



Rania D2 Fixture

PRODUCT DESCRIPTION

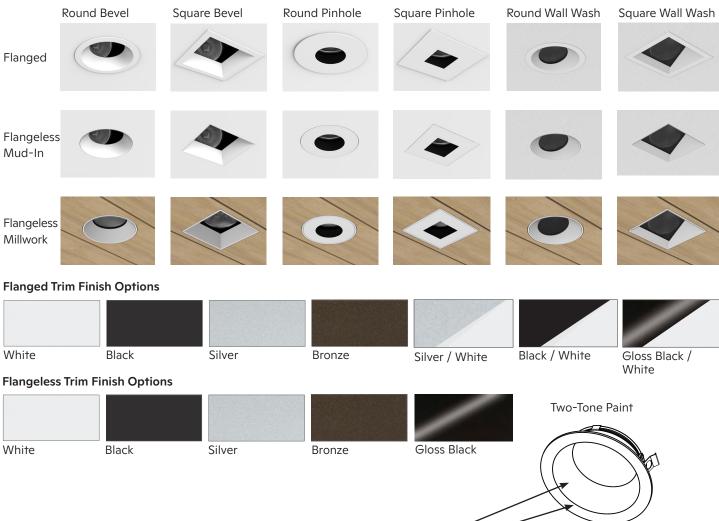
Rania D2 recessed LED downlights are available in fixed, adjustable, and wallwash options to complete any lighting design project.

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



Bevel/Flange Color

P/N 3662962 Rev A Specifications are subject to change without notice





Adjustable, IC Fixture

D2 FIXTURE



Environmental

SPECIFICATIONS¹

Optical	Performance
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Delivered Lumens ²		Ambient Temperature	32 – 104 °F (0 – 40 °C)	
Beam Angle	18 W	Extended Ambient Temperature	-32 − 32 °F (-35 − 0 °C) ⁴	
15° beam, high output	1161 lm	Humidity	0 – 95%, Non-condensing	
25° beam, high output	1151 lm	Certification	UL, cUL, 120 V~: FCC Class B,	
40° beam, high output	1078 lm		IC Rated	
60° beam, high output	1018 lm	Location	UL Damp Location, UL Wet Location (shower) available with Trim Lens	
15° beam, low glare	1018 lm		Installation not compatible with	
25° beam, low glare	1040 lm		Metal Ceilings UL2043 and CAN/ULC-S142 rated	
40° beam, low glare	884 lm		for use in air handling spaces (plenums)	
60° beam, low glare	856 lm	Outdoor/Indoor	Outdoor use available for	
CRI (Ra) R9	>90 from 2,700K to 5,000K >90		residential enclosed/covered patio applications. Trim lens required	
Lumen Maintenance³	50,000 hours to L70 @ 25 $^\circ C T_{_A}$	Warranty	5 year fixture, LED and dimming	
CCT Range	1800K - 5500K,		warranty	
Dimming Protocol	Wireless RF/CCX (Lutron Clear Connect-Type X)	Mechanical		
Dimming Range	0.1-100%	Mounting Options	Hanger Bars/Butterfly Brackets	
Delivered Efficeer		Field Replaceable Optics	Yes	
Delivered Efficacy	40.144	Field Replaceable Light Engine	Yes	
Beam Angle	18 W	Field Replaceable Power Supply	Yes	
15° beam, high output	65 lm/W	Fixture Weight	Fixed: 5.7 lb (2.59 kg)	
25° beam, high output	64 lm/W	Fixture weight	Adjustable: 6.2 lb (2.81 kg)	
40° beam, high output	60 lm/W	Housing Material	Pre-painted Steel, Polymer	
60° beam, high output	57 lm/W	Lens Material	Plastic	
15° beam, low glare	57 lm/W	Field Fixture Type Convertibility	Adjustable Fixture can be used to achieve	
25° beam, low glare	58 lm/W		same features of an Adjustable and	
40° beam, low glare	49 lm/W		Fixed Fixture only. Fixed Fixture can only be used as a	
60° beam, low glare 48 lm/W			Fixed Fixture. Wall Wash Fixture can only be used as a Wall Wash Fixture.	

