

Rania D2R Fixed Remodeler Downlight

PRODUCT DESCRIPTION

Rania D2R, non-IC rated recessed LED downlights are available in fixed, adjustable, and wall-wash options to complete any lighting design project.

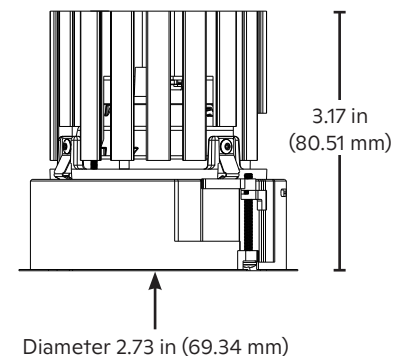
FEATURES

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.








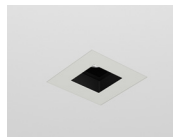




Natural Show—The Rania fixtures' wide color temperature range and native control enables it to participate in Lutron's Natural Show. Natural show automatically adjusts the intensity and color temperature of the light over the course of the day. It can be used to bring the outside in by matching outdoor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



Fixed LED Module with Ceiling Mount



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	16.3 W
15° beam, high output	1045 lm
25° beam, high output	1061 lm
40° beam, high output	993 lm
60° beam, high output	949 lm
15° beam, low glare	956 lm
25° beam, low glare	978 lm
40° beam, low glare	854 lm
60° beam, low glare	820 lm
CRI (Ra)	>90 from 2700 K to 5000 K
R9	>80
Lumen Maintenance ³	50,000 hours to L70 @ 25 °C T_A
CCT Range	1800 K- 5500K
Dimming Protocol	Wireless RF/CCX (Lutron Clear Connect-Type X)
Dimming Range	0.1-100%
Delivered Efficacy	
Beam Angle	16.3 W
15° beam, high output	64 lm/W
25° beam, high output	65 lm/W
40° beam, high output	61 lm/W
60° beam, high output	58 lm/W
15° beam, low glare	59 lm/W
25° beam, low glare	60 lm/W
40° beam, low glare	52 lm/W
60° beam, low glare	50 lm/W

Environmental

Ambient Temperature ⁵	32 – 104 °F (0 – 40 °C)
Extended Ambient Temperature ⁴	-32 – 32 °F (-35 – 0 °C)
Humidity	0 – 95%, Non-condensing
Certification	UL, cUL, 120 V~: FCC Class B, T24 (JA8)⁵; Non-IC Rated ⁷
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.

Mechanical

Mounting Options	Flanged and mud-in ceiling mount: Installed after the ceiling installation is complete. Millwork ceiling mount: Requires access prior to ceiling installation to attach the mount.
Field Replaceable Optics	Yes
Field Replaceable LED Module	Yes
Field Replaceable Power Supply	Yes
Field LED Module Type Convertibility	Adjustable and Fixed LED Modules are interchangeable.
Fixture Weight ⁶	1.03 lb (0.468 kg)
LED Module Material	Painted and Anodized Aluminium
Lens Material	PMMA

Warranty

Limited Warranty	5 years fixture, LED and dimming warranty
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¹ All measurements are considered typical performance and were taken with 1 in (25.4 mm) white trim 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 All products in the D2R 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).

⁶ Includes the weight of the power supply, LED module, mount and trim.

⁷ Maintain 6 in (152.4 mm) from all the insulation in the ceiling. Refer to the LED module drawings in the 'Product Dimensions' section for a visual and information.

SPECIFICATIONS¹ (cont.)

Dimensions

Ceiling Hole Diameter/Width	3.13 in (79.37 mm) Flanged 4.00 in (101.6 mm) Flangeless Mud-In 2.83 in (71.88 mm) Flangeless Millwork
Ceiling Thickness (min-max)	0.5 – 2 in (12.7 – 50.8 mm)
Ceiling Install Cavity ²	Maintain 1.5 in (38.1 mm) of space above the product
LED Module Diameter	2.73 in (69.21 mm)
Trim Thickness	0.050 in (1.27 mm)
Mount Height	1.11 in (28.19 mm)
Mount Length/Diameter	Flanged 3.40 in (86.36 mm) Mud-In 6.00 in (152.4 mm) Millwork 3.43 in (87.12 mm)

Electrical

Power Consumption	16.3 W
Input Current	150 mA
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) ³ .
Wiring	CCX devices require continuous power for optimal mesh performance, and must be wired such that their power cannot be inadvertently or frequently interrupted. Bypass any dimmer or switch in between the breaker and the CCX device.

Communication

Processor or Gateway to Device	All CCX devices must be within 75 ft (22.9 m) of their assigned processor or gateway. It is recommended that the wireless processor or gateway and the CCX devices assigned to it are located on the same floor.
Device to Device	Each CCX device must have at least two other non-battery powered CCX devices within 25 ft (7.5 m). Groups or clusters of CCX devices assigned to the same processor or gateway must not be separated by more than 25 ft (7.5 m).
Interference Sources	CCX devices must be placed a minimum of 3 ft (1.0 m) from 2.4 GHz interference sources such as wireless access points, microwave ovens, Vive hubs.

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

² Maintain 6 in (152.4 mm) from all insulation in the ceiling. Refer to the LED module drawings in the 'Product Dimensions' section for a visual and information.

³ See Lutron Application Note 106 (P/N 048106) at www.lutron.com for wiring details of emergency lighting in commercial systems.



