

2 SERIES LED

DEEP REGRESS

Our smallest aperture family of pin-hole fixtures offers high-output illumination for high-drama design statements in discerning residential, retail, and hospitality environments.

PROJECT NAME:

TYPE:



ORDERING INFORMATION



Quick Ship Product. All rough in components ship within 10 days up to quantities of 100.



JA8-2019 INDICATED BY SHADING

TRIM	RATING	FLANGE FINISH	LUMEN PACKAGE	CCT	OPTIC	INSTALL TYPE	CEILING THICKNESS	POWER SUPPLY	EFFECTS DEVICE	FLANGE CONFIGURATION
2RD Round Expanded	1 Dry/Damp	WH White	STATIC WHITE	27 2700K	20 20°	Housing W/Integral Driver (HB)	0 0.125" - 0.49"	(120V)	Standard Effects Device	F Flange Overlay (No Applique)
2PD Round Pinhole	2 Wet*	BK Black	80CA12L 80+ CRI, 1200 Source Lumens (Delivered - 2PD 660, 2RD 773, 2SD 758)	30 3000K	40 40°	NC NIC	*TRM, RR Install Types only	TR2 Philips, 2% Leading/Trailing Triac*	04 Soft Focus Lens	G Zero Sightline Gypsum (1/16" Applique)*
2SD Square Expanded		AU Cashmere Gold	80CA16L 80+ CRI, 1600 Source Lumens (Delivered - 2PD 909, 2RD 1065, 2SD 1044)	35 3500K	60 60°*	IC IC	1 0.50" - 0.75"	*[Not available for 80CA12L, 90CA10L, 97CA10L]		*[Not available for wet location]
		AG Satin Silver	80CA23H 80+ CRI, 2300 Source Lumens (Delivered - 2PD 1251, 2RD 1465, 2SD 1436)	40 4000K		AT IC, Airtight, Chicago Plenum	2 0.76" - 1.25"	L23 Lutron, Hi-Lume 1% 2-Wire	Alternate Effects Device	P Zero Sightline Plaster (1/8" Applique)*
		PR Primer	90CA10L 90+ CRI, 1000 Source Lumens (Delivered - 2PD 567, 2RD 664, 2SD 651)				3 1.26" - 2.00"		00 No Lens*	*[Not available for wet location or Warm Dim]
		AB Arch Bronze	90CA14L 90+ CRI, 1400 Source Lumens (Delivered - 2PD 777, 2RD 910, 2SD 892)			Housing W/Remote Driver (HR)	4 2.01" - 3.00"	(120-277V)	02 Honeycomb Louver*	*[Not available for wet location or Warm Dim]
		BB Burnt Bronze	90CA19H 90+ CRI, 1900 Source Lumens (Delivered - 2PD 1072, 2RD 1256, 2SD 1231)			NR NIC, Remote		LH1 Lutron, Hi-Lume 1% Ecosystem	03 Clear Glass Lens*	*[Not available for wet location]
		SS Stainless Steel*	97CA10L 97+ CRI, 1000 Source Lumens (Delivered - 2PD 505, 2RD 591, 2SD 580)			IR IC, Remote		LP1 Lutron, Premier 0.1% Ecosystem		
		IG Industrial Gray	97CA12L 97+ CRI, 1200 Source Lumens (Delivered - 2PD 691, 2RD 810, 2SD 794)			AR IC, Airtight, Chicago Plenum		AN4 Philips Xitanium 1% 0-10V, LOG		
		PB Polished Bronze*	97CA17H 97+ CRI, 1700 Source Lumens (Delivered - 2PD 956, 2RD 1119, 2SD 1097)			Remodel		LN2 Philips Xitanium 1% 0-10V, LIN		
		MB Matte Bronze*	WARM DIM	WD 3200K - 1800K		RM Remodel		EA2 eldoLED, SOLOdrive 0.1% 0-10V, LOG		
		CH Chrome*	90WA13H 90+ CRI, 1360 Source Lumens (Delivered - 2PD 675, 2RD 783, 2SD 778)			RR Remote-Remodel		LA2 eldoLED, SOLOdrive 0.1% 0-10V, LIN		
		CF Custom*	L = 3.73" tall housing					ED1 eldoLED, SOLOdrive 0.1% DALI, LOG		
			H = 6.5" tall housing					LD1 eldoLED, SOLOdrive 0.1% DALI, LIN		
*Title 24 compliance shown is based off the use of a 40 degree optic. See Page 3 for 20 and 60 degree optic compliant configurations.										



