

Rania D2 Fixed

PRODUCT DESCRIPTION

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

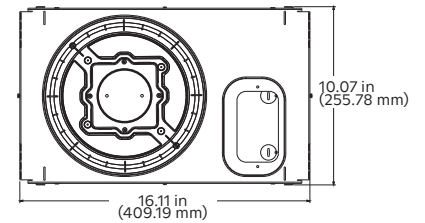
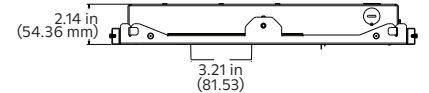
FEATURES

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.



Fixed, IC Fixture



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 Flangeless trims only.

² White flange standard with flanged trims.

SPECIFICATIONS¹

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	>90
Lumen Maintenance ³	50,000 hours to L70 @ 25 °C T_A
Color Point Range	1400 K – 10,000 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.
Warranty	5 year fixture, LED and dimming warranty

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 can not be converted to an Adjustable for 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).

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	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.

HOUSING ORDERING GUIDE

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

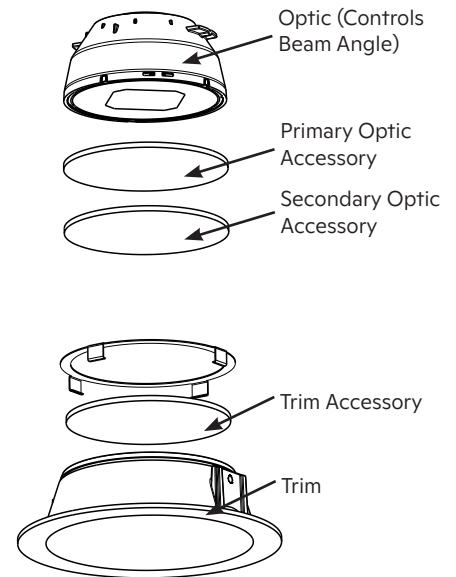
Housing

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

Order code: _____

Product Line	Code	Control System	Code
Commercial (Athena compatible)	CM-	CCX (Clear Connect-Type X)	GT
Residential (HomeWorks compatible)	HW-		
Series		Beam Angle	
D2 Fixture	D2	Spot (15°)	15
		Narrow Flood (25°)	25
		Flood (40°)	40
		Wide Flood (60°)	60
LED Type		Optic Style	
Rania	TW	Low Glare	L
Fixture Type		High Output	H
Fixed	FX		
Shape		Region/Voltage	
Square	SQ	120 V~ 60 Hz, North America	11
Round	RD	Location	
No Collar (to be specified later)	XX	Indoor	I
Ceiling Interface		Outdoor (HomeWorks Resi Products only) ¹	O
Flanged	F	Primary Optic Accessory ^{2,4}	
Flangeless Mud-In	X	None	XX
Flangeless Millwork	M	Soft Focus Lens ^{2,4}	S1
Ceiling Thickness ⁵		Frosted Lens ^{2,4}	F1
Thin Ceiling	N	Linear Lens (10×20) ^{2,4}	L1
Standard Ceiling	S	Hex Louver ^{3,4}	H1
Thick Ceiling	T	Secondary Optic Accessory ^{2,4}	
Deep Ceiling	D	None	XX
Power Consumption		Soft Focus Lens ^{2,4}	S1
18 W	18	Frosted Lens ^{2,4}	F1
		Linear Lens (10×20) ^{2,4}	L1
		Hex Louver ^{3,4}	H1

Trim Exploded View²



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).

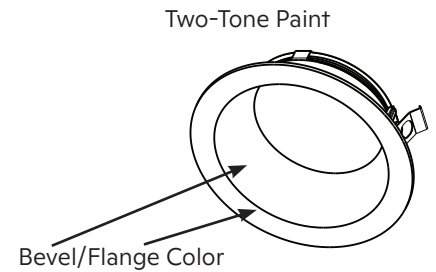
TRIM ORDERING GUIDE

Trim

UN-	D2
Product Line	Series

Shape	Ceiling Interface	Aperture Profile	Trim Finish	Trim Accessory
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Order code: _____



Product Line	Code	Trim Finish	Trim Accessory ^{2,3}	Code	
Universal	UN-	White ¹	WH	Soft Focus Lens ^{2,3}	S1
Series		Black	BK	Frosted Lens ^{2,3}	F1
D2 Fixture	D2	Gloss Black	GB	Linear Lens (10x20) ^{2,3}	L1
Shape		Bronze	RB	Clear Lens ^{2,3}	C1
Round	RD	Silver	SR	None	XX
Square	SQ	Silver/White	SW		
Ceiling Interface		Black/White	BW		
Flanged	F	Gloss Black/White	GW		
Flangeless Mud-In	X	None	XX		
Flangeless Millwork	M				
Aperture Profile					
Bevel	B				
Pinhole	P				

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 (10x20)	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.



D2 FIXED DOWNLIGHT

P/N 3663024 Rev A

Specifications are subject to change without notice

COMPONENT ORDERING GUIDE

Replacement Optics

UN-D2	OP	
Product Line	Accessory Type	Beam Angle
Order code: _____		

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	
Product Line	Accessory Type	Accessory
Order code: _____		

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	
Product Line	Accessory Type	Accessory
Order code: _____		

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

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.

COMPONENT ORDERING GUIDE (cont.)