RANIA D2R FIXED DOWNLIGHT

P/N 3663302 Rev A
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COMPONENT ORDERING GUIDE

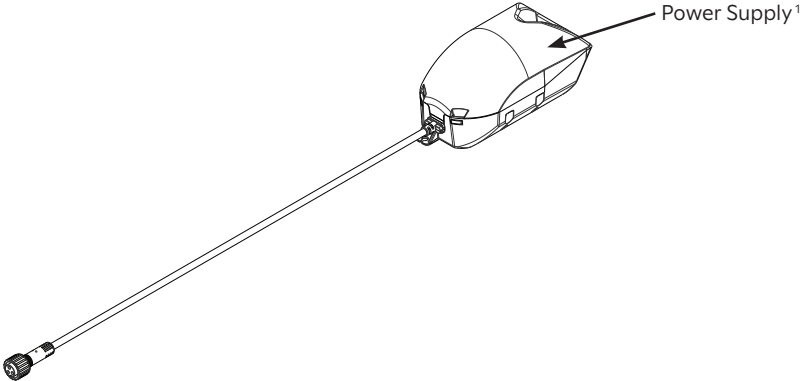
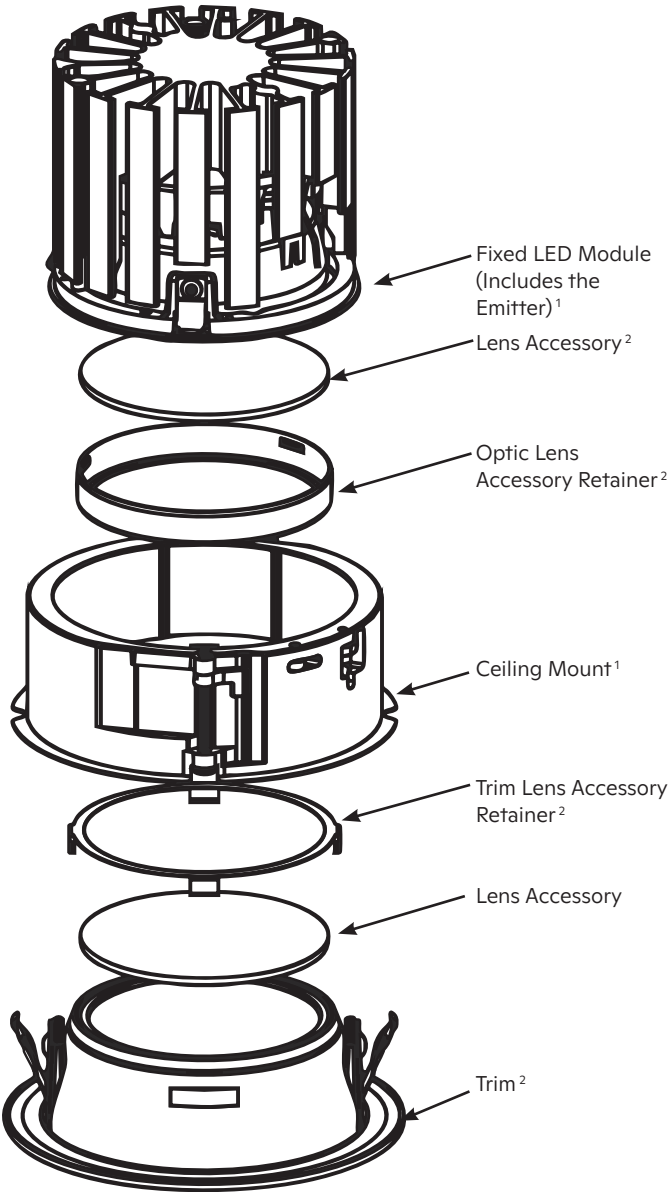
Please download this PDF to use the interactive drop down features of the ordering guide.

LED Module

	D2R	TW	F	18
Product Line	Series	LED Type	Fixture Type	Power Supply Max. Rating
		11		
Beam Angle	Optic Style	Voltage		

Order code: _____

Product Line	Code
Residential (HomeWorks compatible)	HW-
Commercial (coming soon)	CM-
Series	
D2R Fixture	D2R
LED Type	
Rania	TW
Fixture Type	
Fixed	F
Power Supply Max. Rating	
18 W	18
Beam Angle	
Spot (15°)	15
Narrow Flood (25°)	25
Flood (40°)	40
Wide Flood (60°)	60
Optic Style	
Low Glare	L
High Output	H
Voltage	
120 V~ 60 Hz	11



1 Required for installation.
2 Optional.

COMPONENT ORDERING GUIDE (cont.)

Replacement Optics

UN-D2	OP	
Product Line	Accessory Type	Beam Angle

Order code: _____

Optics Accessories

UN-D2	OA	
Product Line	Accessory Type	Accessory

Order code: _____

Trim Lens Accessories

UN-D2	TL		
Product Line	Accessory Type	Shape	Accessory

Order code: _____

Product Line	Code
Universal Part - Recessed Downlight	UN-D2
Accessory Type	
Optic	OP
Beam Angle	
Spot (15°) Low Glare ⁴	LG15
Flood (25°) Low Glare	LG25
Wide Flood (40°) Low Glare	LG40
Very Wide Flood (60°) Low Glare	LG60
Spot (15°) High Output ⁴	HO15
Flood (25°) High Output	HO25
Wide Flood (40°) High Output	HO40
Very Wide Flood (60°) High Output	HO60

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
Hex Louver ^{2,3}	H1
None	XX

Product Line	Code
Universal Part - Recessed Downlight	UN-D2
Accessory Type	
Trim	TL
Shape	
Square	SQ
Round	RD
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 OPTION EFFICIENCY TABLE

	LG15	LG25	LG40	LG60	HO15	HO25	HO40	HO60
Clear	100%	100%	100%	100%	100%	100%	100%	100%
Soft Focus	93%	93%	93%	93%	95%	96%	96%	96%
Frosted	93%	93%	92%	93%	95%	96%	96%	95%
Linear (10×20)	92%	92%	92%	91%	94%	94%	94%	94%
Hex Louver	67%	62%	56%	50%	61%	58%	51%	45%

¹ Downlight is wet location rated when trim is installed with lens.

² Maximum of two accessories available at once across the optic and trim accessories.

³ Downlights with outdoor housings require a trim installed with lens.

⁴ 15° optics must be used with 15° emitters. 15° emitters can be confirmed in the housing ordering code. 25°, 40° and 60° optics share the same base emitter.



RANIA D2R FIXED DOWNLIGHT

P/N 3663302 Rev A
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COMPONENT ORDERING GUIDE (cont.)