PART NUMBER NOTES

- Trims ships as e.g., 2RD1-WH-80CA16L1-2HB1-L2304
- Housing ships as e.g., NCL-2RF-1-LED-01
- Drivers ship with trim
- Remote drivers ship with trim as e.g., PS-RMT-80CA16L-1L23
- Appliqué ships with housing

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ACCESSORIES

ALTERNATE EFFECTS DEVICES

- HCL-2** Honeycomb Louver*
*(Not available for wet location or Warm Dim)
- CGL-2** Clear Glass Lens*
*(Not available for Warm Dim)
- SFL-2** Soft Focus Lens
- FGL-2** Frosted Glass Lens
- UVL-2** Ultra Violet Lens
- FLSL-2** Frosted Linear Spread Lens*
*(Not available for wet location)
- SFL-2-SP** Shatterproof Soft Focus Lens
- FGL-2-SP** Shatterproof Frosted Lens

ROUTER TOOL GUIDE (Dry / Damp locations only)

Recommended for Zero-Sightline installations in wood ceilings.

- DLA-RTG-2S-RD** Tool, router guide, round; reusable
- DLA-RTG-2S-SQ** Tool, router guide, square; reusable

REPLACEMENT OPTIC

Interchangeable optics accessible through fixture aperture.

- RO-50-20-2** 20° optic
- RO-50-40-2** 40° optic
- RO-50-60-2** 60° optic*

*(Not available for 2PD)

ADJUSTMENT TOOL

One included with every four fixtures.

- TOOL-HEX-050**

EMERGENCY LIGHTING - REMOTE MOUNT ONLY

During disruption of main power, emergency battery inverter provides temporary 120V or 277V to fixture.

- EMB-S-20/25-120/277-LEDX** 20/25 watt max capacity, 120 or 277 VAC 60Hz, Non-Dimmable
- EMB-S-100-120-LEDX** 100 watt max capacity, 120 VAC 60Hz, Dimmable
- EMB-S-100-277-LEDX** 100 watt max capacity, 277 VAC 60Hz, Dimmable
- EMB-S-250-120/277-LEDX** 250 watt max capacity, 120 or 277 VAC 60Hz, Dimmable

2 SERIES LED DEEP REGRESS

STATIC WHITE PERFORMANCE - 3000K WITH 40° OPTIC

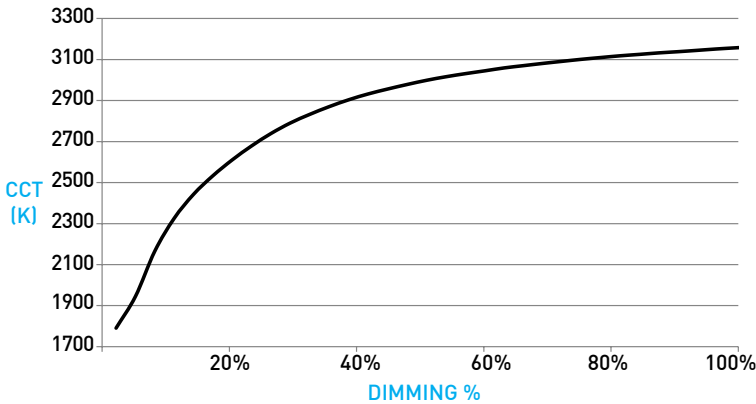
LUMEN PACKAGE	WATTAGE	DEEP REGRESS					
		2RD		2PD		2SD	
		DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW
80CA12L	10	773	78	660	67	758	77
80CA16L	14	1065	76	909	65	1044	74
80CA23H	21	1465	70	1251	60	1436	69
90CA10L	10	664	67	567	57	651	66
90CA14L	14	910	65	777	55	892	63
90CA19H	21	1256	60	1072	51	1231	59
97CA10L	10	591	60	505	51	580	59
97CA12L	14	810	58	691	49	794	56
97CA17H	21	1119	53	956	46	1097	52
90WA13H	14	783	56	675	48	778	56