Mounting & Installation Kits

UN-D2

Product Line	Accessory
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Order code: _____

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	TRRDY
Trim Retainer, Round Millwork	TRRDM
Trim Retainer, Square Mud-In	TRSQX
Trim Retainer, Square Millwork	TRSQM

Collar Adapters

UN-D2

Product Line	Collar Adapters	Ceiling Thickness
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Order code: _____

Product Line	Code
Universal Part - Recessed Downlight	UN-D2

Collar Adapters¹

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 Thickness⁴

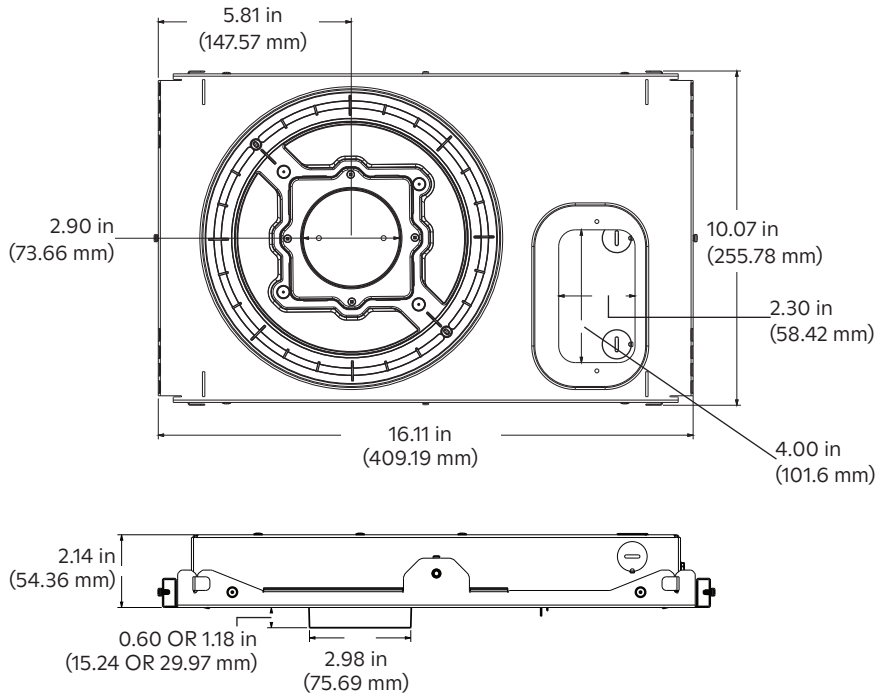
Thin	N
Standard	S
Thick	T
Deep	D

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

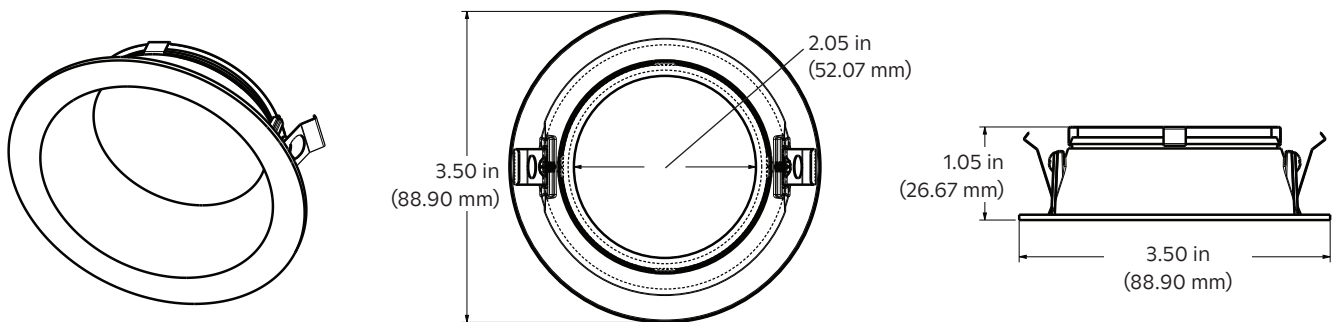
1 Ceiling installation cannot begin until collar adapter is installed.
 2 Mud-in trim retainer supplied with mud-in collar adapter.
 3 Millwork trim retainer supplied with millwork trim to ensure color match.
 4 The ceiling thickness option required varies by ceiling interface. Contact Lighting Technical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

