Rania D2 Fixed

Fixed, IC Fixture

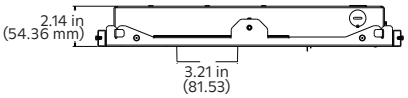
PRODUCT DESCRIPTION

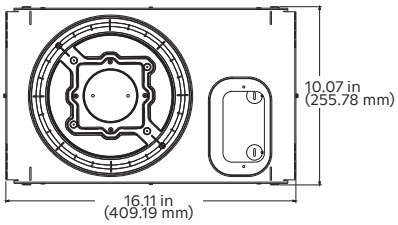
Rania D2 recessed LED downlights are available in fixed, adjustable, and wall-wash options to complete any lighting design project.

FEATURES

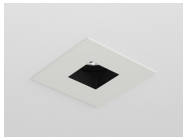
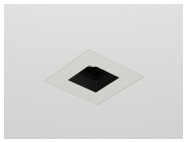
Exceptional White Light—Rania leverages a breakthrough three-channel solution, paired with proprietary optics and state of the art color mixing technology to deliver a wide CCT range and replicates natural white light more faithfully than any light source other than Ketra.

Natural Show—The Rania fixtures' wide color temperature range and native control enables it to participate in Lutron's Natural Show. Natural show automatically adjusts the intensity and color temperature of the light over the course of the day. It can be used to bring the outside in by matching outdoor light - from the cool bright light at noon to the warm lower light in the evening.





OPTIONS

	Round Bevel	Square Bevel	Round Pinhole	Square Pinhole
Flanged				
Flangeless Mud-In				
Flangeless Millwork				

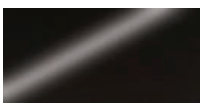
Trim Finish

White

Black

Silver

Bronze


Gloss Black[1]

Silver / White[2]

Black / White[2]

Gloss Black /White[2]

1 Flangless trims only.
2 White flange standard with flanged trims.

©2025 Lutron Electronics Co., Inc., All rights reserved.

SPECIFICATIONS[1]

Optical Performance

Delivered Lumens[2]

Beam Angle	18 W
15° beam, high output	**1161 lm**
25° beam, high output	**1151 lm**
40° beam, high output	**1078 lm**
60° beam, high output	**1018 lm**
15° beam, low glare	**1018 lm**
25° beam, low glare	**1040 lm**
40° beam, low glare	**884 lm**
60° beam, low glare	**856 lm**

CRI (Ra)	**>90 from 2,700K to 5,000K**
R9	**>80**
Lumen Maintenance[3]	**50,000 hours to L70 @ 25 ˚C T_A**
CCT Range	**1800 K – 5500 K**
Dimming Protocol	**Wireless RF/CCX (Lutron Clear Connect-Type X)**
Dimming Range	**0.1-100%**

Delivered Efficacy

Beam Angle	18 W
15° beam, high output	**65 lm/W**
25° beam, high output	**64 lm/W**
40° beam, high output	**60 lm/W**
60° beam, high output	**57 lm/W**
15° beam, low glare	**57 lm/W**
25° beam, low glare	**58 lm/W**
40° beam, low glare	**49 lm/W**
60° beam, low glare	**48 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	**Fixed housing cannot be converted to an Adjustable or Wall Wash housing in the field**
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 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 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).

©2025 Lutron Electronics Co., Inc., All rights reserved.

SPECIFICATIONS[1] (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	**Collar 95 degree rotation**
Housing Height	**2.14 in (54.31 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.

©2025 Lutron Electronics Co., Inc., All rights reserved.

HOUSING ORDERING GUIDE

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

Housing

CM-	D2	TW	FX	SQ	F	N	18
Product Line	Series	LED Type	Fixture Type	Shape	Ceiling Interface	Ceiling Thickness	Power Consumption

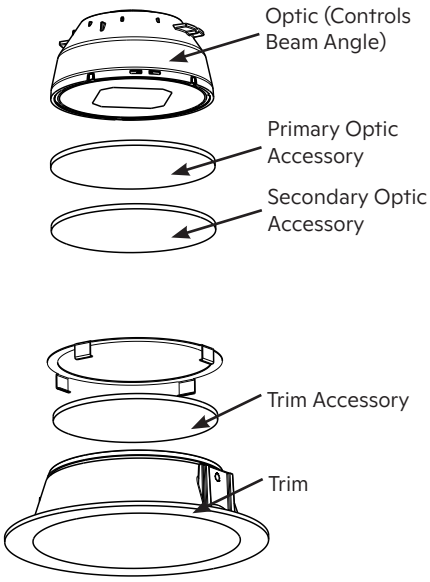
GT	15	L	11	I	XX	XX
Control System	Beam Angle	Optic Style	Region/ Voltage	Location	Primary Optic Accessory	Secondary Optic Accessory

Order code: CM-D2TWFXSQFN18GT15L11IXXXX

Product Line	Code
Commercial (Athena compatible)	**CM-**
Residential (HomeWorks compatible)	**HW-**
Series	
D2 Fixture	**D2**
LED Type	
Rania	**TW**
Fixture Type	
Fixed	**FX**
Shape	
Square	**SQ**
Round	**RD**
No Collar (to be specified later)	**XX**
Ceiling Interface	
Flanged	**F**
Flangeless Mud-In	**X**
Flangeless Millwork	**M**
Ceiling Thickness [5]	
Thin Ceiling	**N**
Standard Ceiling	**S**
Thick Ceiling	**T**
Deep Ceiling	**D**
Power Consumption	
18 W	**18**

Control System	Code
CCX (Clear Connect-Type X)	**GT**
Beam Angle	
Spot (15°)	**15**
Narrow Flood (25°)	**25**
Flood (40°)	**40**
Wide Flood (60°)	**60**
Optic Style	
Low Glare	**L**
High Output	**H**
Region/Voltage	
120 V~ 60 Hz, North America	**11**
Location	
Indoor	**I**
Outdoor (HomeWorks Resi Products only) [1]	**O**
Primary Optic Accessory [2,4]	
None	**XX**
Soft Focus Lens [2,4]	**S1**
Frosted Lens [2,4]	**F1**
Linear Lens (10×20) [2,4]	**L1**
Hex Louver [3,4]	**H1**
Secondary Optic Accessory [2,4]	
None	**XX**
Soft Focus Lens [2,4]	**S1**
Frosted Lens [2,4]	**F1**
Linear Lens (10×20) [2,4]	**L1**

Trim Exploded View [2]



1 D2s are available for residential exterior applications only and must have a trim installed with a lens.
2 Maximum of 2 accessories available at once across the optic and trim accessories.
3 When specifying a Hex Louver no additional optic or trim accessory is allowed.
4 The addition of accessory lens will reduce lumen output. See Trim/Lens Option Efficiency table on the next page.
5 The ceiling thickness option required varies by ceiling interface. Contact Lighting Technical Support at lightingsupport@lutron.com or 1.844.LUTRON1 (1.844.588.7661).