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.

Lumen measurement complies with IES LM-79-08 testing procedures.
 Lumen maintenance values calculated in accordance to TM-21 procedures based on LM-80 compliant measurement data.
 Color accuracy not guaranteed in Extended Ambient Temperature range.





SPECIFICATIONS¹ (continued)

Dimensions

Ceiling Hole Diameter/Width	3.25 in (82.55 mm) flanged; 3.75 in (95.25 mm) flangeless mud-in; 2.79 in (70.87 mm) flangeless millwork
Ceiling Thickness (min-max)	0.625 – 2 in (15.8 – 50.8 mm)
Modular Emitter/LED Module Vertical Adjustment	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	Adjustable: Emitter tilt to 40 degree Emitter full 365 degree rotation Collar 95 degree rotation Wall Wash: Emitter full 365 degree rotation Collar 95 degree rotation Fixed: Collar 95 degree rotation
Housing Height	Adjustable: 3.48 in (88.39 mm) Fixed & Wall Wash: 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 \sim 60 Hz
Emergency Lighting	Evaluated by UL₀ for use in emergency lighting systems in accordance with standard UL₀ 924 and CSA C22.2 No. 141 when paired with the LVS™ model

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.

LUT-SHUNT-A-TD (UL₀ file E206507)².





HOUSING ORDERING GUIDE

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

Housing

C	02-	тw					18
Product S Line	eries	LED Type	Fixture Type	Shape	Ceiling Interface	Ceiling Thickness	Power Consumption
GT			11				
Control B System	eam Angle	Optic Style	Region/ Voltage	Location	Primary Optic Accessory	Secondary Optic Accessory	-
Order code:							
Product Line		Code	Control S	ystem	Code		Optic & Trim Exploded View ³
Commercial		CM-	CCX (Clea	r Connect-Ty	ype X) GT		
(Athena compatik	ole)		Beam An	ale			
Residential (HomeWorks com	natible)	HW-	Spot (15°)	-	15	-	Optic (Co
	ipunoie)		Narrow Fl		25		Beam Ang
Series			Flood (40		40		
D2 Fixture		D2-	Wide Floo		60		Primary C
LED Type			- Wall Wasl		ww		Accessor
Rania		TW					Secondar
Fixture Type			Optic Sty			_	Accessor
Adjustable		AD	Low Glare		L		
Fixed		FX	High Out		н		
Wall Wash ¹		WW	Wall Wasl	י ר'	W		
Shape			Region/V	oltage			
Square		SQ	120 V~ 6	0 Hz, North	America 11	-	
Round		RD	Location				
No Collar (to be s	pecified late	er) XX	Indoor		I	-	Trim
Ceiling Interface			Outdoor (HomeWorks	Resi O	Ć	$\langle \rangle$
Flanged		F	Products	only) ²			
Flangeless Mud-I	In	х	Primary C	Optic Access	ory 3,5		
Flangeless Millwo	ork	м	Soft Focu	s Lens 3,5	S1		
Ceiling Thickness	s		Frosted L	ens ^{3,5}	F1		
Standard Ceiling		S	Linear Ler	1S ^{3,5}	L1		
0.625 - 1.25 in (15.	.9 - 21.75 mr		Hex Louv	er ^{4,5}	H1		
Thick Ceiling		т	None		ХХ		
1.3 - 2.0 in (33.0 -			Secondar	y Optic Acce	essory ^{3,5}		
Power Consumpt	tion		- Soft Focu	s Lens ^{3,5}	S1	-	
18 W		18	Frosted L		F1		
			Linear Ler		L1		
			Hex Louv		 H1		
				-			

Wall Wash fixture is unique and cannot be converted to other fixture types and vice versa. D2s are available for residential exterior applications only and must have a trim installed with a lens. Maximum of 2 accessories available at once across the optic and trim accessories. 1