PRODUCT DIMENSIONS

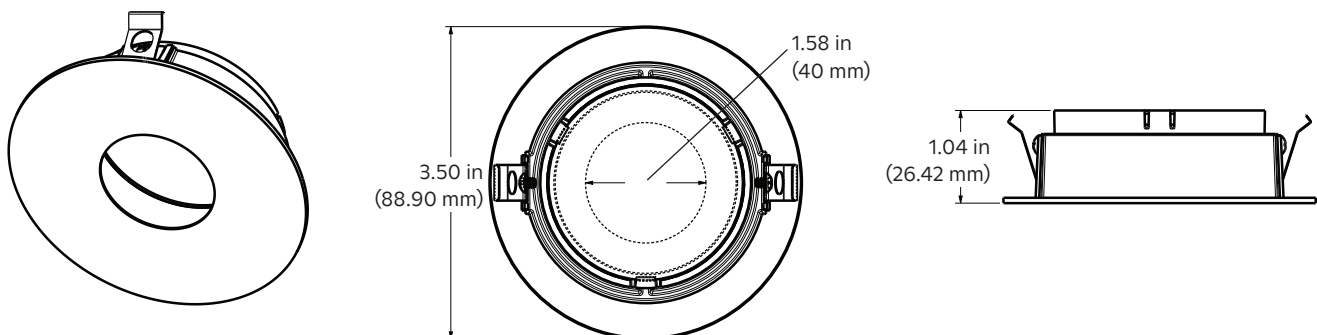
Flanged Housing, Round



Flanged Bevel Trim, Round

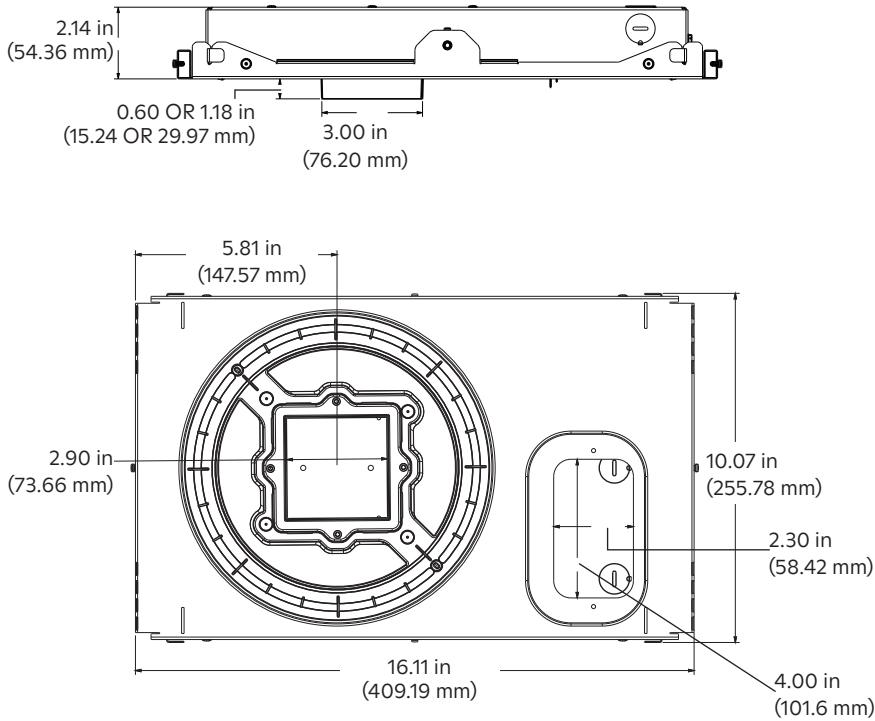


Flanged Pinhole Trim, Round

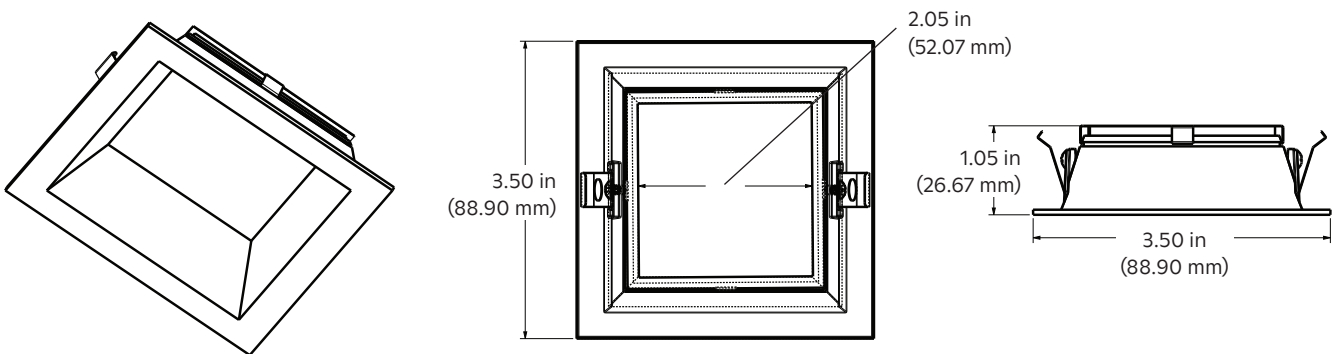


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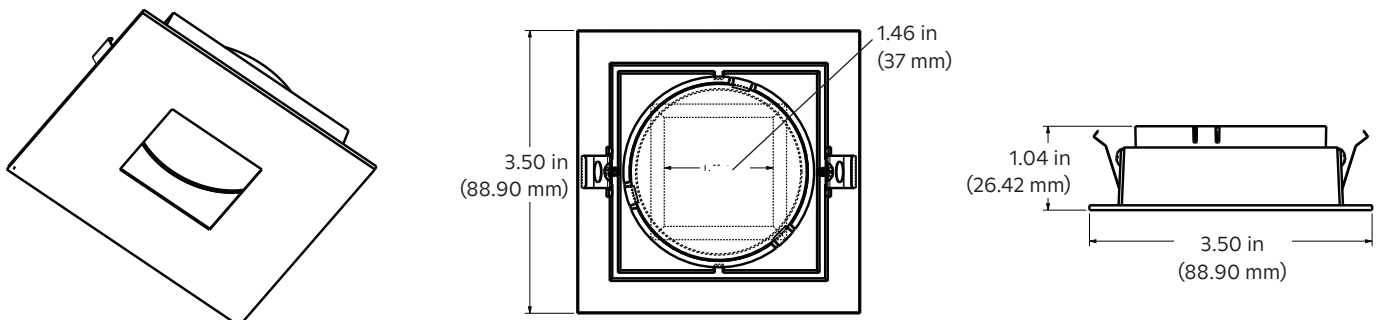
Flanged Housing, Square