Power Supply

D2R	PS	120
Product Line	Product	Voltage

Order code: _____

Product Line	Code
Recessed Downlight	D2R

Product	
Power Supply	PS

Voltage	
120 V~ 60 Hz	120

Ceiling Mounts

UN-D2R			
Product Line	Shape	Ceiling Interface	Ceiling Thickness

Order code: _____

Product Line	Code
Universal Part	UN-D2R

Shape	
Square	SQ
Round	RD

Ceiling Interface	
Flanged	F
Flangeless Mud-In	X
Flangeless Millwork	M

Ceiling Thickness ^{1,2}	
Standard Ceiling	S
Thick Ceiling	T
Deep Ceiling	D

Ceiling Thickness Options Table

Ceiling Type	Dimensions: in (mm)	Ceiling Thickness
Flanged/Flangeless Mud In	0.5-1 (12.7-25.4)	Standard (S)
	>1-1.5 (25.4-38.1)	Thick (T)
	>1.5-2 (38.1-50.8)	Deep (D)
Flangeless Millwork	0.5-2.0 (12.7-50.8)	No selection required

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

¹ The ceiling thickness option required varies by ceiling interface. See Ceiling Thickness Options table above for details.

² No ceiling thickness selection is required for millwork.



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P/N 3663302 Rev A
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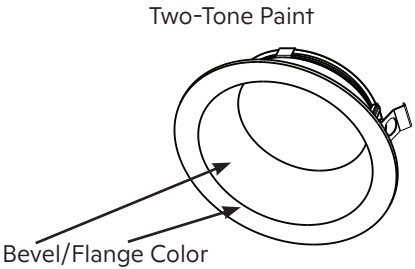
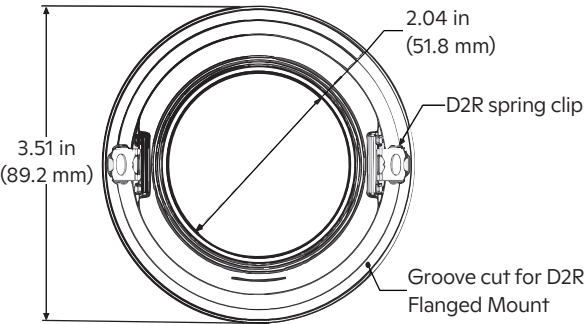
TRIM ORDERING GUIDE

Trim

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

Order code: _____

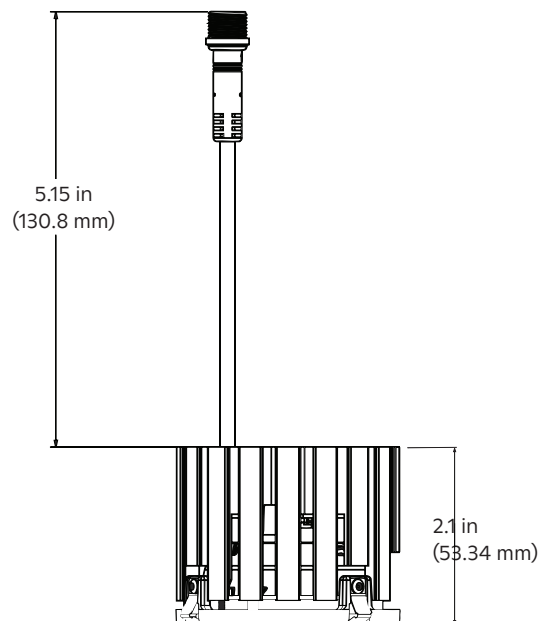
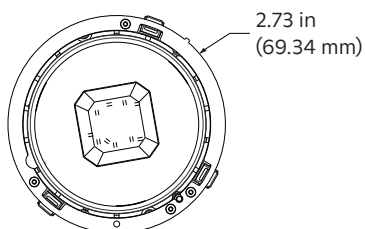
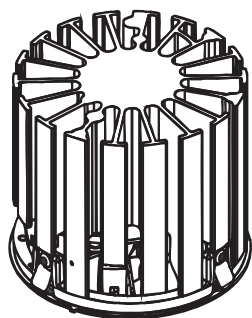
Product Line	Code	Trim Finish	
Universal	UN-	White/Paintable White ¹	WH
Series		Black	BK
D2 Fixture	D2	Gloss Black	GB
Shape		Bronze	RB
Round	RD	Silver	SR
Square	SQ	Silver/White	SW
Ceiling Interface		Black/White	BW
Flanged	F	Gloss Black/White	GW
Flangeless Mud-In	X	None	XX
Flangeless Millwork	M	Trim Accessory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



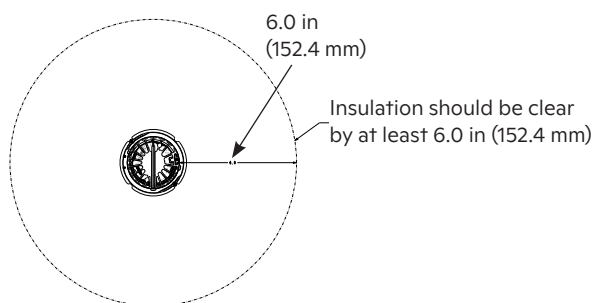
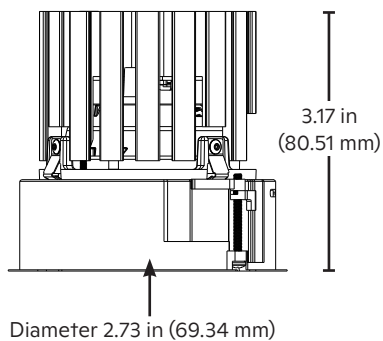
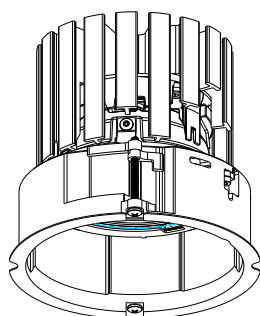
¹ White finish can be used as a primer for customer selected and applied paint.
² Maximum of two accessories available at once across the optic and trim accessories.
³ The addition of accessory lens will reduce lumen output. See Trim/Lens Option Efficiency table.