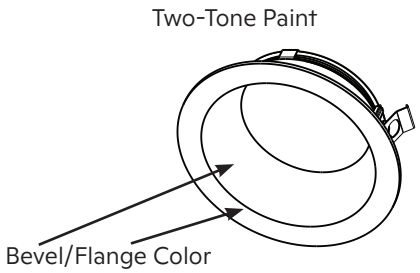
©2025 Lutron Electronics Co., Inc., All rights reserved.

P/N 3663024 Rev B
Specifications are subject to change without notice

TRIM ORDERING GUIDE

Trim

UN-	D2			
Product Line	Series			
RD	F	B	WH	S1
Shape	Ceiling Interface	Aperture Profile	Trim Finish	Trim Accessory



Order code: UN-D2RDFBWHS1

Product Line	Code
Universal	**UN-**
Series	
D2 Fixture	**D2**
Shape	
Round	**RD**
Square	**SQ**
Ceiling Interface	
Flanged	**F**
Flangeless Mud-In	**X**
Flangeless Millwork	**M**
Aperture Profile	
Bevel	**B**
Pinhole	**P**

Trim Finish	
White [1]	**WH**
Black	**BK**
Gloss Black	**GB**
Bronze	**RB**
Silver	**SR**
Silver/White	**SW**
Black/White	**BW**
Gloss Black/White	**GW**
None	**XX**

Trim Accessory [2,3]	Code
Soft Focus Lens [2,3]	**S1**
Frosted Lens [2,3]	**F1**
Linear Lens (10x20) [2,3]	**L1**
Clear Lens [2,3]	**C1**
None	**XX**

TRIM/LENS OPTION EFFICIENCY TABLE

	15 HO	15 LG	25 HO	25 LG	40 HO	40 LG	60 HO	60 LG
Clear	100%	100%	100%	100%	100%	100%	100%	100%
Soft Focus	95%	93%	96%	93%	96%	93%	96%	93%
Frosted	95%	93%	96%	93%	96%	92%	95%	93%
Linear (10×20)	94%	92%	94%	92%	94%	92%	94%	91%
Hex Louver	61%	67%	58%	62%	51%	56%	45%	50%

1 White finish can be used as a primer for customer selected and applied paint.
2 Maximum of 2 accessories available at once across the optic and trim accessories.
3 The addition of accessory lens will reduce lumen output. See Trim/Lens Option Efficiency table.

©2025 Lutron Electronics Co., Inc., All rights reserved.

COMPONENT ORDERING GUIDE

Replacement Optics

UN-D2	OP	LG15
Product Line	Accessory Type	Beam Angle

Order code: UN-D2OPLG15

Product Line	Code
Universal Part - Recessed Downlight	**UN-D2**
Accessory Type	
Optic	**OP**
Beam Angle	
Spot (15°) Low Glare	**LG15**
Flood (25°) Low Glare	**LG25**
Wide Flood (40°) Low Glare	**LG40**
Very Wide Flood (60°) Low Glare	**LG60**
Spot (15°) High Output	**HO15**
Flood (25°) High Output	**HO25**
Wide Flood (40°) High Output	**HO40**
Very Wide Flood (60°) High Output	**HO60**

Optics Accessories

UN-D2	OA	S1
Product Line	Accessory Type	Accessory

Order code: UN-D2OAS1

Product Line	Code
Universal Part - Recessed Downlight	**UN-D2**
Accessory Type	
Optic	**OA**
Accessory[1,2,3]	
Soft Focus Lens [2,3]	**S1**
Frosted Lens [2,3]	**F1**
Linear Lens (10x20) [2,3]	**L1**
Clear Lens [2,3]	**C1**
None	**XX**

Trim Lens Accessories

UN-D2	TL	RD	S1
Product Line	Accessory Type	Shape	Accessory

Order code: UN-D2TLRDS1

Product Line	Code
Universal Part - Recessed Downlight	**UN-D2**
Accessory Type	
Trim	**TL**
Shape	
Round	**RD**
Square	**SQ**
Accessory[1,2,3]	
Soft Focus Lens [2,3]	**S1**
Frosted Lens [2,3]	**F1**
Linear Lens (10x20) [2,3]	**L1**
Clear Lens [2,3]	**C1**
None	**XX**

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)

1 Downlight is wet location rated when trim is installed with lens.
2 Only one optional optical or trim accessory can be used at a time.
3 Downlights with outdoor housings require a trim installed with lens.
4 The ceiling thickness option required varies by ceiling interface. See Ceiling Thickness Options table above for details.

©2025 Lutron Electronics Co., Inc., All rights reserved.

P/N 3663024 Rev B
Specifications are subject to change without notice

COMPONENT ORDERING GUIDE (cont.)

Mounting & Installation Kits

UN-D2	MTRD
Product Line	Accessory

Order code: UN-D2MTRD

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

Accessory	
Millwork Template, Round	**MTRD**
Millwork Template, Square	**MTSQ**
Butterfly Brackets & Hanger Bars	**MAX**
Trim Retainer, Round Mud-In	**TRRDX**
Trim Retainer, Round Millwork	**TRRDM**
Trim Retainer, Square Mud-In	**TRSQX**
Trim Retainer, Square Millwork	**TRSQM**

Collar Adapters

UN-D2	MCARD	N
Product Line	Collar Adapters	Ceiling Thickness

Order code: UN-D2MCARDN

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

Collar Adapters[1]	
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 Thickness[4]	
Thin	**N**
Standard	**S**
Thick	**T**
Deep	**D**