Flanged Bevel Trim, Square

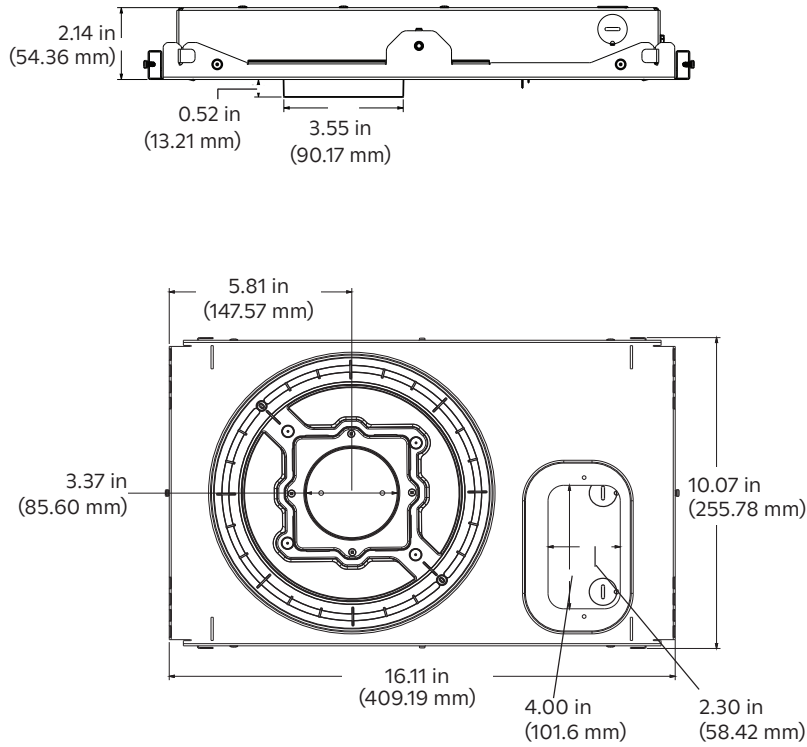


Flanged Pinhole Trim, Square

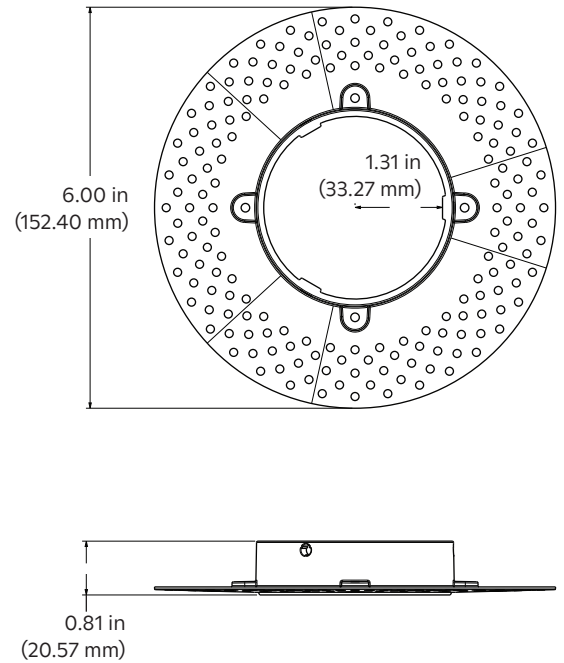


PRODUCT DIMENSIONS (cont.)