PRODUCT DIMENSIONS

Fixed LED Module



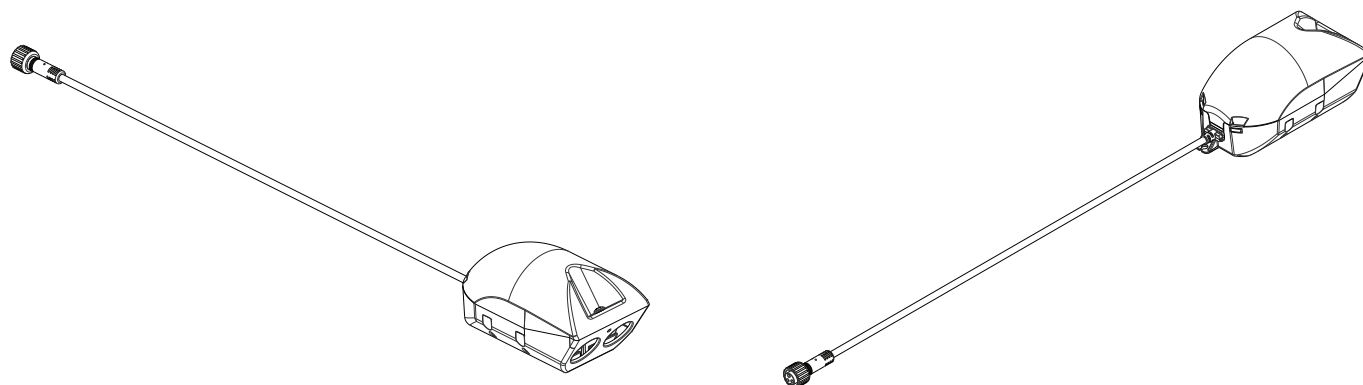
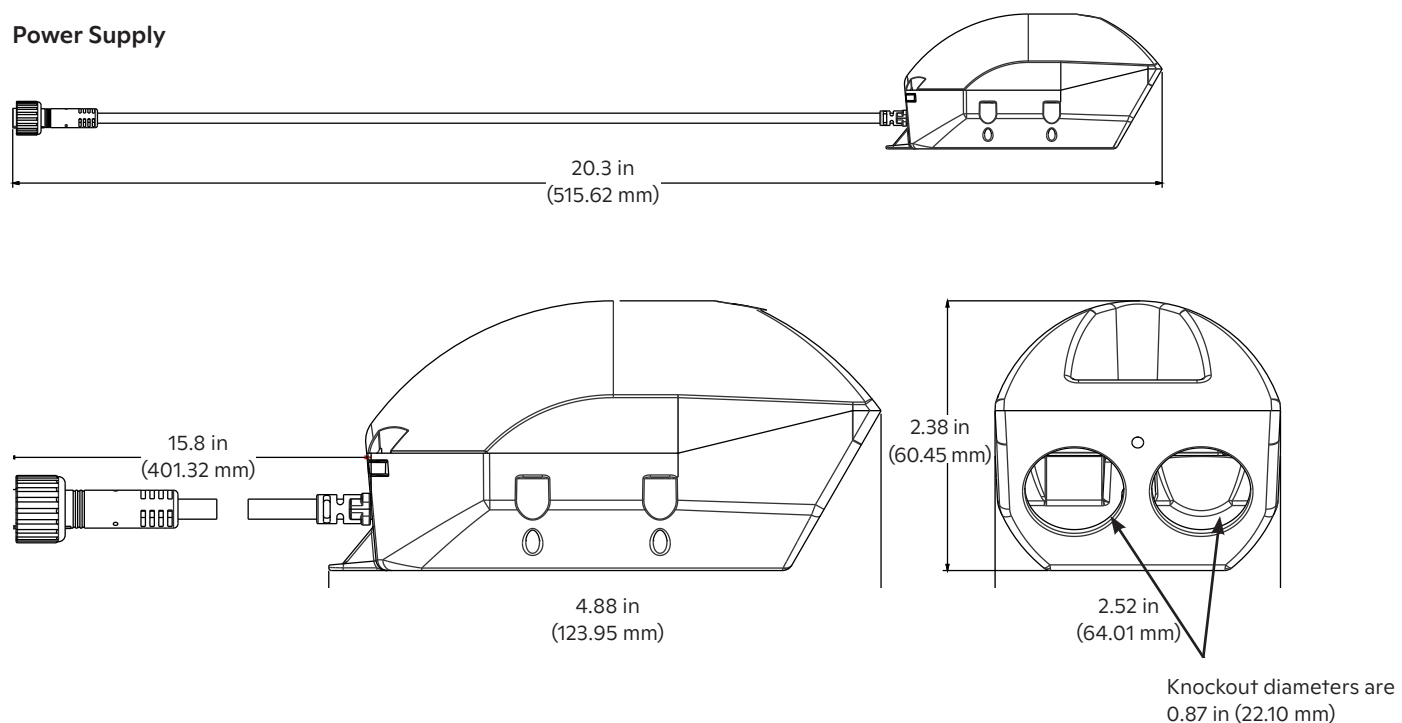
LED Module with Ceiling Mount



View of LED module from above the ceiling

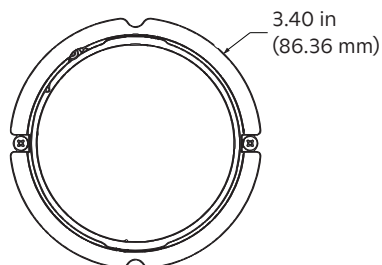
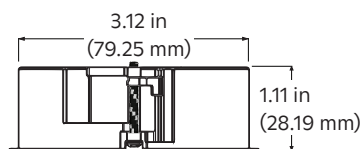
PRODUCT DIMENSIONS (cont.)

Power Supply

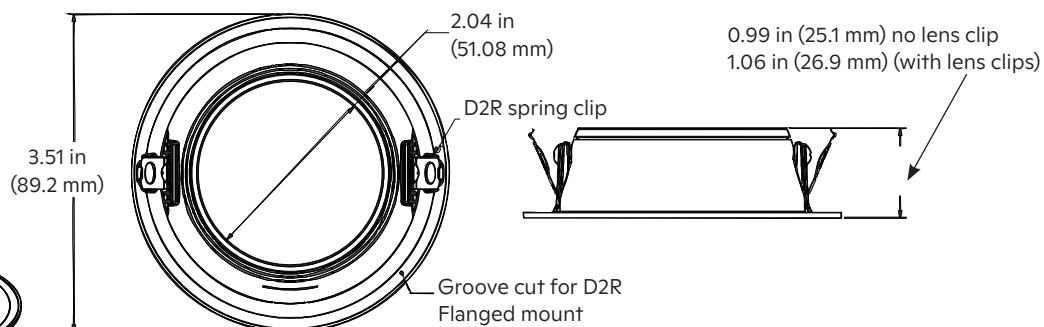
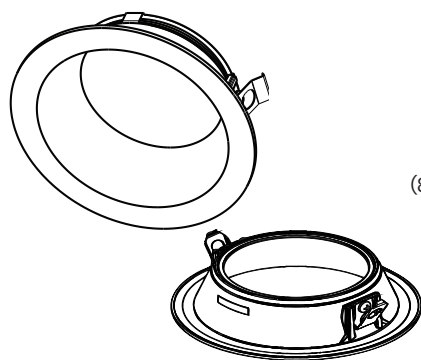