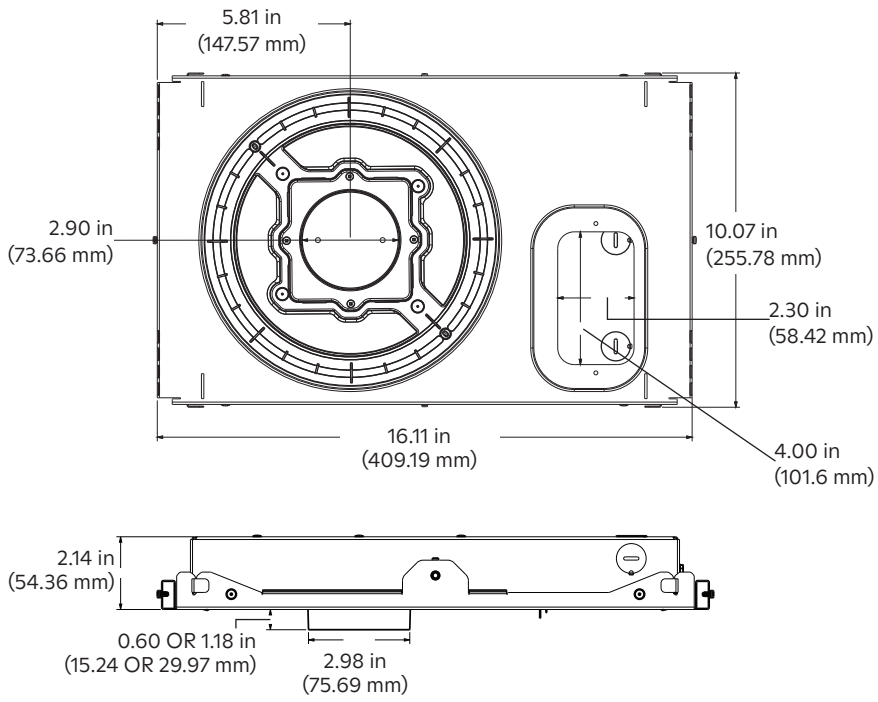
NOTE: See the Trim Ordering Guide for trim options and the Replacement Optic Section for optic options.

1 Ceiling installation cannot begin until collar adapter is installed.
2 Mud-in trim retainer supplied with mud-in collar adapter.
3 Millwork trim retainer supplied with millwork trim to ensure color match.
4 The ceiling thickness option required varies by ceiling interface. Contact Lighting Technical Support at lightingsupport@lutron.com or 1.844.LUTRON1 (1.844.588.7661).

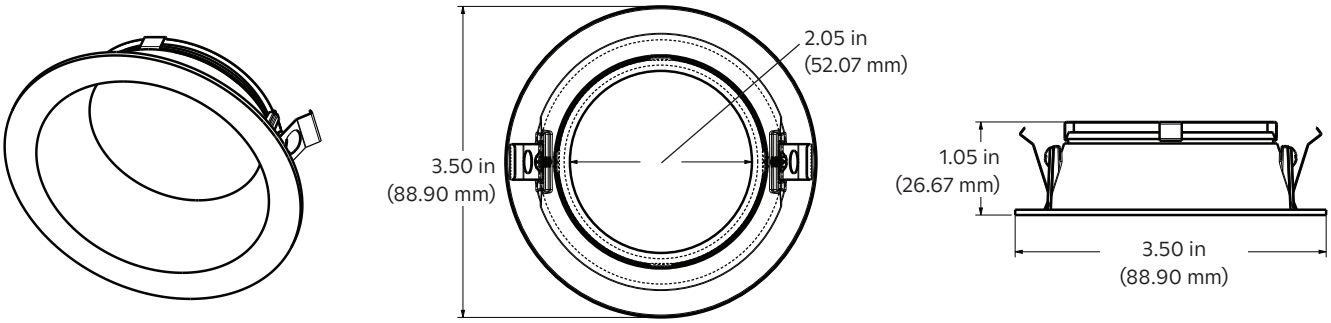
©2025 Lutron Electronics Co., Inc., All rights reserved.

PRODUCT DIMENSIONS

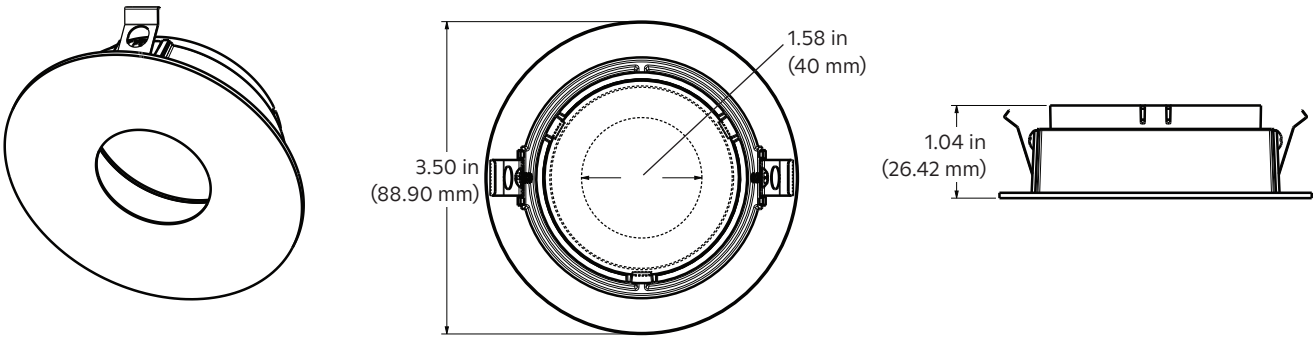
Flanged Housing, Round



Flanged Bevel Trim, Round



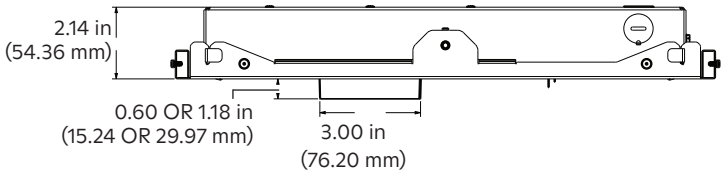
Flanged Pinhole Trim, Round

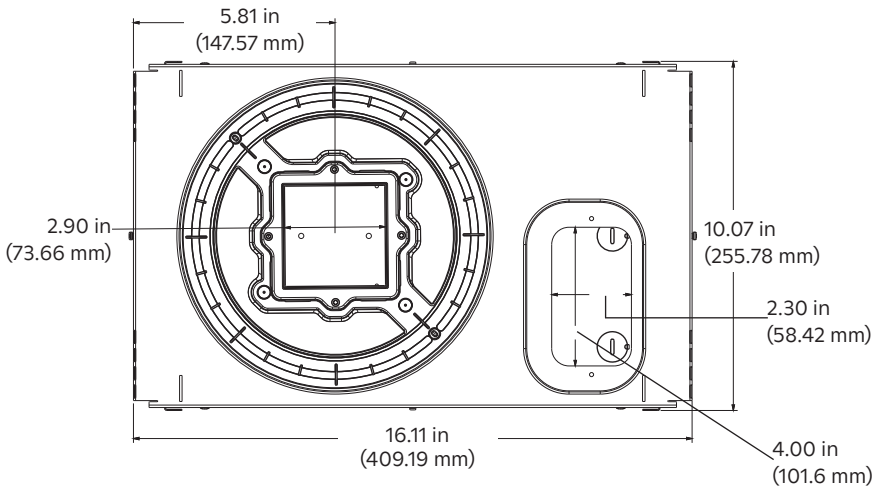


©2025 Lutron Electronics Co., Inc., All rights reserved.