2 3

4 When specifying a Hex Louver no additional optic or trim accessory is allowed.

5 The addition of accessory lens will reduce lumen output. Additional information coming soon.





TRIM ORDERING GUIDE

Trim

UN-	D2		
Product Line	Series	-	
Ceiling Interface	Aperture Profile	Trim Finish	Trim Accessory
Order code:			
Product Line		C	ode
Universal		U	IN-
Series			
D2 Fixture		I	D2
Ceiling Interfa	ce		
Flanged			F
Flangeless Mu	d-In		х
Flangeless Mill	work		м
Aperture Profi	le		
Bevel			В
Pinhole			Р
Wall Wash 2		,	w
Trim Finish			
White ¹		1	WH
Black			вк
Gloss Black			GB
Bronze			RB
Silver			SR
Silver/White		:	SW
Black/White		I	BW
Gloss Black/W	hite	(GW
Trim Accessory	y ^{2,4}		
Soft Focus Len	S ^{2,4}	:	S1
Frosted Lens ^{2,4}	÷	I	F1
Linear Lens ^{2,4}			L1
Clear Lens ^{2,4}		(C1
Wall Wash Len	S ^{3,4}	v	w
None)	кх

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

4 The addition of accessory lens will reduce lumen output. Additional information will be coming soon

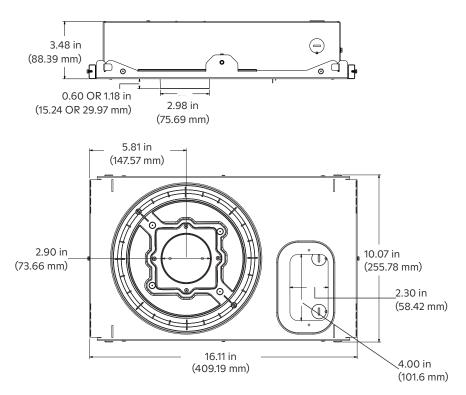




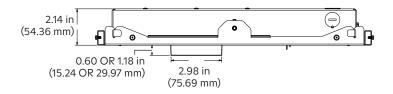
PRODUCT DIMENSIONS

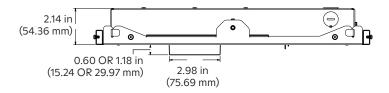
Flanged Housing, Round

Adjustable



Fixed







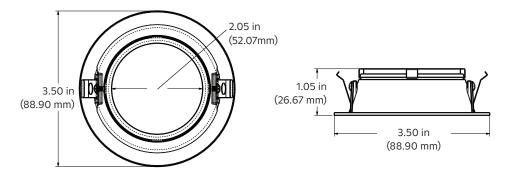




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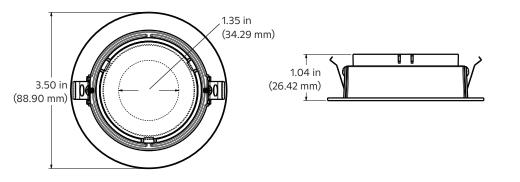
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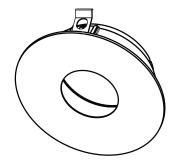
Flanged Bevel Trim, Round



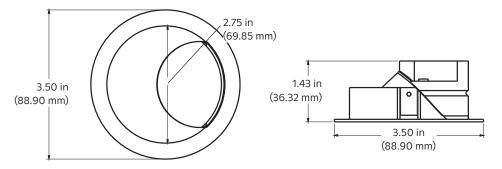


Flanged Pinhole Trim, Round





Flanged Wall Wash Trim, Round





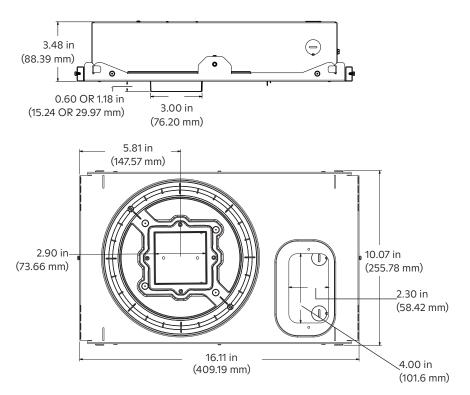




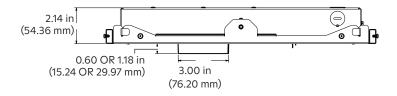
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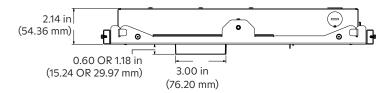
Flanged Housing, Square