Flangeless Mud-In Housing, Round

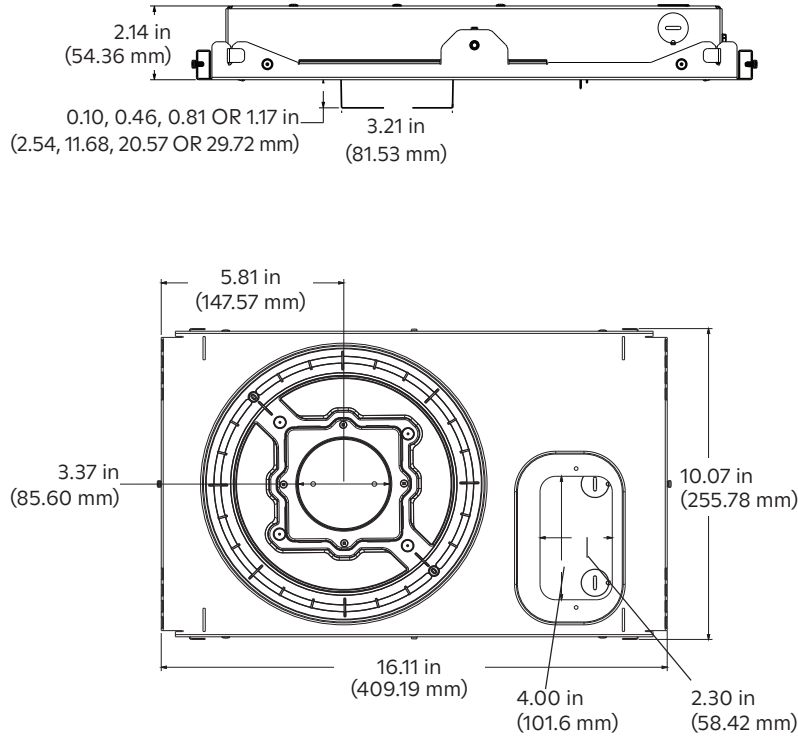


Flangeless Mud-In Trim Retainer, Round

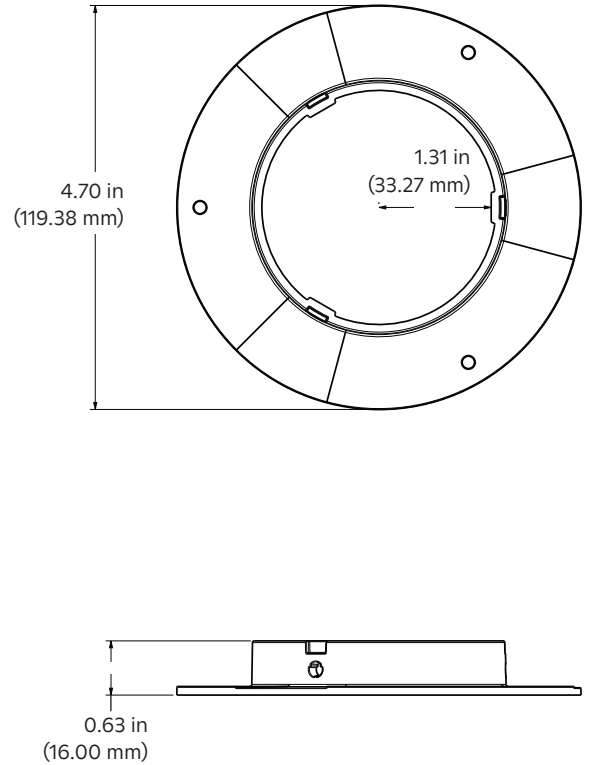


PRODUCT DIMENSIONS (cont.)

Flangeless Millwork Housing, Round

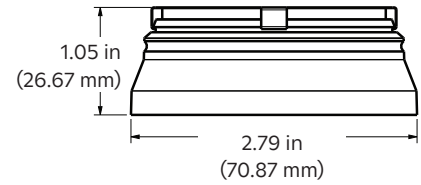
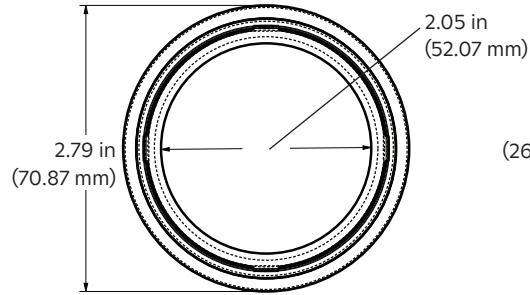
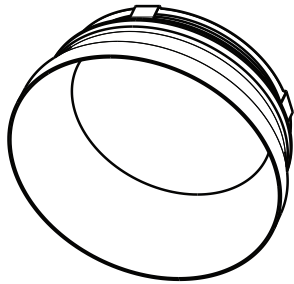


Flangeless Millwork Trim Retainer, Round

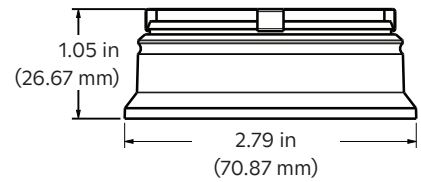
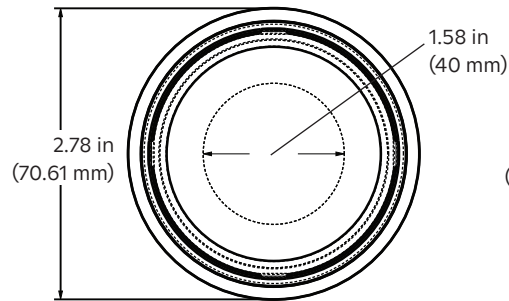
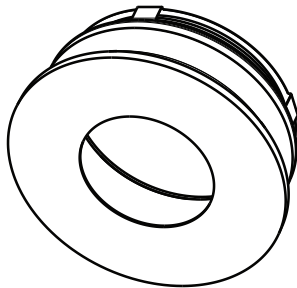


PRODUCT DIMENSIONS (cont.)