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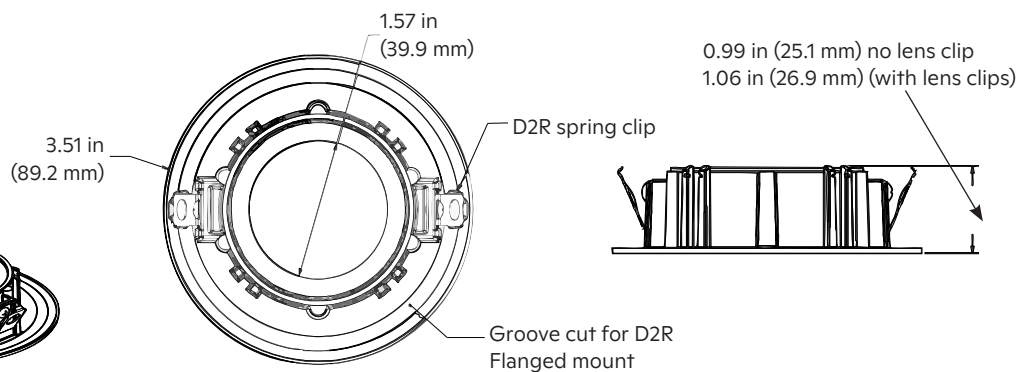
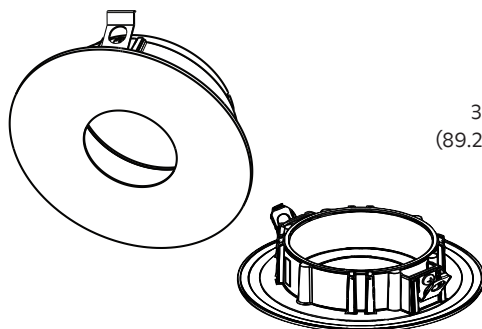
Flanged Mount, Round



Flanged Bevel Trim, Round

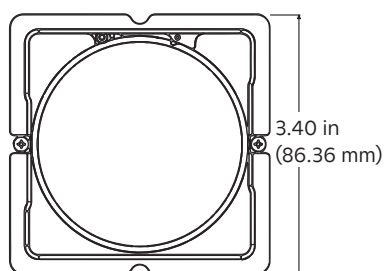
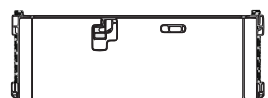
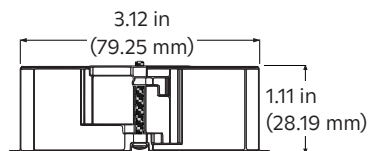


Flanged Pinhole Trim, Round

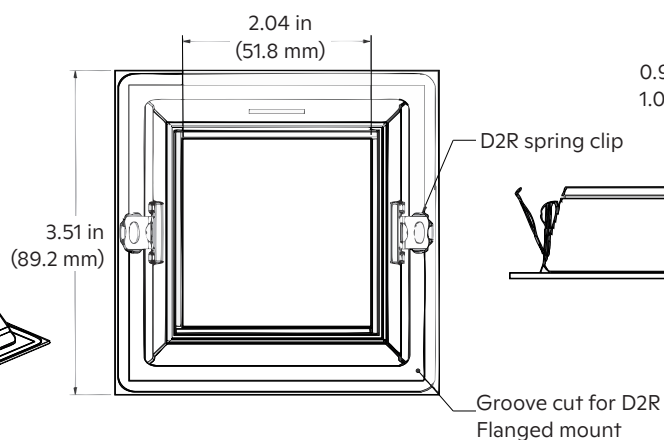
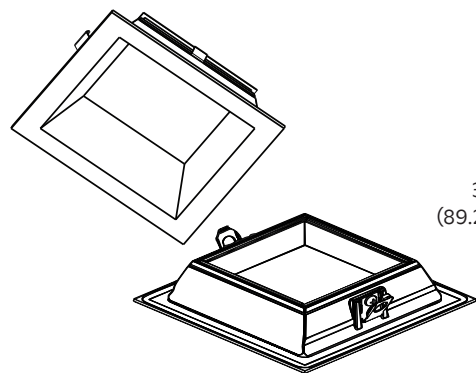


PRODUCT DIMENSIONS (cont.)

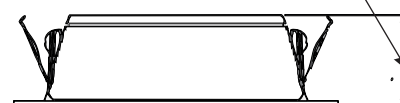
Flanged Mount, Square



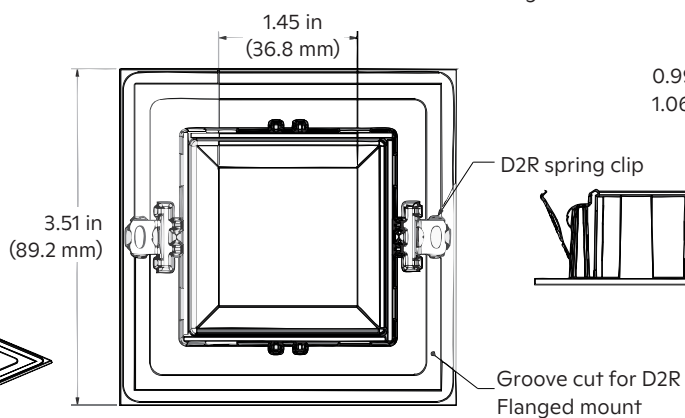
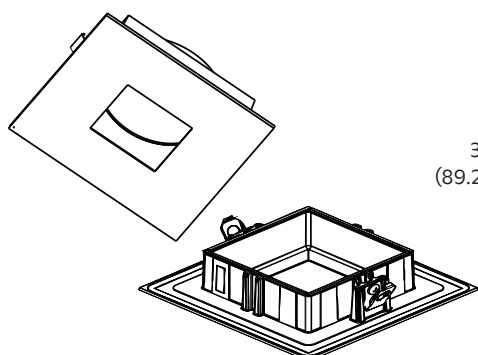
Flanged Bevel Trim, Square