Adjustable



Fixed





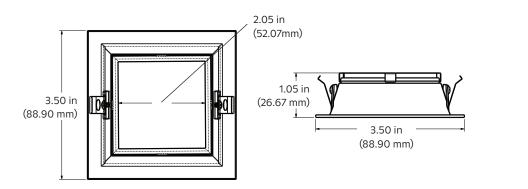


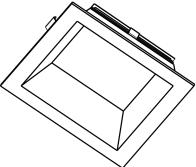


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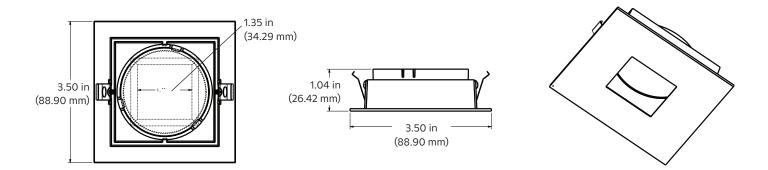
PRODUCT DIMENSIONS (cont.)

Flanged Bevel Trim, Square





Flanged Pinhole Trim, Square







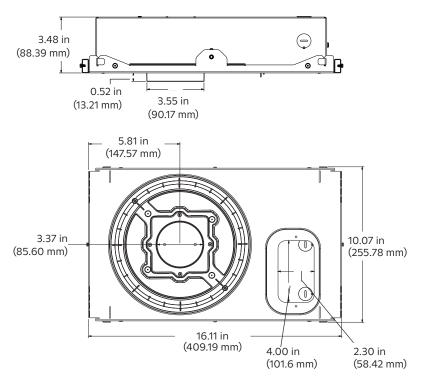
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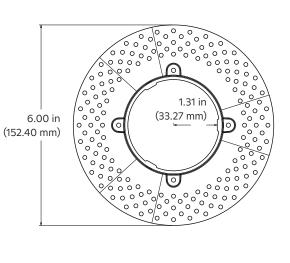
Flangeless Mud-In Trim Retainer, Round

PRODUCT DIMENSIONS (cont.)

Flangeless Mud-In Housing, Round

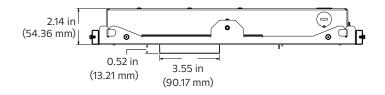
Adjustable

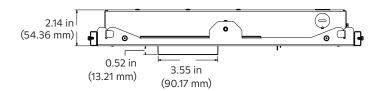






Fixed









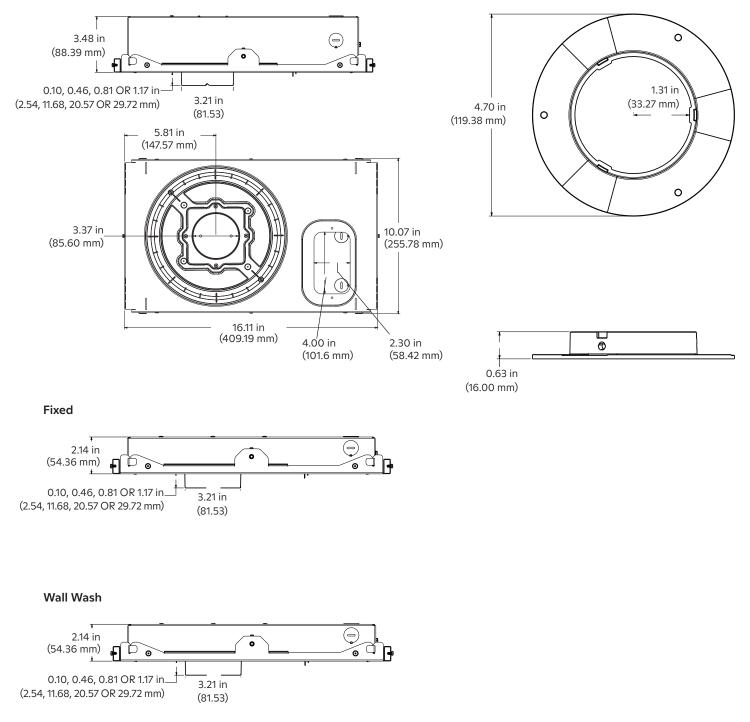
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PRODUCT DIMENSIONS (cont.)