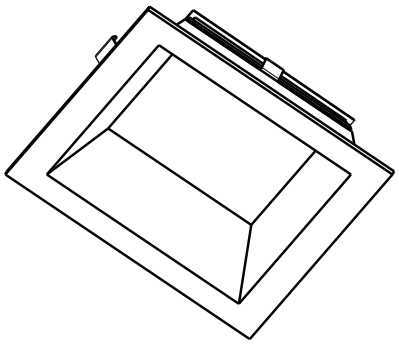
PRODUCT DIMENSIONS (cont.)

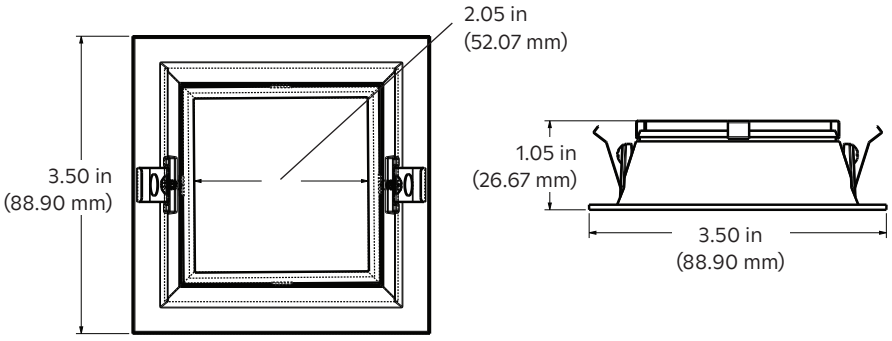
Flanged Housing, Square



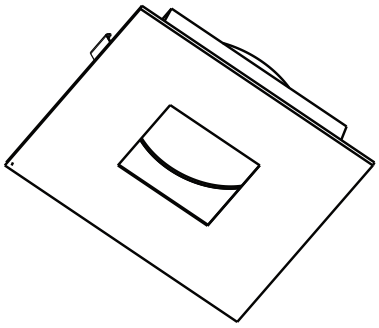


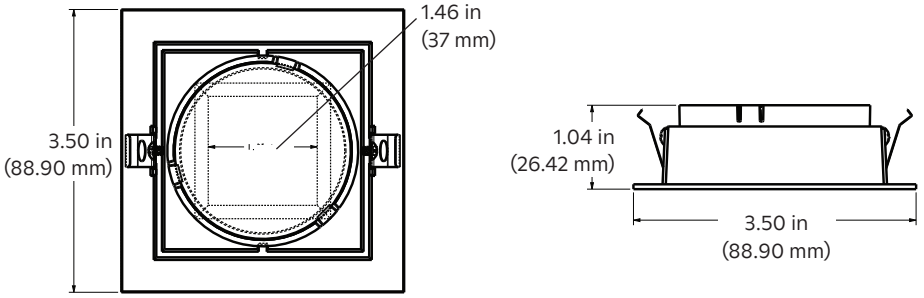
Flanged Bevel Trim, Square





Flanged Pinhole Trim, Square

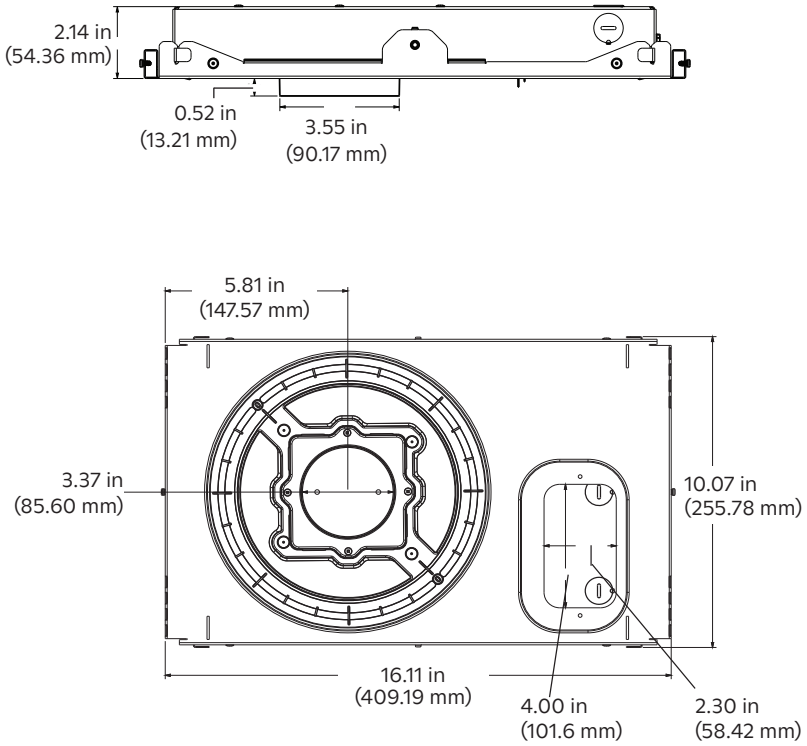




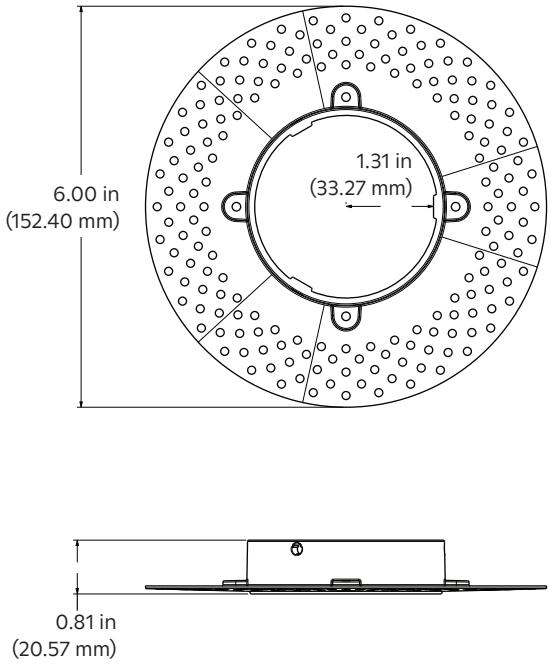
©2025 Lutron Electronics Co., Inc., All rights reserved.