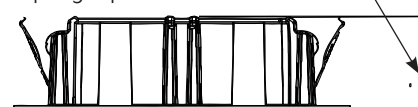
0.99 in (25.1 mm) no lens clip
1.06 in (26.9 mm) (with lens clips)



Flanged Pinhole Trim, Square



0.99 in (25.1 mm) no lens clip
1.06 in (26.9 mm) (with lens clips)





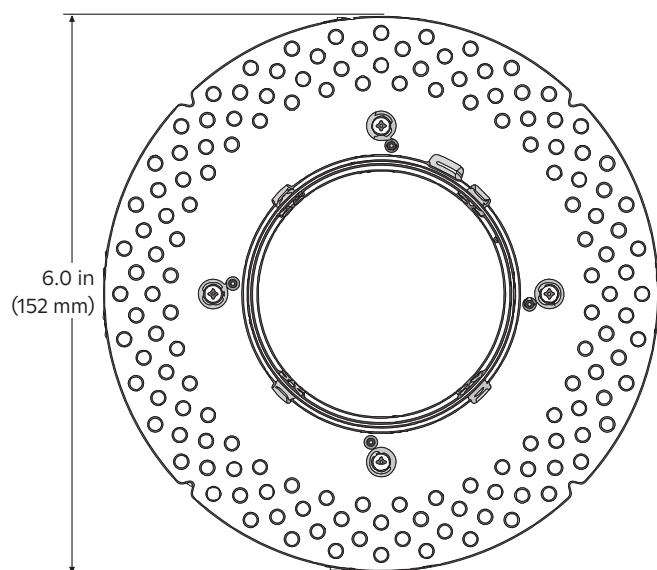
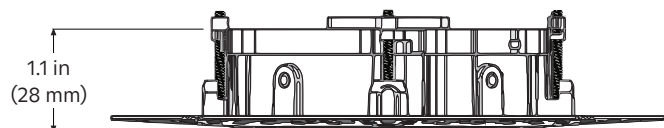
RANIA D2R FIXED DOWNLIGHT

P/N 3663302 Rev A

Specifications are subject to change without notice

PRODUCT DIMENSIONS (cont.)

Flangeless Mud-In Mount, Round





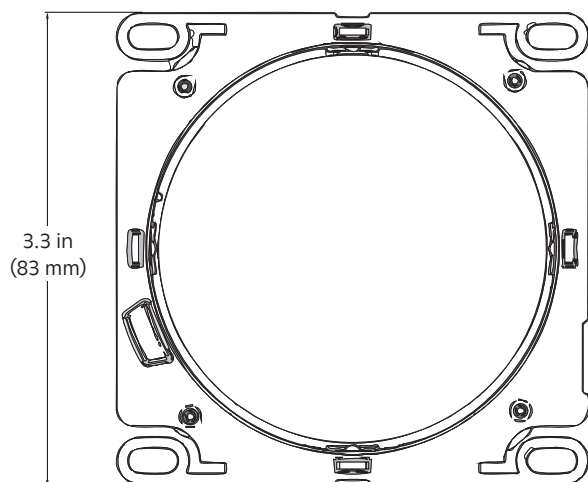
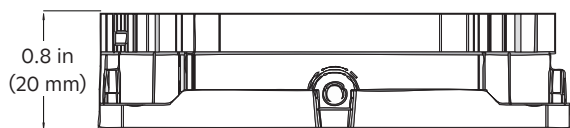
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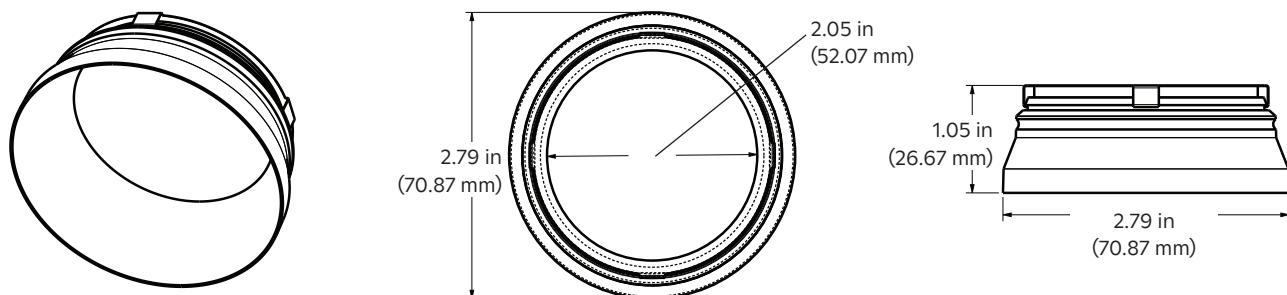
PRODUCT DIMENSIONS (cont.)

Flangeless Millwork Mount, Round

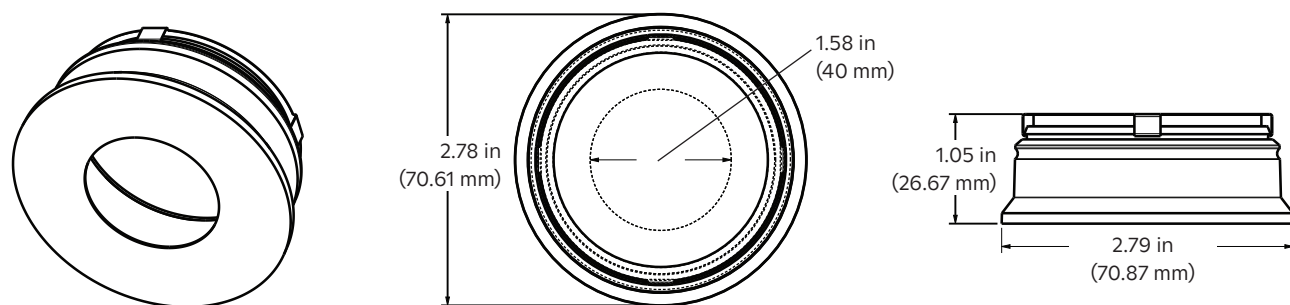


PRODUCT DIMENSIONS (cont.)