Flangeless Bevel Trim, Round

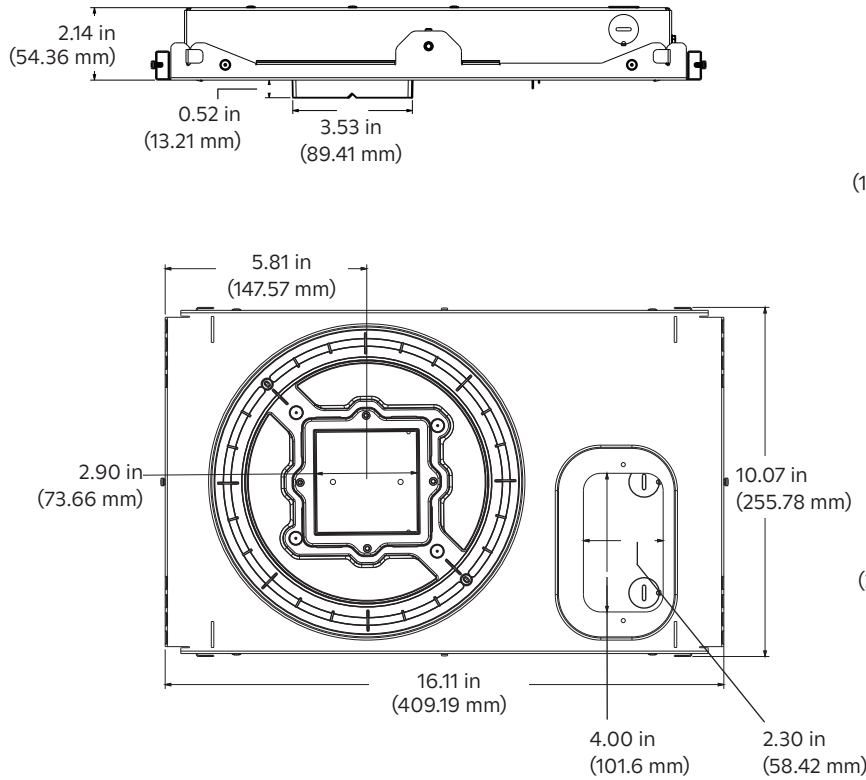


Flangeless Pinhole Trim, Round

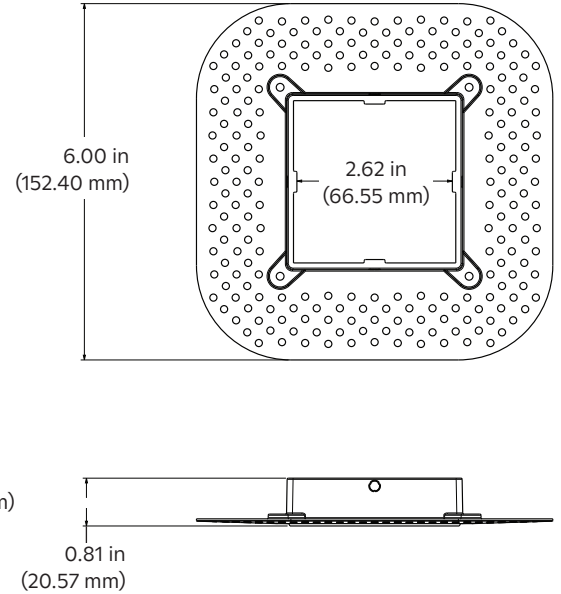


PRODUCT DIMENSIONS (cont.)

Flangeless Mud-In Housing, Square

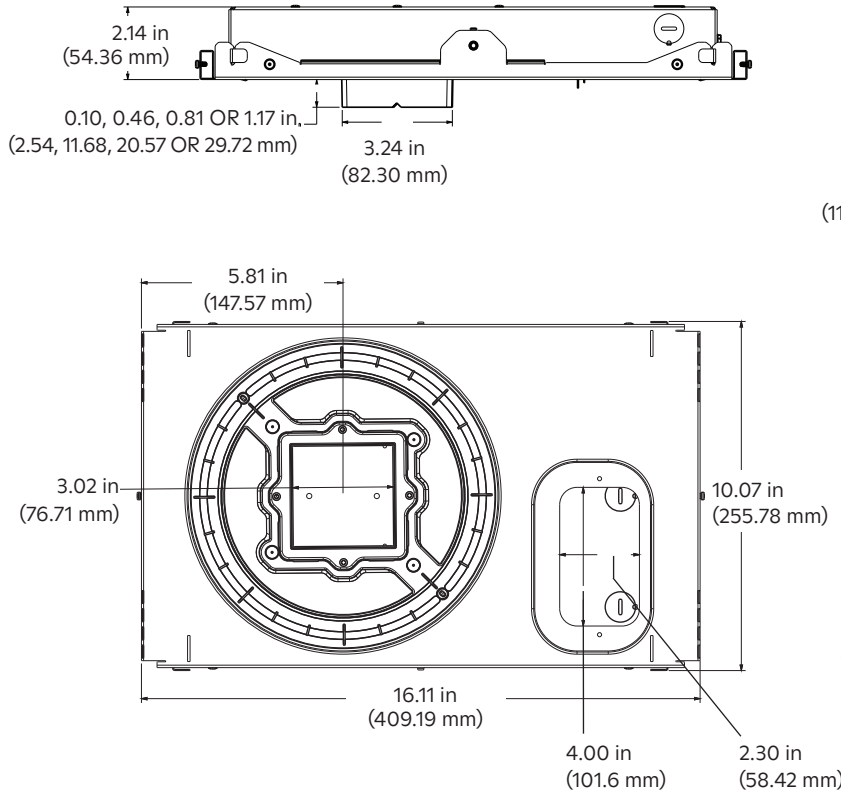


Flangeless Mud-In Trim Retainer, Square

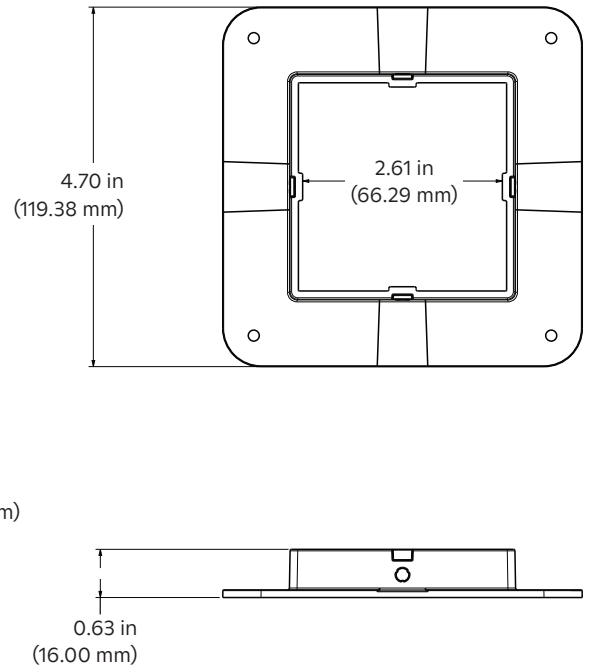


PRODUCT DIMENSIONS (cont.)