PRODUCT DIMENSIONS (cont.)

Flangeless Mud-In Housing, Round



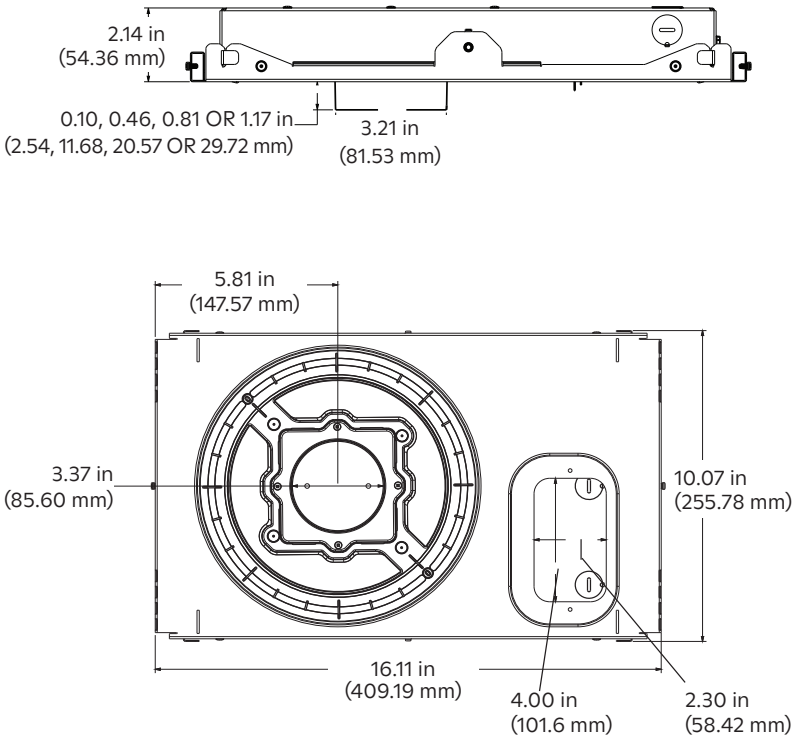
Flangeless Mud-In Trim Retainer, Round



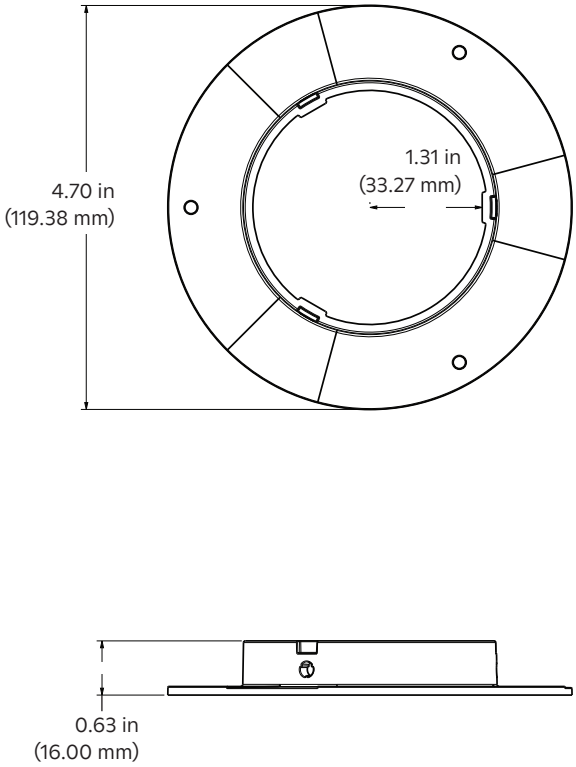
©2025 Lutron Electronics Co., Inc., All rights reserved.

PRODUCT DIMENSIONS (cont.)

Flangeless Millwork Housing, Round



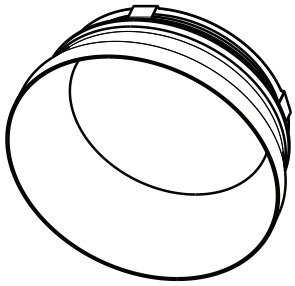
Flangeless Millwork Trim Retainer, Round

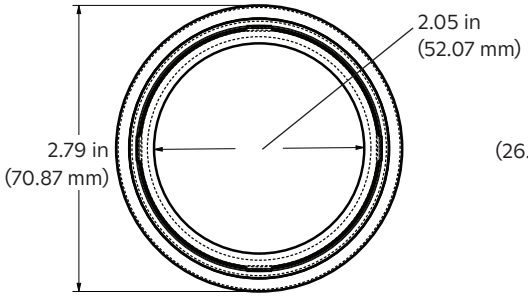


©2025 Lutron Electronics Co., Inc., All rights reserved.

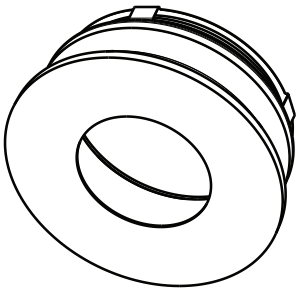
PRODUCT DIMENSIONS (cont.)