OUTPUT MULTIPLIER			
CCT	80+ CRI	90+ CRI	97+ CRI
2700K	1.118	0.961	0.860
3000K	1.167	1.000	0.895
3500K	1.187	1.014	0.907
4000K	1.198	1.016	0.918

LIGHT LOSS FACTOR MULTIPLIER	
No Lens	1.05
CGL	1.05
SFL	1.00
SP SFL	1.00
FGL	0.90
SP FGL	0.90
FLSL	0.83
HCL	0.65

WARM DIM PERFORMANCE

DETAILED PERFORMANCE	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	3200	3150	3100	3000	2700	2200	1800
Light Output (Lm)	1300	1050	900	630	250	115	25
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	92	93	90	90	83	76	74



JA8-2019 TITLE 24 COMPLIANT CONFIGURATIONS



	20° Optic							40° Optic							60° Optic							
	90CA			97CA			90WA	90CA			97CA			90WA	90CA			97CA			90WA	
	10L	14L	19H	10L	12L	17H	13H	10L	14L	19H	10L	12L	17H	13H	10L	14L	19H	10L	12L	17H	13H	
2RD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2PD								✓	✓	✓	✓	✓	✓	✓								
2SD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

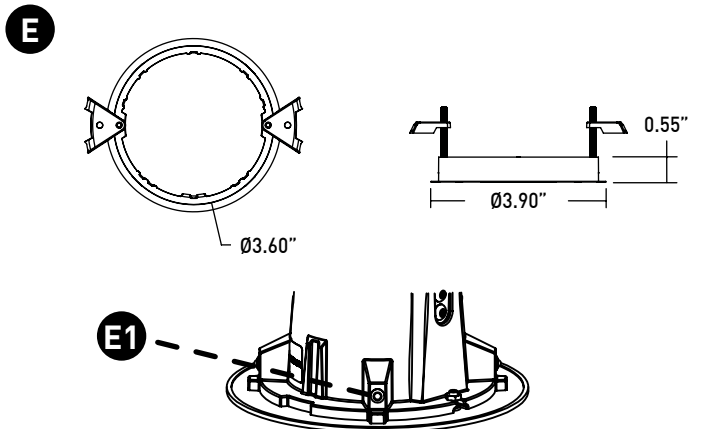
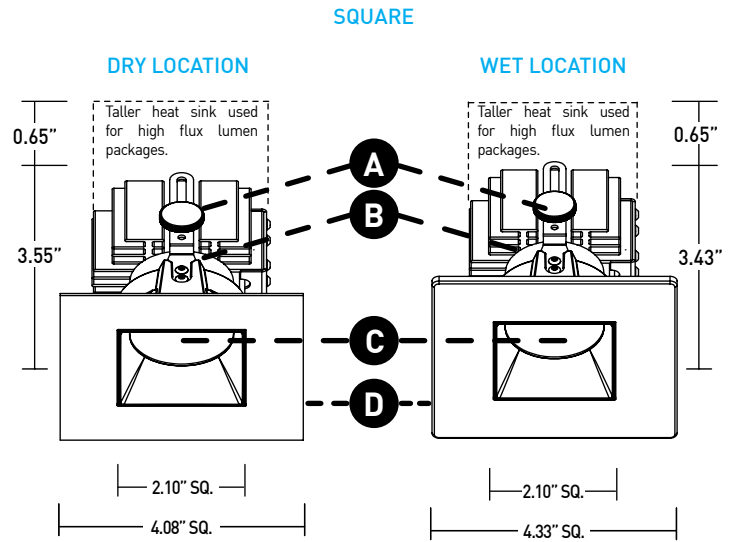
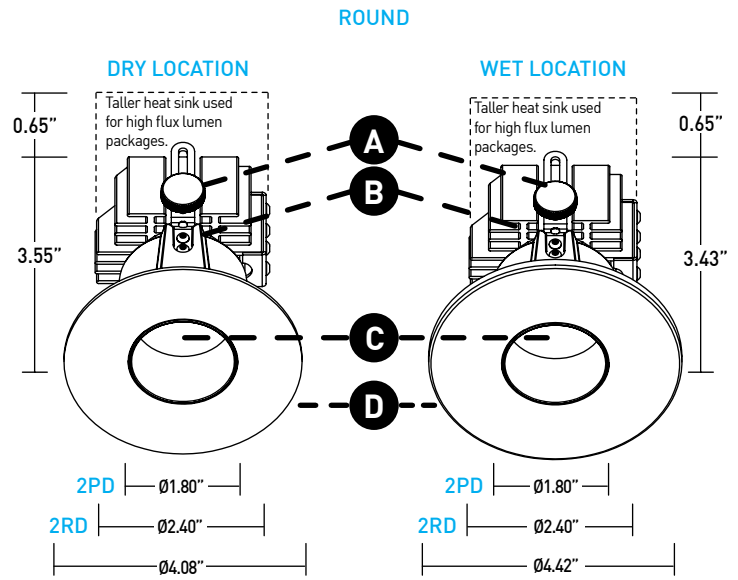
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DOWNLIGHT