Flangeless Millwork Housing, Square

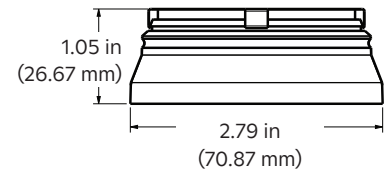
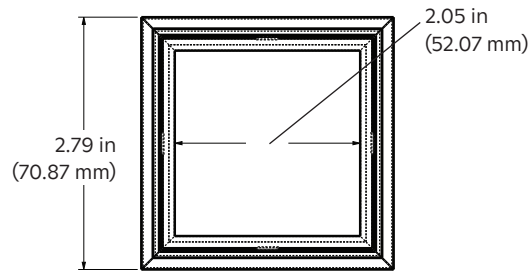
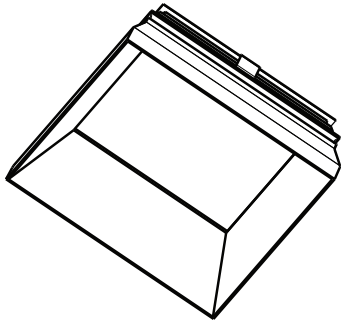


Flangeless Millwork Trim Retainer, Square

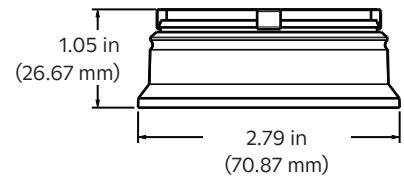
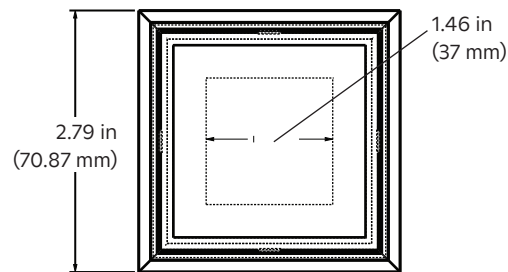
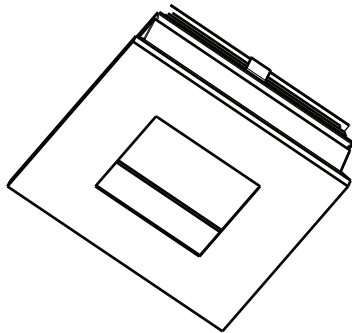


PRODUCT DIMENSIONS (cont.)

Flangeless Bevel Trim, Square



Flangeless Pinhole Trim, Square

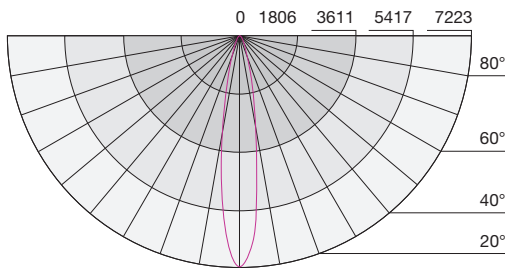


PHOTOMETRIC DATA¹

Beam Angle: 15° Spot, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
XX_D2-TWFXRDFS18GT15L-XXXX	18 W	1018	7223

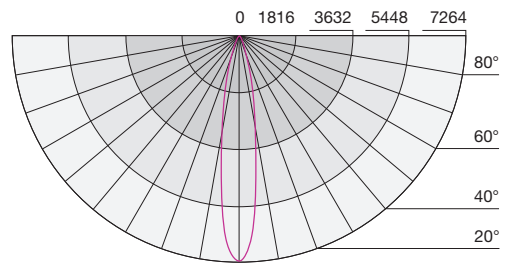
Foot-candles	Distance From Light	Beam Dia.
200.6	6 ft (1.8 m)	1.58 ft (0.48 m)
112.9	8 ft (2.4 m)	2.11 ft (0.64 m)
72.2	10 ft (3 m)	2.63 ft (0.80 m)
50.2	12 ft (3.7 m)	3.16 ft (0.96 m)
36.8	14 ft (4.3 m)	3.69 ft (1.12 m)



Beam Angle: 15° Spot, High Output

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT15H-XXXX	18 W	1161	7264

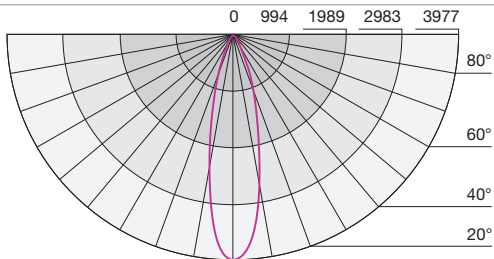
Foot-candles	Distance From Light	Beam Dia.
201.8	6 ft (1.8 m)	1.58 ft (0.48 m)
113.5	8 ft (2.4 m)	2.11 ft (0.64 m)
72.6	10 ft (3 m)	2.63 ft (0.80 m)
50.4	12 ft (3.7 m)	3.16 ft (0.96 m)
37.1	14 ft (4.3 m)	3.69 ft (1.12 m)