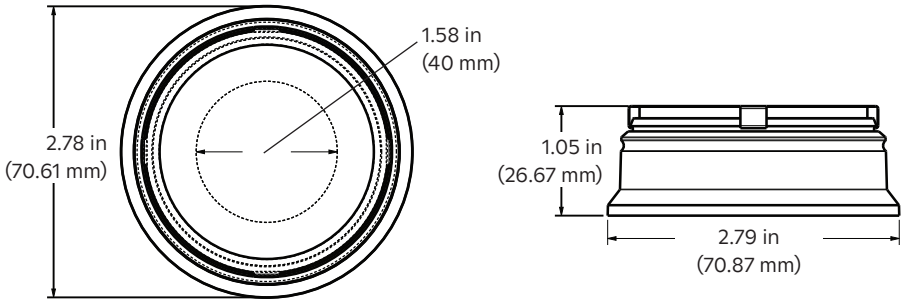
Flangeless Bevel Trim, Round





Flangeless Pinhole Trim, Round

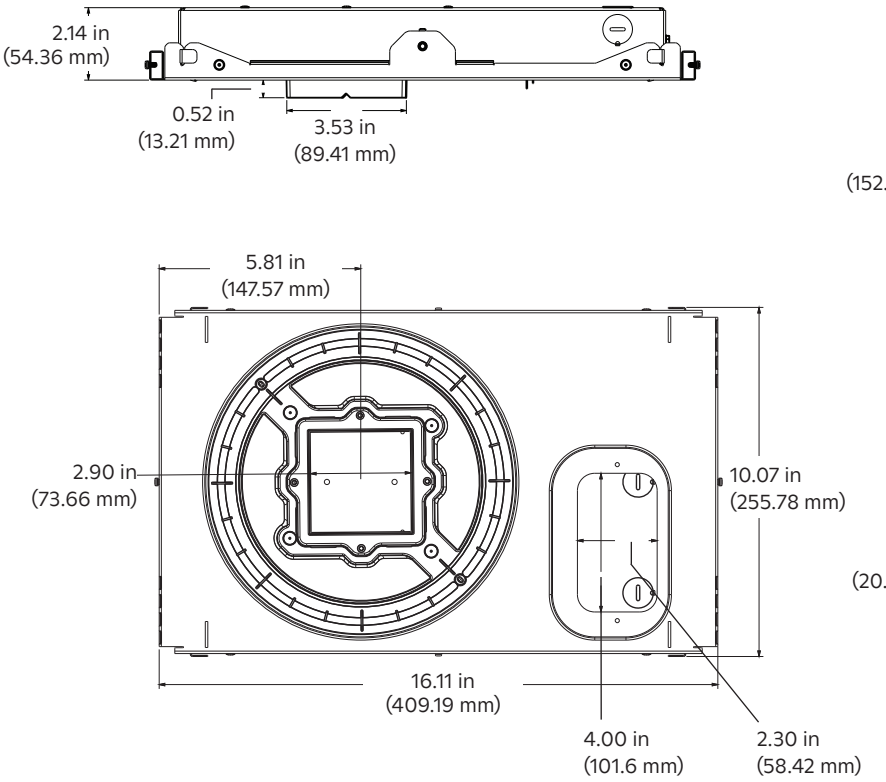




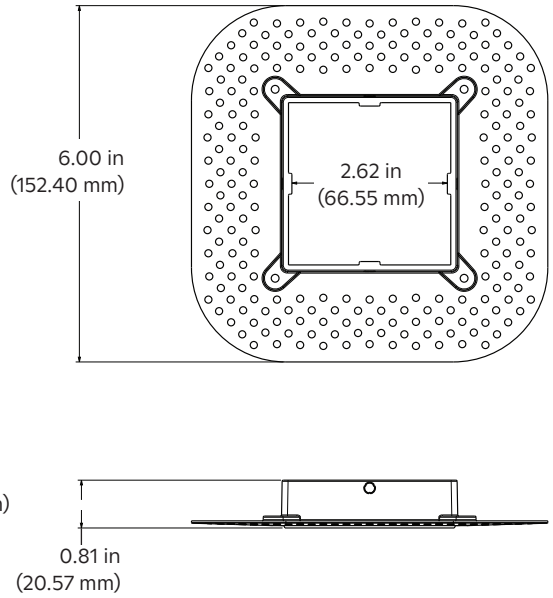
©2025 Lutron Electronics Co., Inc., All rights reserved.

PRODUCT DIMENSIONS (cont.)

Flangeless Mud-In Housing, Square



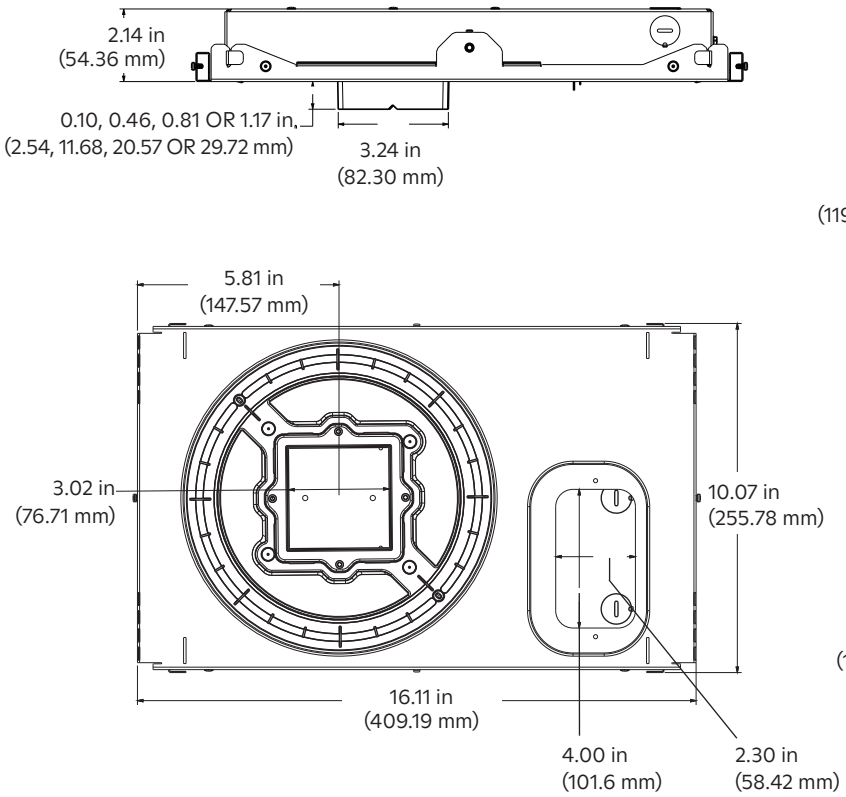
Flangeless Mud-In Trim Retainer, Square



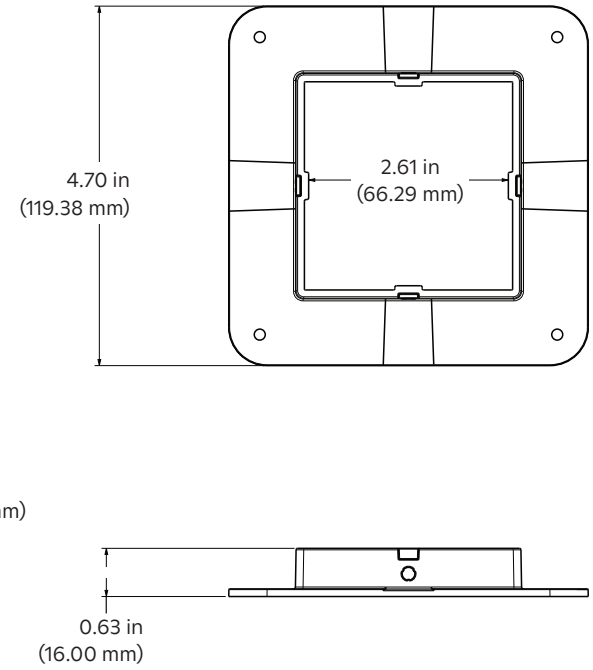
©2025 Lutron Electronics Co., Inc., All rights reserved.