Flangeless Millwork Housing, Round

Flangeless Millwork Trim Retainer, Round





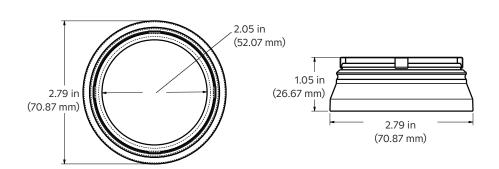




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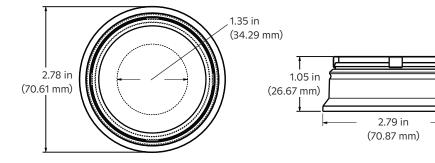
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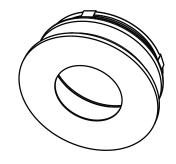
Flangeless Bevel Trim, Round



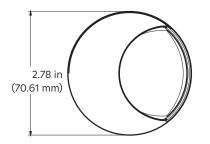


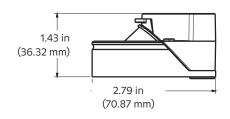
Flangeless Pinhole Trim, Round





Flangeless Wall Wash Trim, Round











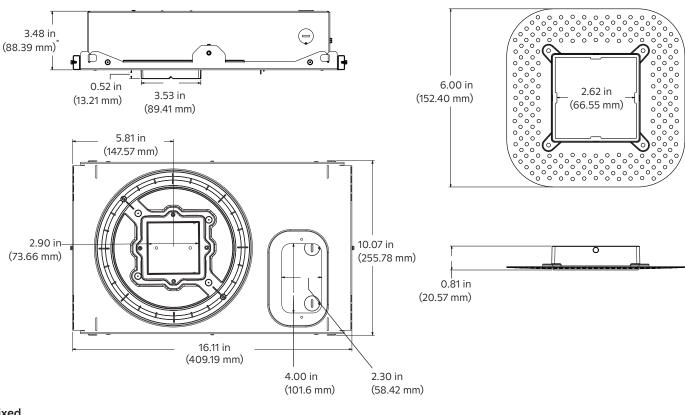
P/N 3662962 Rev A Specifications are subject to change without notice

Flangeless Mud-In Trim Retainer, Square

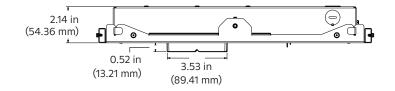
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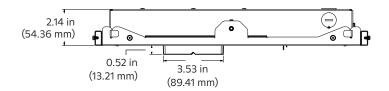
Flangeless Mud-In Housing, Square

Adjustable



Fixed







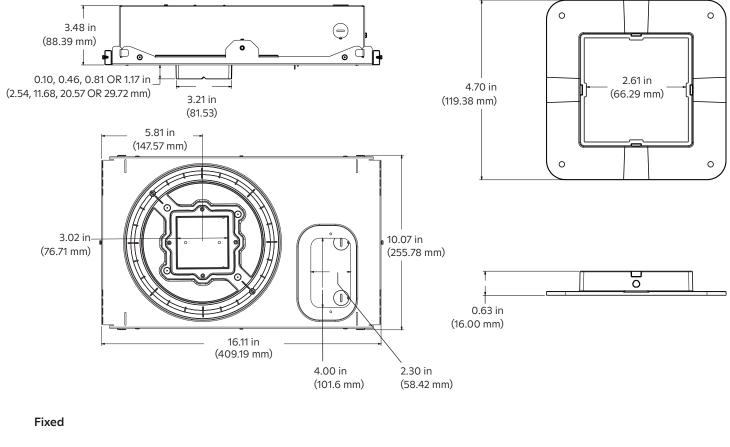


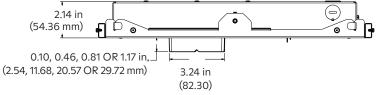
PRODUCT DIMENSIONS (cont.)