Flangeless Bevel Trim, Round



Flangeless Pinhole Trim, Round





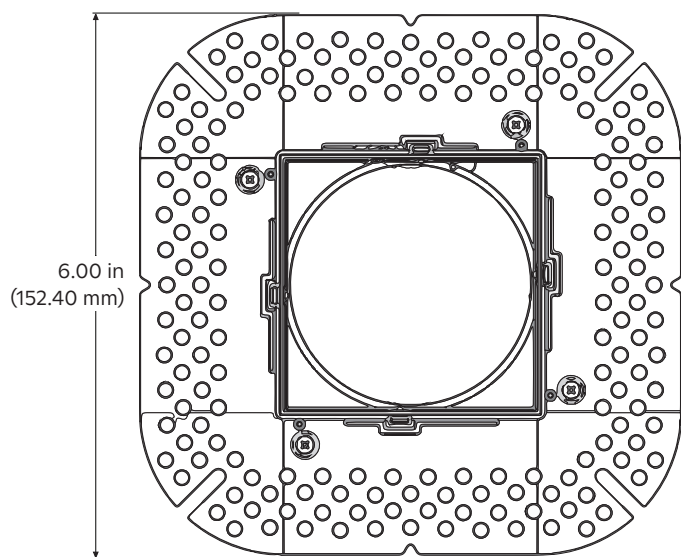
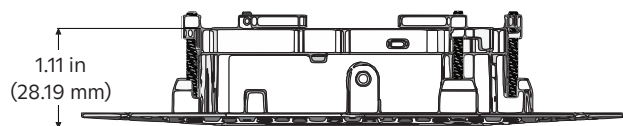
RANIA D2R FIXED DOWNLIGHT

P/N 3663302 Rev A

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PRODUCT DIMENSIONS (cont.)

Flangeless Mud-In Mount Square





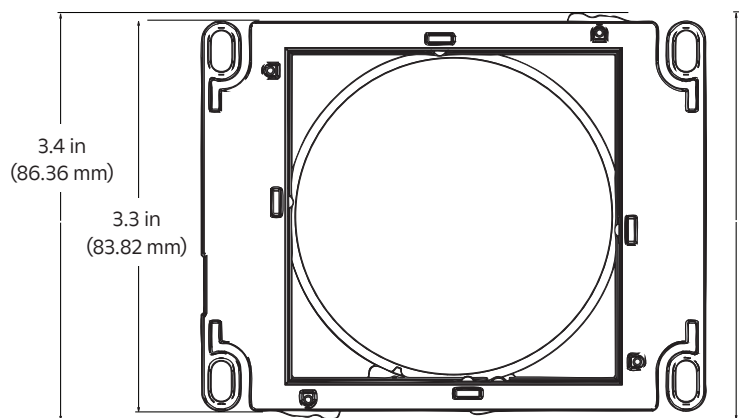
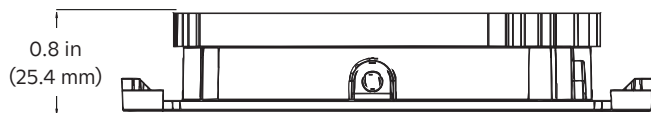
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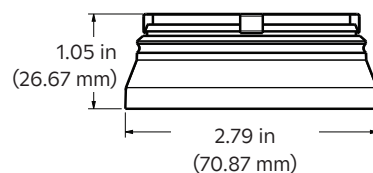
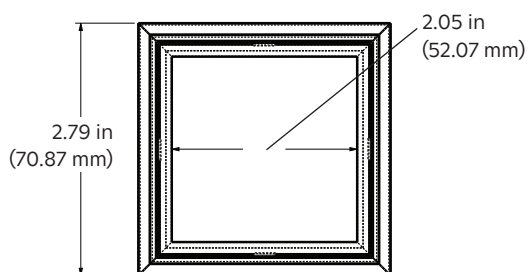
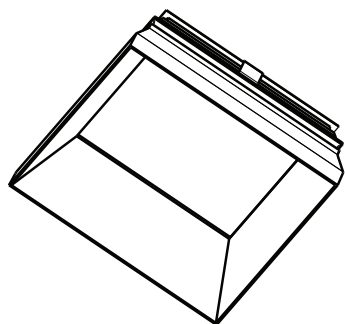
PRODUCT DIMENSIONS (cont.)

Flangeless Millwork Mount, Square

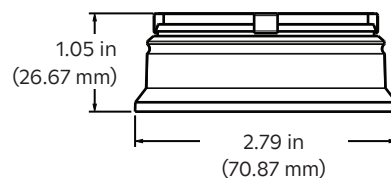
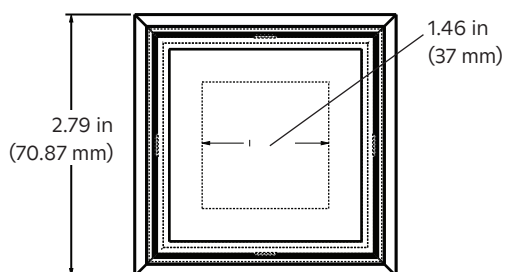
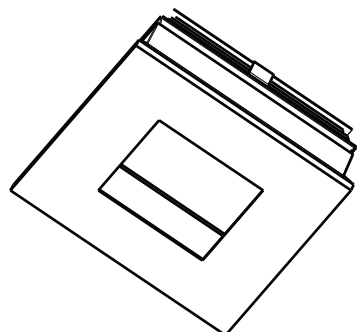


PRODUCT DIMENSIONS (cont.)