PRODUCT DIMENSIONS (cont.)

Flangeless Millwork Housing, Square



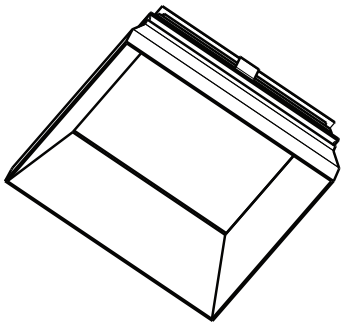
Flangeless Millwork Trim Retainer, Square

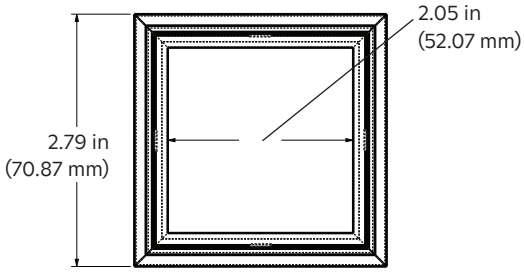


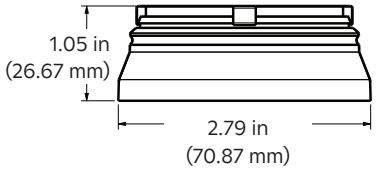
©2025 Lutron Electronics Co., Inc., All rights reserved.

PRODUCT DIMENSIONS (cont.)

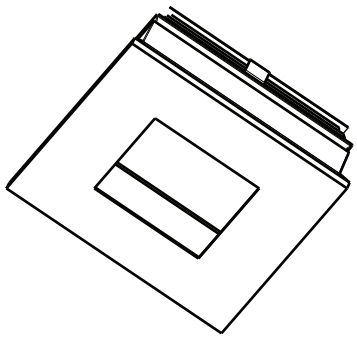
Flangeless Bevel Trim, Square

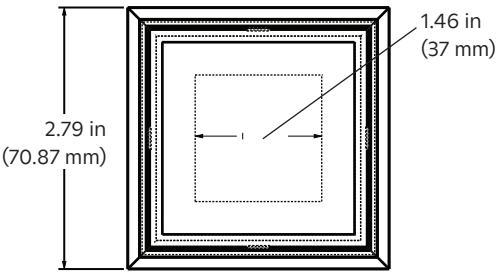


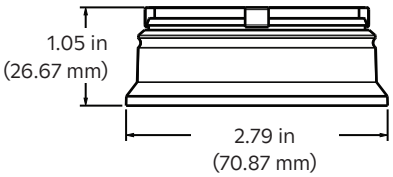




Flangeless Pinhole Trim, Square







©2025 Lutron Electronics Co., Inc., All rights reserved.

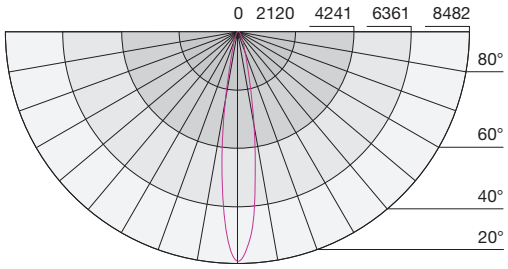
PHOTOMETRIC DATA[1]

Beam Angle: 15˚ Spot, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
XX_D2-TWFXRDFS18GT15L-XXXX	18 W	1018	8482

Foot-candles		Beam Dia.
236	6 ft (1.8 m)	1.58 ft (0.48 m)
133	8 ft (2.4 m)	2.11 ft (0.64 m)
85	10 ft (3 m)	2.63 ft (0.80 m)
59	12 ft (3.7 m)	3.16 ft (0.96 m)
43	14 ft (4.3 m)	3.69 ft (1.12 m)

Distance From Light

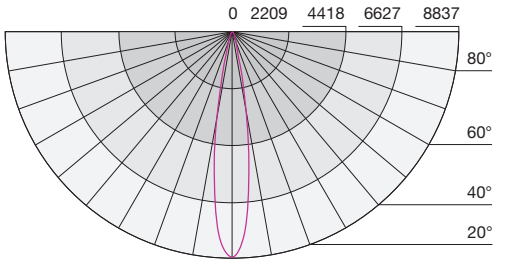


Beam Angle: 15˚ Spot, High Output

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT15H-XXXX	18 W	1161	8837

Foot-candles		Beam Dia.
245	6 ft (1.8 m)	1.58 ft (0.48 m)
138	8 ft (2.4 m)	2.11 ft (0.64 m)
88	10 ft (3 m)	2.63 ft (0.80 m)
61	12 ft (3.7 m)	3.16 ft (0.96 m)
45	14 ft (4.3 m)	3.69 ft (1.12 m)

Distance From Light

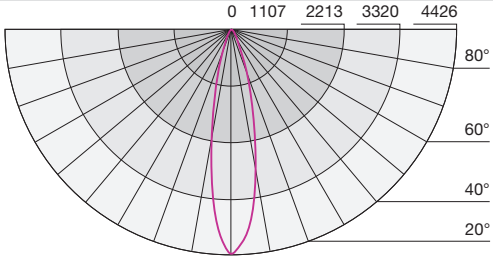


Beam Angle: 25˚ Spot, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT25L-XXXX	18 W	1040	4426

Foot-candles		Beam Dia.
123	6 ft (1.8 m)	2.66 ft (0.81 m)
69	8 ft (2.4 m)	3.55 ft (1.08 m)
44	10 ft (3 m)	4.43 ft (1.35 m)
31	12 ft (3.7 m)	5.32 ft (1.62 m)
23	14 ft (4.3 m)	6.21 ft (1.89 m)