Beam Angle: 25° Spot, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT25L-XXXX	18 W	1040	3977

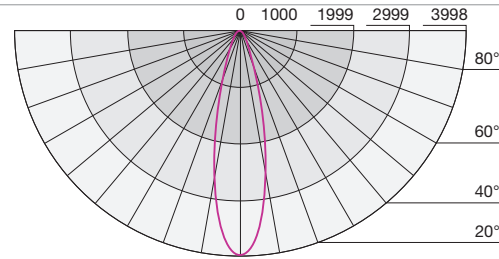
Foot-candles	Distance From Light	Beam Dia.
108.1	6 ft (1.8 m)	2.66 ft (0.81 m)
60.8	8 ft (2.4 m)	3.55 ft (1.08 m)
38.9	10 ft (3 m)	4.43 ft (1.35 m)
27.0	12 ft (3.7 m)	5.32 ft (1.62 m)
19.9	14 ft (4.3 m)	6.21 ft (1.89 m)



Beam Angle: 25° Spot, High Output

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT25H-XXX	18 W	1151	3998

Foot-candles	Distance From Light	Beam Dia.
108.9	6 ft (1.8 m)	2.66 ft (0.81 m)
61.3	8 ft (2.4 m)	3.55 ft (1.08 m)
39.2	10 ft (3 m)	4.43 ft (1.35 m)
27.2	12 ft (3.7 m)	5.32 ft (1.62 m)
20.0	14 ft (4.3 m)	6.21 ft (1.89 m)



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.

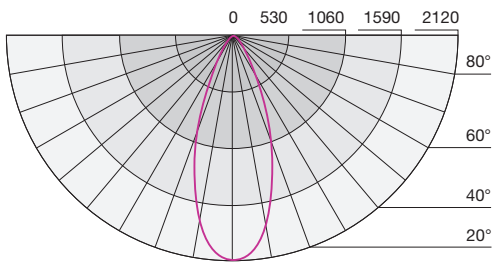
PHOTOMETRIC DATA¹ (cont.)

Beam Angle: 40° Wide Flood, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT40L-XXXX	18 W	884	2120

Foot-candles	Beam Dia.
58.9	6 ft (1.8 m)
33.1	8 ft (2.4 m)
21.2	10 ft (3 m)
14.7	12 ft (3.7 m)
10.8	14 ft (4.3 m)

Distance From Light

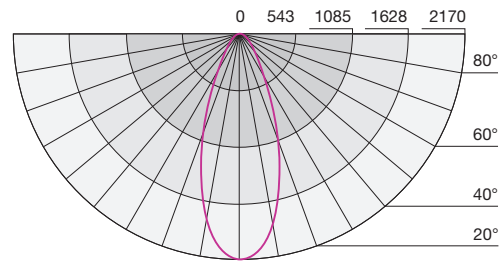


Beam Angle: 40° Wide Flood, High Output

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT40H-XXXX	18 W	1078	2170

Foot-candles	Beam Dia.
60.2	6 ft (1.8 m)
33.9	8 ft (2.4 m)
21.7	10 ft (3 m)
15.1	12 ft (3.7 m)
11.1	14 ft (4.3 m)

Distance From Light

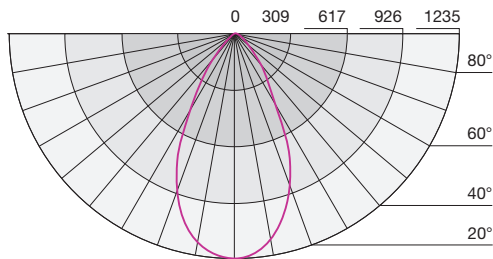


Beam Angle: 60° Very Wide Flood, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT60L-XXXX	18 W	856	1124.7

Foot-candles	Beam Dia.
31.2	6 ft (1.8 m)
17.5	8 ft (2.4 m)
11.2	10 ft (3 m)
7.8	12 ft (3.7 m)
5.7	14 ft (4.3 m)

Distance From Light

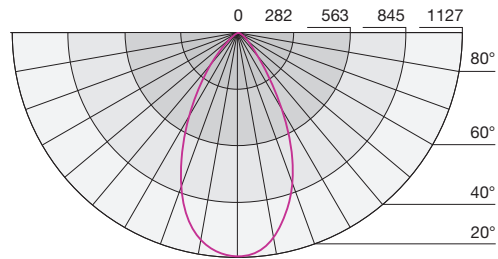


Beam Angle: 60° Very Wide Flood, High Output

Model Number	Wattage	Delivered Lumens	CBCP
XX-D2-TWFXRDFS18GT60H-XXXX	18 W	884	1127

Foot-candles	Beam Dia.
32.1	6 ft (1.8 m)
18.1	8 ft (2.4 m)
11.5	10 ft (3 m)
8.0	12 ft (3.7 m)
5.9	14 ft (4.3 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.

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 capability¹: 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 1,800K to 5,500K 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).