Flangeless Bevel Trim, Square



Flangeless Pinhole Trim, Square



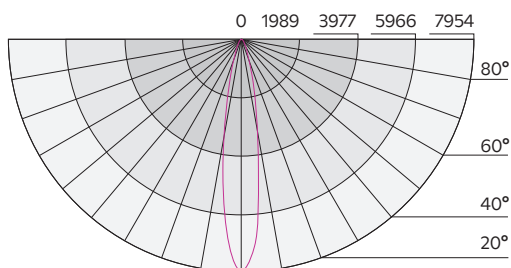
PHOTOMETRIC DATA¹

Beam Angle: 15° Spot, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1815L11	16.3 W	956	7954

Foot-candles	Beam Diameter
220.9	6 ft (1.8 m)
124.3	8 ft (2.4 m)
79.5	10 ft (3 m)
55.2	12 ft (3.7 m)
40.6	14 ft (4.3 m)

Distance from Light

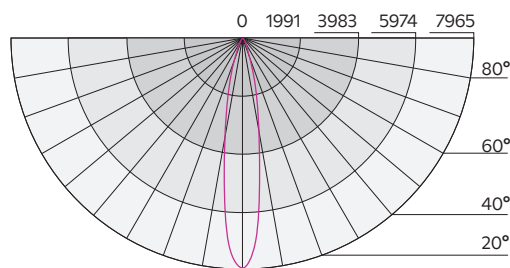


Beam Angle: 15° Spot, High Output

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1815H11	16.3 W	1045	7965

Foot-candles	Beam Diameter
221.3	6 ft (1.8 m)
124.5	8 ft (2.4 m)
79.7	10 ft (3 m)
55.3	12 ft (3.7 m)
40.6	14 ft (4.3 m)

Distance from Light

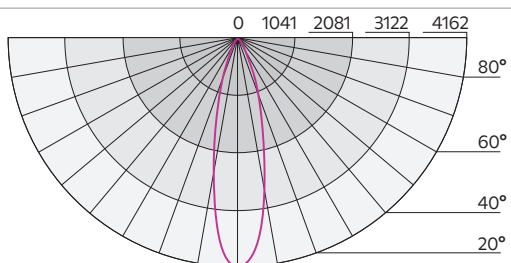


Beam Angle: 25° Spot, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1825L11	16.3 W	978	4162

Foot-candles	Beam Diameter
115.6	6 ft (1.8 m)
65.0	8 ft (2.4 m)
41.6	10 ft (3 m)
28.9	12 ft (3.7 m)
21.2	14 ft (4.3 m)

Distance from Light

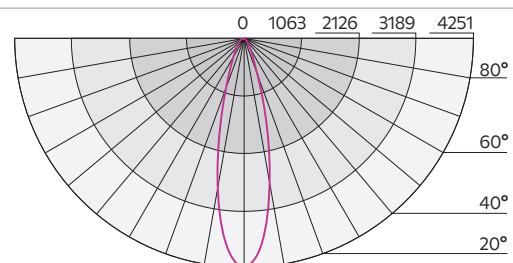


Beam Angle: 25° Spot, High Output

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1825H11	16.3 W	1061	4251

Foot-candles	Beam Diameter
118.1	6 ft (1.8 m)
66.4	8 ft (2.4 m)
42.5	10 ft (3 m)
29.5	12 ft (3.7 m)
21.7	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.



RANIA D2R FIXED DOWNLIGHT

P/N 3663302 Rev A

Specifications are subject to change without notice

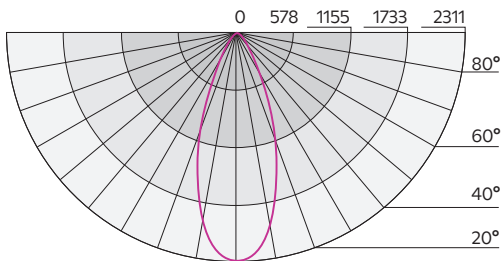
PHOTOMETRIC DATA¹ (cont.)

Beam Angle: 40° Wide Flood, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1840L11	16.3 W	854	2311

Foot-candles	Beam Diameter
64.2	6 ft (1.8 m)
36.1	8 ft (2.4 m)
23.1	10 ft (3 m)
16.0	12 ft (3.7 m)
11.8	14 ft (4.3 m)

Distance from Light

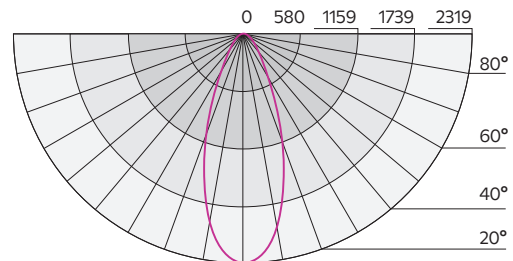


Beam Angle: 40° Wide Flood, High Output

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1840H11	16.3 W	993	2319

Foot-candles	Beam Diameter
64.4	6 ft (1.8 m)
36.2	8 ft (2.4 m)
23.2	10 ft (3 m)
16.1	12 ft (3.7 m)
11.8	14 ft (4.3 m)

Distance from Light

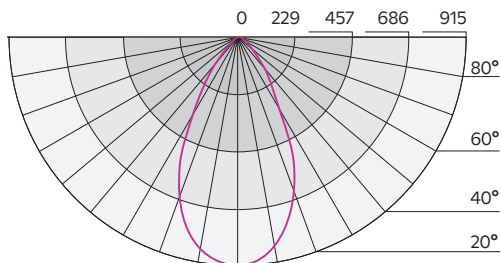


Beam Angle: 60° Very Wide Flood, Low Glare

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1860L11	16.3 W	820	915

Foot-candles	Beam Diameter
25.4	6 ft (1.8 m)
14.3	8 ft (2.4 m)
9.1	10 ft (3 m)
6.4	12 ft (3.7 m)
4.7	14 ft (4.3 m)

Distance from Light

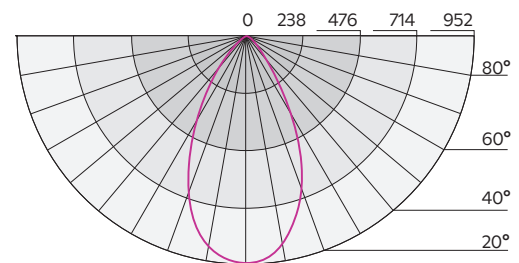


Beam Angle: 60° Very Wide Flood, High Output

Model Number	Wattage	Delivered Lumens	CBCP
HW-D2RTWF1860H11	16.3 W	949	952

Foot-candles	Beam Diameter
29.4	6 ft (1.8 m)
14.9	8 ft (2.4 m)
9.5	10 ft (3 m)
6.6	12 ft (3.7 m)
4.9	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.



D2R General Specifications

Rania's D2R LED Downlight can easily be commissioned into Lutron HomeWorks systems (Athena or myRoom XC - coming soon).

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 2700K to 5000K.

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.

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 1800K to 5500K 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).