Distance From Light

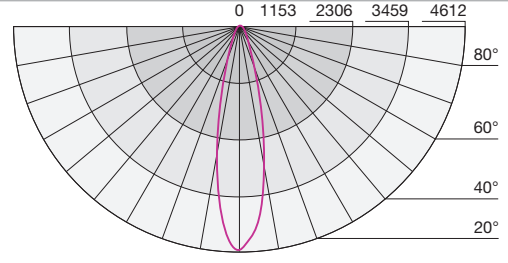


Beam Angle: 25˚ Spot, High Output

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT25H-XXXX	18 W	1151	4612

Foot-candles		Beam Dia.
128	6 ft (1.8 m)	2.66 ft (0.81 m)
72	8 ft (2.4 m)	3.55 ft (1.08 m)
46	10 ft (3 m)	4.43 ft (1.35 m)
32	12 ft (3.7 m)	5.32 ft (1.62 m)
24	14 ft (4.3 m)	6.21 ft (1.89 m)

Distance From Light



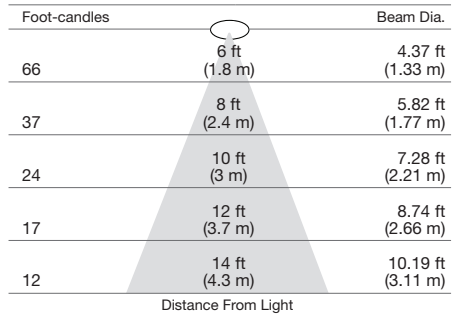
[1] All data is simulated to represent the typical performance expected with the following parameters: 1 in (25.4 mm) white trim, with light engine at nadir, at 3000 K, 25 °C ambient, 100% power input, default vibrancy, unless otherwise stated.

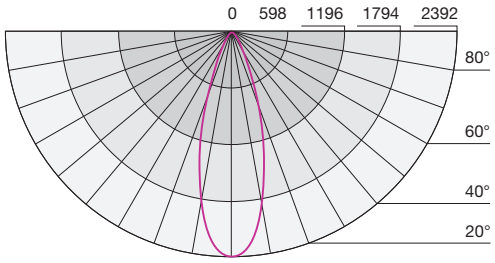
©2025 Lutron Electronics Co., Inc., All rights reserved.

PHOTOMETRIC DATA[1] (cont.)

Beam Angle: 40˚ Wide Flood, Low Glare

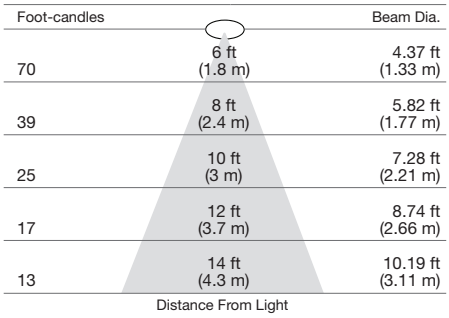
Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT40L-XXXX	18 W	884	2392

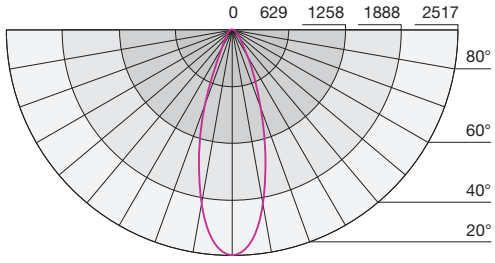




Beam Angle: 40˚ Wide Flood, High Output

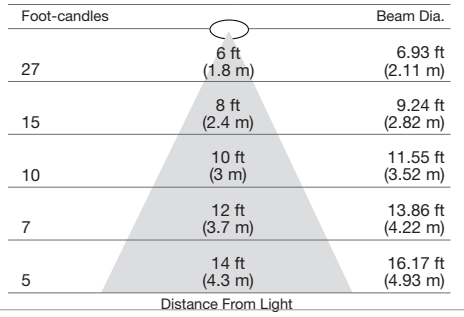
Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT40H-XXXX	18 W	1078	2517

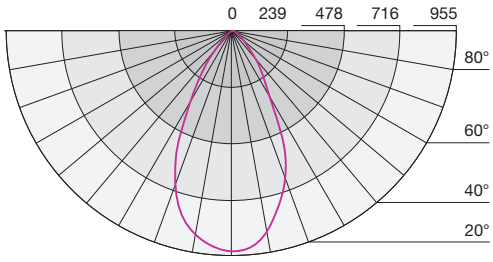




Beam Angle: 60˚ Very Wide Flood, Low Glare

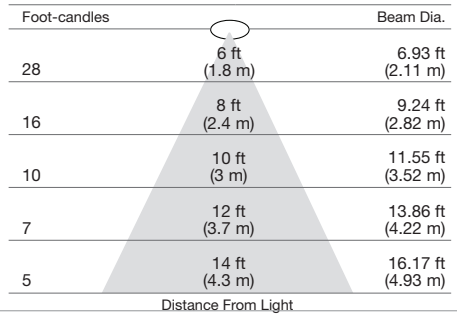
Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT60L-XXXX	18 W	856	955

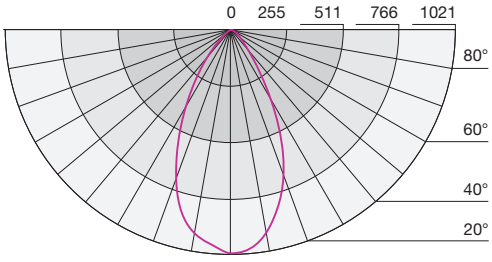




Beam Angle: 60˚ Very Wide Flood, High Output

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT60H-XXXX	18 W	1018	1021





[1] All data is simulated to represent the typical performance expected with the following parameters: 1 in (25.4 mm) white trim, with light engine at nadir, at 3000 K, 25 °C ambient, 100% power input, default vibrancy, unless otherwise stated.

©2025 Lutron Electronics Co., Inc., All rights reserved.

D2 General Specifications

Rania's D2 LED Downlight can easily be commissioned into Lutron HomeWorks or Athena systems.

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 LEDs binned to 3-step MacAdam ellipses.

LED Estimated Useful Life: Minimum of 50,000 hours at 70 percent lumen maintenance, calculated based on IES LM-80 test data.

Diagnostic reporting capability[1]: Clear Connect-Type X (CCX) light sources provide diagnostics and built-in technology to check input voltage and wireless connectivity.

Warranty: Lutron'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.

Dimming Range: Dimmable from 100 to 0.1 percent measured luminous flux.

Color Point Range: Single light source capable of producing white light from 1,800 K to 5,500 K Correlated Color Temperature (CCT).

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

Lutron, Rania, Ketra, TruBeam, Clear Connect, Athena, HomeWorks and any related trade dress and logos are trademarks or registered trademarks of Lutron Electronics Co., Inc. in the US and/or other countries.
All other product names, logos, and brands are property of their respective owners.

©2025 Lutron Electronics Co., Inc., All rights reserved.