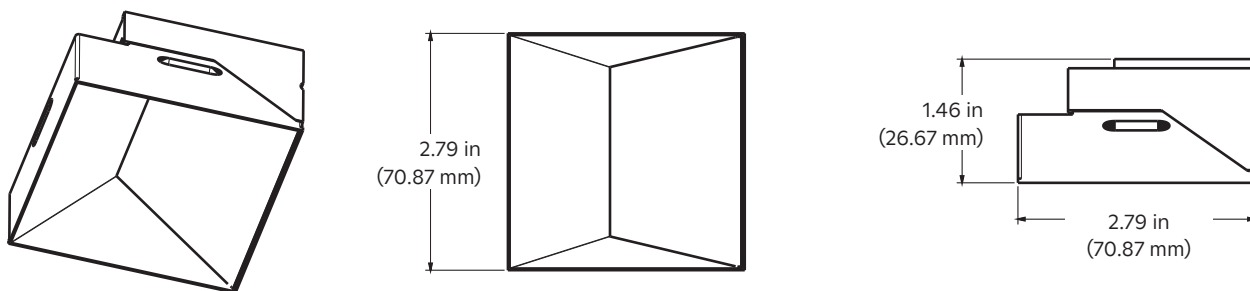
Flangeless Mud-In Housing, Square



Flangeless Mud-In Trim Retainer, Square

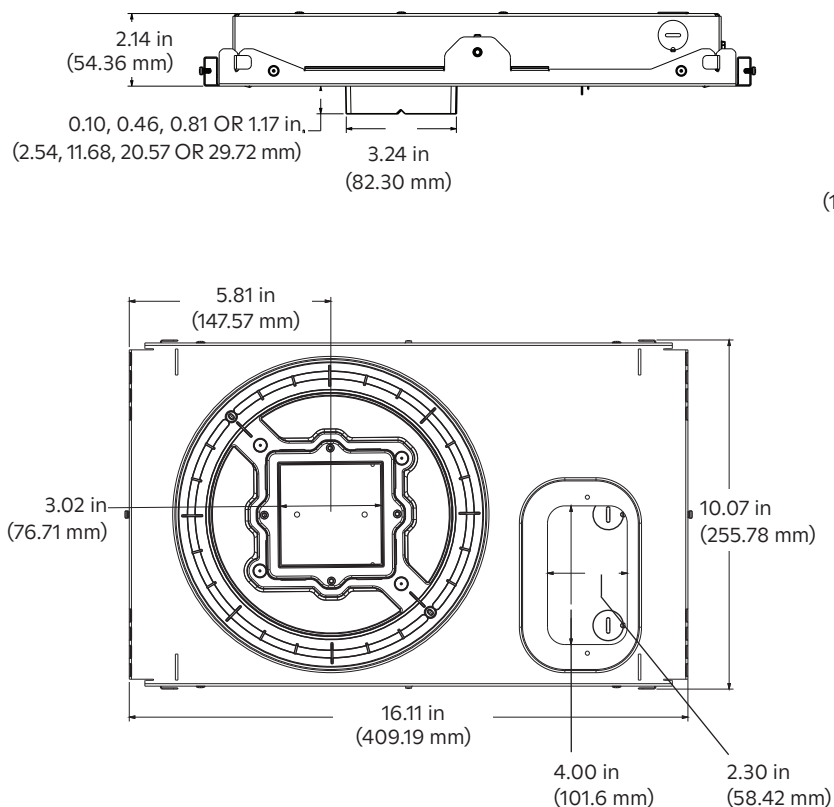


Trim

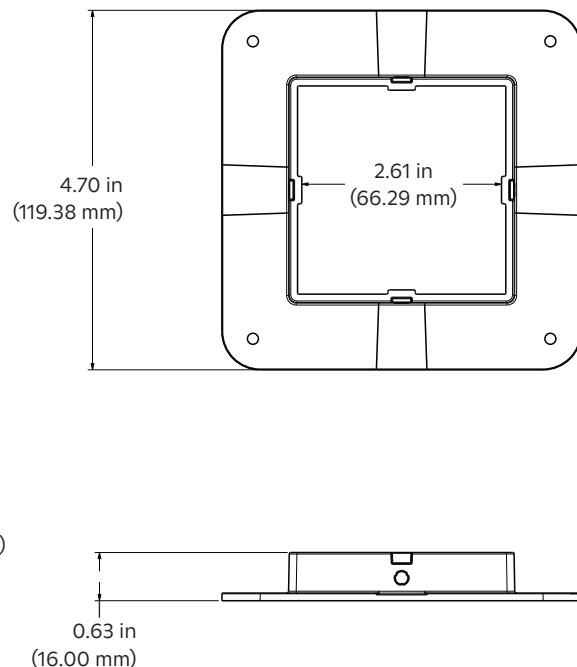


PRODUCT DIMENSIONS (cont.)