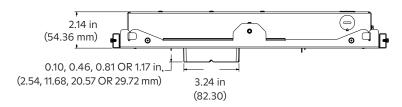
Flangeless Millwork Housing, Square

Flangeless Millwork Trim Retainer, Square









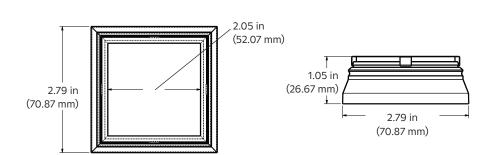


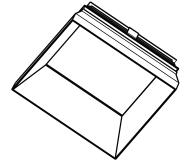


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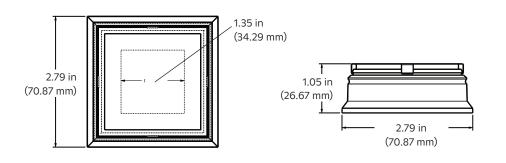
PRODUCT DIMENSIONS (cont.)

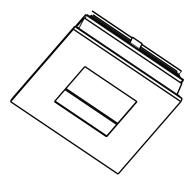
Flangeless Bevel Trim, Square



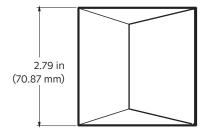


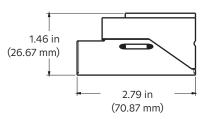
Flangeless Pinhole Trim, Square

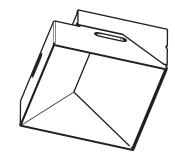




Flangeless Wall Wash Trim, Square



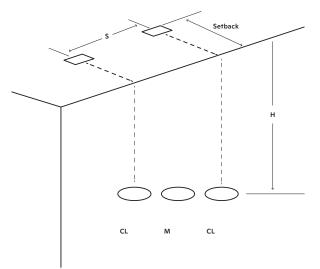








PLACEMENT GUIDE FOR MULTIPLE WALL WASH UNITS



Typical Footcandles Measured on the Wall									
2 ft (0.6 m) from wall ("Setback")		0.6 m) er (S)	on		0.9 m) er (S)	on		(1.2 m) ter (S)	on
Distance from Ceiling (H)	CL	Μ	CL	CL	Μ	CL	CL	М	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			3 ft (0.9 m) on Center (S)		4 ft (1.2 m) on Center (S)				

("Setback")									
Distance from Ceiling (H)	CL	М	CL	CL	Μ	CL	CL	М	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

D2 FIXTURE

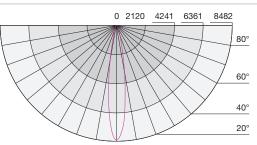


3.69 ft (1.12 m)

PHOTOMETRIC DATA¹

Beam Angle: 15° Spot, Low Glare

Model	Number		Wattage	Delivered Lun	nens	CBCP
XX_D2-	TWFXRDFS18GT	15L-XXXX	18 W	1018		8482
	Foot-candles			Beam Dia.		
	236	6 f (1.8		1.58 ft (0.48 m)		
	133	8 f (2.4		2.11 ft (0.64 m)		
	85	10 (3 n		2.63 ft (0.80 m)		
	59	12 (3.7		3.16 ft (0.96 m)		
	43	14 (4.3		3.69 ft (1.12 m)		
		Distance Fr	om 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 f (1.8		2.66 ft (0.81 m)	

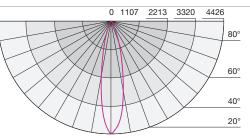
 69
 8 ft (2.4 m)
 3.55 ft (1.08 m)