Die-cast deep baffle minimizes aperture glare and conceals view into housing; black finish standard.

- A** **ADJUSTABLE YOKE**
Adjustable yoke allows for quick exchange of optics and effects devices. Accommodates up to 2 effects devices; add 0.16" to fixture height with use of each effects device.
- B** **OPTICS**
Optic interchangeable between 20°, 40° & 60°.
- C** **EFFECTS DEVICES**
Soft Focus Lens standard; effects device must be specified. Lens is sealed in place on Wet location fixture. Secondary effects device available.
- D** **TRIM PLATE**
Wet location features integral silicone gasket.
 - Dry / Damp Location: Thickness measures 0.065".
 - Wet Location: 0.15" return, installed as flange overlay only.
- E** **DOWNLIGHT TRIM ADAPTER**
Included with fixture and required for installation. Uses (2) #6-32 flat-head screws with varying lengths to accommodate ceiling depth. Installed after ceiling is complete. Requires 3.75" diameter cutout for flange overlay applications.
- E1** **RETENTION**
Engineered integral ball plungers correspond to trim adapter ensuring snug fit against finished ceiling.

DIMENSIONS / DRAWINGS



2 SERIES LED DEEP REGRESS

HOUSING

- F LOW FLUX NO INSULATION CONTACT (NON-IC) HOUSING**
- Included with NC and NR Low Flux lumen packages.
 - Minimum 0.50" setback from combustible and non-combustible materials on all sides and top of housing.
 - Minimum 3.00" setback from insulation material having max R-Value 30 on all sides and top of housing.
 - Minimum 6.00" setback from polycell spray foam insulation having max R-Value 60.
- LOW FLUX INSULATION CONTACT (IC) HOUSING**
- Included with IC, IR, AT, and AR LOW Flux lumen packages.
 - No setback from polycell spray foam insulation having max R-Value of 60 on all sides and top of housing.
- G HIGH FLUX HOUSING**
- Satisfies IC, Airtight and NON-IC configurations.
 - Included with all HIGH Flux lumen packages.
 - No setback from polycell spray foam insulation having max R-Value of 60 on all sides and top of housing.