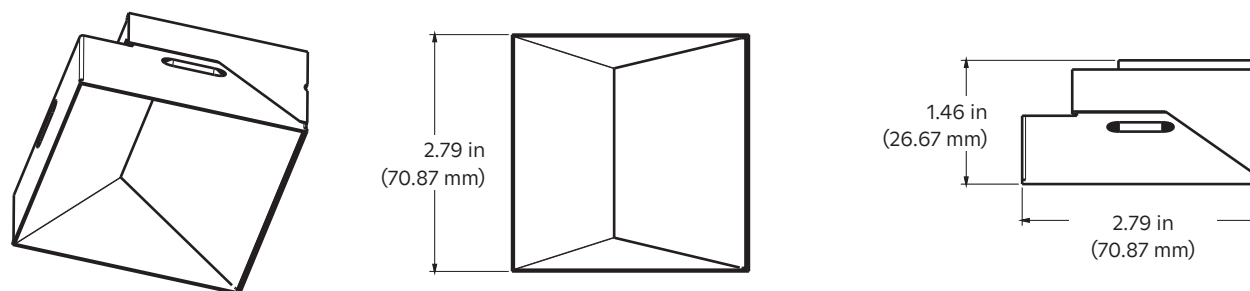
Flangeless Millwork Housing, Square



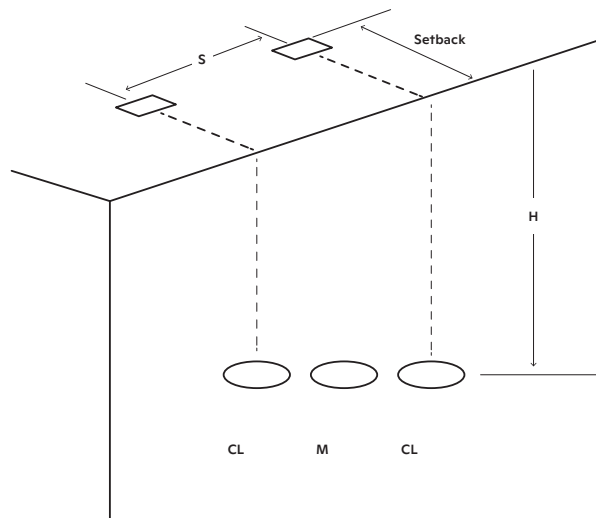
Flangeless Millwork Trim Retainer, Square



Trim



PLACEMENT GUIDE FOR MULTIPLE WALL WASH UNITS



Typical Footcandles Measured on the Wall

2 ft (0.6 m) from wall ("Setback")	2 ft (0.6 m) on Center (S)			3 ft (0.9 m) on Center (S)			4 ft (1.2 m) on Center (S)		
Distance from Ceiling (H)	CL	M	CL	CL	M	CL	CL	M	CL
1 ft (0.305 m)	34	32	34	26	18	26	24	10	24
2 ft (0.609 m)	36	37	36	27	23	27	23	13	23
3 ft (0.914 m)	30	30	30	21	19	21	18	13	18
4 ft (1.219 m)	23	23	23	16	15	16	14	11	14
5 ft (1.524 m)	17	18	17	12	12	12	10	8	10
6 ft (1.828 m)	14	14	14	10	10	10	8	7	8
7 ft (2.133 m)	11	11	11	7	7	7	6	6	6
8 ft (2.438 m)	8	8	8	6	6	6	5	5	5
9 ft (2.743 m)	6	6	6	5	5	5	4	4	4
10 ft (3.048 m)	6	6	6	4	4	4	3	3	3

3 ft (0.9 m) from wall ("Setback")	2 ft (0.6 m) on Center (S)			3 ft (0.9 m) on Center (S)			4 ft (1.2 m) on Center (S)		
Distance from Ceiling (H)	CL	M	CL	CL	M	CL	CL	M	CL
1 ft (0.305 m)	15	15	15	10	10	10	8	6	8
2 ft (0.609 m)	23	23	23	16	15	16	13	11	13
3 ft (0.914 m)	23	23	23	16	16	16	13	11	13
4 ft (1.219 m)	20	20	20	15	15	15	11	11	11
5 ft (1.524 m)	17	17	17	12	12	12	10	9	10
6 ft (1.828 m)	15	15	15	11	11	11	8	8	8
7 ft (2.133 m)	12	11	12	9	9	9	6	6	6
8 ft (2.438 m)	10	10	10	7	7	7	6	6	6
9 ft (2.743 m)	8	8	8	6	6	6	5	5	5
10 ft (3.048 m)	7	6	7	6	6	6	4	4	4



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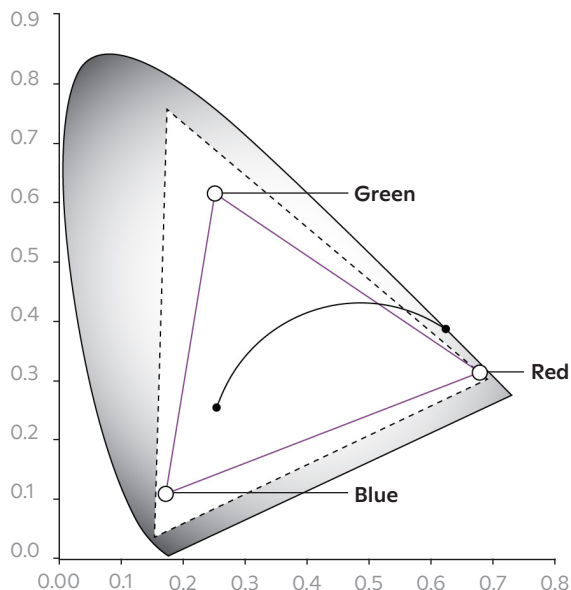
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PHOTOMETRIC DATA

Coming Soon, ies. files available at lutron.com

WIDE GAMUT

CIE 1931 Color Chart



Ketra's D2 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 lock not guaranteed such that each product produces the most saturated color of which it is capable.

D2 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 2,700 K to 5,000 K.

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.

Diagnostic reporting capability²: Clear Connect-Type X (CCX) light sources provide diagnostics and built-in technology to check input voltage and wireless connectivity.

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 1,400 K to 10,000 K Correlated Color Temperature (CCT).

¹ Color point maintenance not guaranteed in the expanded gamut or while operating at ambient temperatures between -13 to 32 °F (-25 to 0 °C).

² For diagnostics support or more information, please contact Lighting Technical Support at lightingsupport@lutron.com or 1.844.LUTRON1 (1.844.588.7661).