 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



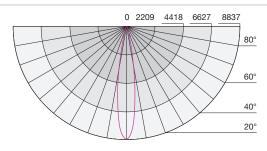
Beam Angle: 15° Spot, High Output

Model	Number	Wattage	Delivered Lu	umens CBCP
XX-D2-	TWFXRDFS18GT1	5H-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)	

14 ft (4.3 m)

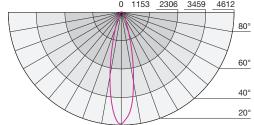
45

Distance From Light



Beam Angle: 25° Spot, High Output

Model	Number		Watta	ge l	Delive	red Lumens	СВСР
XX-D2-	TWFXRDFS18G	T25H-XXXX	18 W	-	1151		4612
	Foot-candles				Beam	Dia.	
	128	6 ft (1.8 r			2.6 (0.8	66 ft 1 m)	
	72	8 ft (2.4 r			3.5 (1.08	55 ft 3 m)	
	46	10 f (3 m			4.4 (1.35	13 ft 5 m)	
	32	12 f (3.7 r			5.3 (1.62	32 ft 2 m)	
	24		t n)	6.21 ft (1.89 m)			
		Distance Fro	m Light				
		0	1153	2306	3459	4612	_



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 FIXTURE



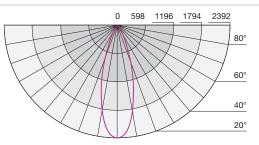
8.74 ft (2.66 m)

10.19 ft (3.11 m)

PHOTOMETRIC DATA¹ (cont.)

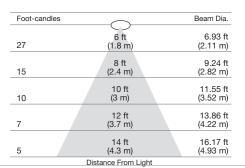
Beam Angle: 40° Wide Flood, Low Glare

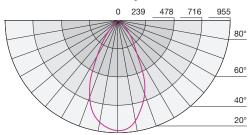
Model	Number	Wattage	Delivered Lumens	CBCP
XX-D2-	TWFXRDFS18G	T40L-XXXX 18 W	884	2392
	Foot-candles	\frown	Beam Dia.	
	66	6 ft (1.8 m)	4.37 ft (1.33 m)	
	37	8 ft (2.4 m)	5.82 ft (1.77 m)	
	24	10 ft (3 m)	7.28 ft (2.21 m)	
	17	12 ft (3.7 m)	8.74 ft (2.66 m)	
	12	14 ft (4.3 m)	10.19 ft (3.11 m)	
		Distance From Light		



Beam Angle: 60° Very Wide Flood, Low Glare

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





Beam Angle: 40° Wide Flood, High Output

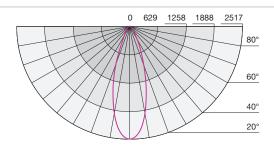
Model	Number		Wattage	Delivered Lu	umens CBCP
XX-D2-	TWFXRDFS18GT4	10H-XXXX	18 W	1078	2517
	Foot-candles		>	Beam Dia.	
	70	6 ft (1.8 r		4.37 ft (1.33 m)	
	39	8 ft (2.4 r		5.82 ft (1.77 m)	
	25	10 f (3 m		7.28 ft (2.21 m)	

14 ft (4.3 m) Distance From Light

17

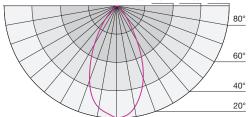
13

12 ft (3.7 m)



Beam Angle: 60° Very Wide Flood, High Output

Model Number		Wattage	Delivered Lum	nens CBCP		
XX-D2-TWFXRD	FS18GT60H-XXXX	18 W	1018	1021		
				-		
Foot-	candles		Beam Dia.	_		
28		6 ft .8 m)	6.93 ft (2.11 m)	-		
16		8 ft .4 m)	9.24 ft (2.82 m)	-		
10		10 ft 3 m)	11.55 ft (3.52 m)	_		
7		2 ft .7 m)	13.86 ft (4.22 m)	_		
5		4 ft .3 m)	16.17 ft (4.93 m)	_		
Distance From Light						
	0	255 511	766 1021			



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.

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D2 FIXTURE



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).

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