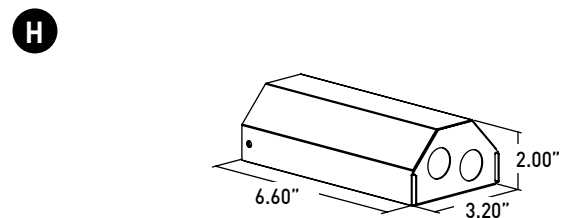
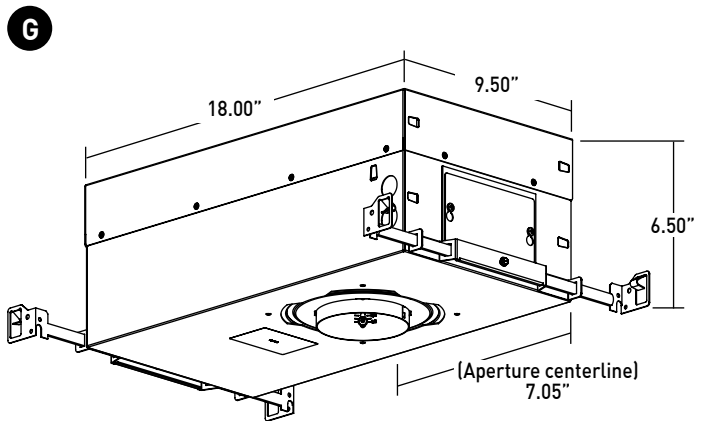
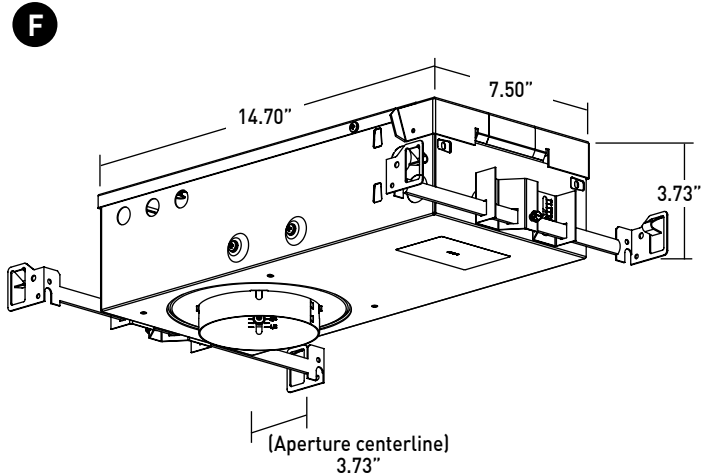
HOUSING MOUNTING NOTES

- AT and AR install types are required for Chicago Plenum, Airtight and Title 24 (JA8) applications.
- Do not install in environments where ambient temperatures exceed 40°C (104°F).
- Power supply compartment and all splice connections may be serviced from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.
- Hanger bars fitted to short side of housing, and long side of Low Flux housings; extend from 14.0" to 24.0", but may be field cut to accommodate narrow stud spacing.
- Hanger bars and brackets add 4.00" to the overall dimension, but are exclusive of the setback requirements.
- Driver assembly ships with trim, not housing. Housing and trim feature mating quick-connect plugs for ease of installation.

REMOTE POWER SUPPLY

- H** Provided with install types "IR", "NR" and "AR". Remote power supply provides additional driver options. Consult installation guide for maximum allowable secondary run lengths between PS-RMT and fixture. Must be installed in an accessible location.

DIMENSIONS / DRAWINGS



2 SERIES LED DEEP REGRESS

REMODEL POWER SUPPLY

- I REMODEL POWER SUPPLY**
- Included with RM Install Type.
 - UL2043 listed for air-handling plenum.
 - Fixture mounts without conventional housing using supplied downlight trim adapter.
 - Minimum 0.75" clearance from top of fixture.
 - Minimum setback from combustible and non-combustible materials of 6.63" radius from fixture centerline.
 - Minimum 3.00" setback from surfaces of power supply / junction box if not situated within above noted radius from fixture centerline.
 - Minimum additional 3.00" setback from insulation material with max R-Value 30 from any surface of downlight fixture assembly.
 - Minimum additional 6.00" setback from polycell spray foam insulation with max R-Value 60 from any surface of downlight fixture assembly.
- J REMOTE APPLICATIONS**
- Remote power supply and DLA2-RMT-AK accessory kit included with RR Install Type.

REMODEL NOTES

- Do not install in environments where ambient temperatures exceed 40°C (104°F).
- Power supply compartment and all splice connections may be serviced from room side.
- Consult factory for spacing requirements for any installations exceeding R-Value 60.

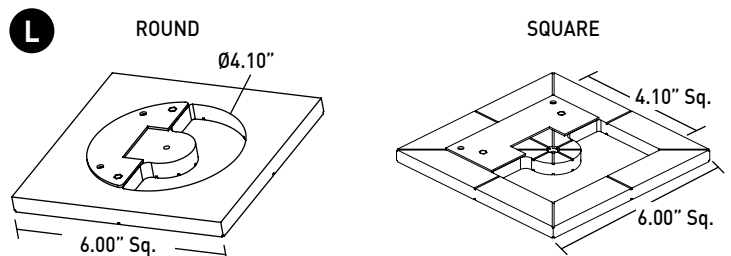
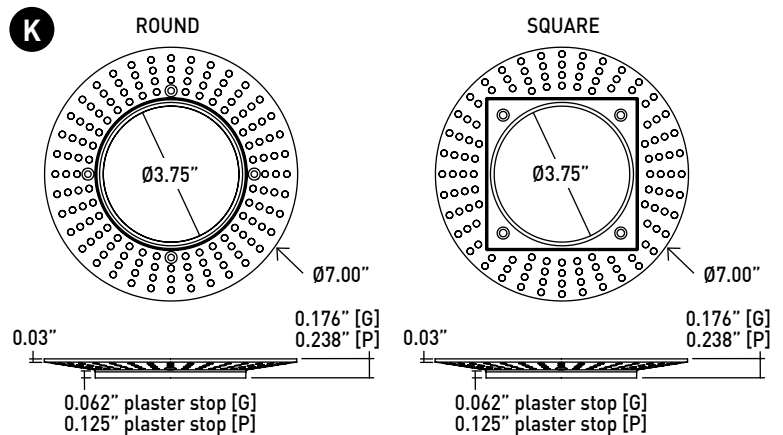
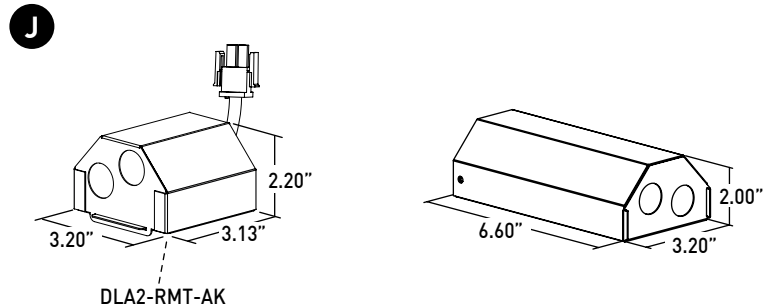
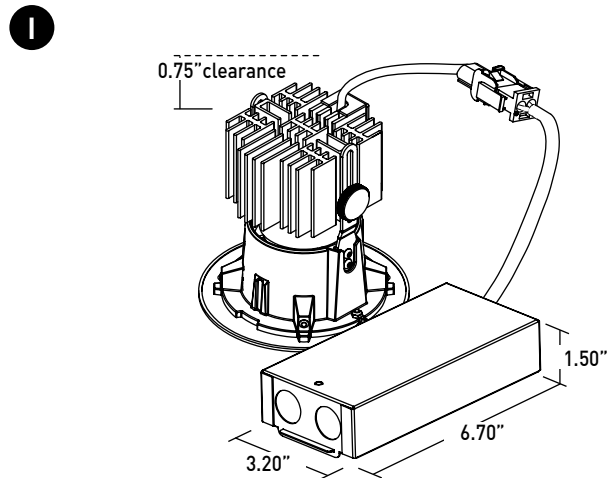
ZERO-SIGHTLINE INSTALLATIONS

Zero-Sightline installations available for Dry / Damp location fixtures only. When installed according to manufacturer's instructions and ceiling conditions are met, fixture is flush with the ceiling plane. Consult 2-Series Installation Guidelines for appropriate ceiling cutouts and instructions for proper Zero-Sightline installations.

- K APPLIQUÉ**
- Specified on Flange Configuration and ships with housing; ships separately on remodel installations.
 - For use in sheetrock ceiling applications.
 - 1/16" Appliqué (G Flange Configuration) recommended for gypsum ceiling installations and has plaster stop thickness of 1/16".
 - Recommended for painted ceiling applications.
 - 1/8" Appliqué (P Flange Configuration) offers double thick plaster stop of 1/8" where a heavier application of mud is preferred. Recommended for colorfast and venetian plaster applications.
 - Not recommended for stucco applications.

- L ROUTER TOOL GUIDE**
- Specified separately and used with Flange Overlay configurations.
 - For use in wood ceiling applications.
 - **DLA-RTG-2S-RD** or **DLA-RTG-2S-SQ** required for wood Zero-Sightline ceiling installations.
 - Router tool guide is reusable and suitable for multiple fixtures.

DIMENSIONS / DRAWINGS



2 SERIES LED DEEP REGRESS

TECHNICAL INFORMATION

CONSTRUCTION

Downlight: Steel and aluminum; extruded aluminum heat-sink; painted finishes are granulated powder coat. 304 corrosion resistant stainless steel faceplate for wet location fixtures.

Trim Adapter: High-impact composite and stainless steel.

Housing: 22 Gauge galvanized steel.

Appliqué: Zinc alloy.

LED

Proprietary Citizen 2-step MacAdam ellipse LED module available in 80+, 90+ and 97+ CRI configurations in color temperatures of 2700K, 3000K, 3500K and 4000K. Average rated lamp life: 50,000 hours. LED and driver assemblies are field-replaceable.

WARM DIM LED

Proprietary 3-step MacAdam ellipse warm dim LED module available in 90+ CRI configuration. 3200K at full brightness, warming to 1800K at full dim. Average rated lamp life: 50,000 hours. LED and driver assemblies are field-replaceable.

POWER SUPPLY PERFORMANCE AND DIMMING INFORMATION

Power Supply	2 WIRE		ECO		0-10V				DALI	
	L23	TR2	LH1	LP1	EA2	LA2	AN4	LN2	ED1	LD1
Minimum °C	0 °C	-20 °C	0 °C	0 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C	-20 °C
Maximum °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Dimming %	1.0%	2.0%	1.0%	0.1%	0.1%	0.1%	1.0%	1.0%	0.1%	0.1%

Note: For EA2, LA2 and L23 drivers consult chart on page 4 to confirm appropriate dimming curve for compatibility with selected control.

LISTING

cTUVus listed to UL1598 standard for Dry / Damp and Wet locations. Chicago Plenum, Airtight and Title 24 JA8-2019 Listed.

WARRANTY

Manufacturer's 1-year warranty guarantees product(s) listed to be free from defects in material and workmanship under normal use and service. 5-year warranty on LED and power supply to operate with 70% of the original flux and remain within a range of 3 duv. 10-year Lutron Advantage limited warranty available on Lutron equipped systems. Warranty period begins from the date of shipment by Seller and conditional upon the use of manufacturer-supplied power supply. [Consult website for full warranty terms and conditions.](#)

CHANGE LOG

- 02/10/2020: ADDED CHICAGO PLENUM TO AT AND AR HOUSING DESCRIPTIONS
- 10/08/2019: NEW CONSOLIDATED SPEC SHEETS WITH SINGLE NOMENCLATURE FOR SPECIFICATION
- 10/08/2019: NOW OFFERING QUICK SHIP FOR ROUGH-IN COMPONENTS.

2 SERIES LED DEEP REGRESS

DIMMING COMPATIBILITY

PHILIPS DRIVER COMPATIBILITY

Power supply TR2 Manufacturer	Family/Model #
Lutron Electronics	DV-600P
Lutron Electronics	DVELV-303P
Lutron Electronics	NTELV-600
Lutron Electronics	MAELV-600
Lutron Electronics	SELV-300P
Lutron Electronics	DVLV-600P
Lutron Electronics	NFTU-5A
Lutron Electronics	CTCL-153P
Lutron Electronics	GL-600H
Lutron Electronics	S-600P
Lutron Electronics	PHPM
Power supply AN4 Manufacturer	Family/Model #
Lutron Electronics	DVTV plus PP-DV
Lutron Electronics	DVSCTV plus PP-DV
Lutron Electronics	DVSTV
Lutron Electronics	DVSCSTV
Lutron Electronics	QSGRJ-XP plus GRX-TVI
Lutron Electronics	QSGRJ-XE plus GRX-TVI
Lutron Electronics	QSGR-XE plus GRX-TVI
Lutron Electronics	NFTV plus PP-DV
Lutron Electronics	NTSTV
Lutron Electronics	RMJ-5T
Lutron Electronics	RMJS-8T
Lutron Electronics	FCJS-010
Leviton	IlLumaTch IP7 series
Philips	Sunrise - SR1200ZTUNV

LUTRON DRIVER COMPATIBILITY

Power supply L23 Lutron Product Family	Part No.
Maestro WirelessR 600 W dimmer	MRF2-6ND-120-
Maestro WirelessR 1000 W dimmer	MRF2-10ND-120-
Caséta® Wireless Pro 1000 W dimmer	PD-10NXD-
GRAFIK T™ CL® dimmer	GT-250M- GTJ-250M-
HomeWorks® QS adaptive dimmer	HQRD-6NA-
HomeWorks® QS 600 W dimmer	HQRD-6ND-
HomeWorks® QS 1000 W dimmer	HQRD-10ND-
RadioRA® 2 adaptive dimmer	RRD-6NA-
RadioRA® 2 1000 W dimmer	RRD-10ND
myRoom™ DIN power module	MQSE-4A1-D
HomeWorks® QS DIN power module	LQSE-4A1-D
HomeWorks® QS wallbox power module	HQRJ-WPM-6D-120
HomeWorks® wallbox power module	HWI-WPM-6D-120
GRAFIK Eye® QS control unit	QSGR-, QSGRJ-
GRAFIK Eye® 3000 control unit	GRX-3100- GRX-3500-
RPM-4U module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4U-120 LP-RPM-4U-120
RPM-4A module (LCP, HomeWorks® QS, GRAFIK Systems™, Quantum®)	HW-RPM-4A-120, LP-RPM-4A-120
GP dimming panels	Various
Ariadni CL 250W dimmer	AYCL-253P-
Diva CL 250W dimmer	DVCL-253P- DCSCCL-253P-
Nova T CL 250W dimmer	NTCL-250-
Power supply LH1 / LP1 Lutron Product Family	Part No.
PowPak Dimming Modules	RMJ-ECO32-DV-B
PowPak Dimming Modules	FCJ/FCJS-ECO
Energi Savr Nodes	QSN-1ECO-S
GRAFIK Eye QS control unit	QSN-2ECO-S
Homeworks QS control unit	QSGRJ- _E (wireless) QSGR- _E
Quantum Hub	QP2-__ 2C
Quantum Hub	QP2-__ 4C
Quantum Hub	QP2-__ 6C
Quantum Hub	QP2-__ 8C
Homeworks QS power module	LQSE-2ECO-D
myRoom Plus power module	

eldoLED DRIVER COMPATIBILITY

Power supply EA2 / LA2 Dimmer / Switch Control Manufacturer	Family/Model #
Busch-Jaeger	2112U-101
Jung	240-10
Leviton Lighting Controls	IP710-DLX
Lightolier Controls	ZP600FAM120
Lutron Electronics	Nova T® - NTFTV
Lutron Electronics	Div@ - DDTV
Lutron Electronics	Nova@ - NFTV
Merten	5729
Pass & Seymour	CD4FB-W
The Watt Stopper	DCLV1
Sensor Switch	nI0 EZ
Synergy	ISD BC
Power supply EA2 / LA2 Lighting Control Systems	Family/Model #
Lutron Electronics	GrafixEye® GRX-TVI w GRX3503
Lutron Electronics	Energy Savr Node™ - QSN-4T16-S
Lutron Electronics	TVM2 Module
Crestron®	GLX-DIMFLV8
Crestron®	GLXP-DIMFLV8
Crestron®	GLPAC-DIMFLV4-*
Crestron®	GLPAC-DIMFLV8-*
Crestron®	GLPP-DIMFLVEX-PM
Crestron®	GLPP-1DIMFLV2EX-PM
Crestron®	GLPP-1DIMFLV3EX-PM
Crestron®	DIN-A08
Crestron®	DIN-4DIMFLV4
Crestron®	CLS-EXP-DIMFLV
Crestron®	CLCI-1DIMFLV2EX
ABB	SD/S 2.16.1



2 SERIES LED DEEP REGRESS

DRIVE CURRENT SPECIFICS

	80CA			90CA			97CA			90W
	12L	16L	23H	10L	14L	19H	10L	12L	17H	13H
Minimum Vf	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Maximum Vf	39	39	39	39	39	39	39	39	39	39
Current mA	250	350	500	250	350	500	250	350	500	14 - 350
Wattage W	8.2	11.8	17.4	8.2	11.8	17.4	8.2	11.8	17.4	14