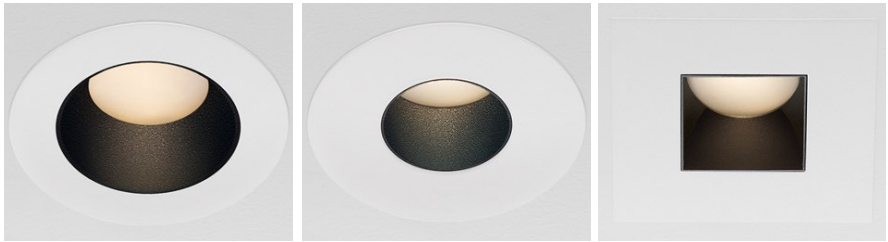


2 SERIES LED DEEP REGRESS

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 2PD Round Pinhole 2SD Square Expanded	1 Dry/Damp 2 Wet* *(Lens sealed in place)	WH White	LOW FLUX STATIC WHITE 3.73" TALL HOUSING 80CA12L 80+ CRI, 1200 Source Lumens (Delivered - 2PD 660, 2RD 773, 2SD 758) 80CA16L 80+ CRI, 1600 Source Lumens (Delivered - 2PD 909, 2RD 1065, 2SD 1044) 90CA10L 90+ CRI, 1000 Source Lumens (Delivered - 2PD 567, 2RD 664, 2SD 651) 90CA14L 90+ CRI, 1400 Source Lumens (Delivered - 2PD 777, 2RD 910, 2SD 892) 97CA10L 97+ CRI, 1000 Source Lumens (Delivered - 2PD 505, 2RD 591, 2SD 580) 97CA12L 97+ CRI, 1200 Source Lumens (Delivered - 2PD 691, 2RD 810, 2SD 794)	22 2200K* *(Only available with 90+ CRI) 27 2700K 30 3000K 35 3500K 40 4000K	10 10°* *(Only available with 80CA12L, 90CA10L and 97CA10L. Not available with 2200K) 20 20°* *(Not Title 24 compliant with 2PD) 40 40° 60 60°* *(Not available for 2PD)	Housing W/ Integral Driver (HB) NC NIC IC IC AT IC, Airtight* *(CCEA, Airtight and Title 24 compliant housing)	0 0.125" - 0.49" *(RM, RR Install Types only) 1 0.50" - 0.75" 2 0.76" - 1.25" 3 1.26" - 2.00" 4 2.01" - 3.00"	(120V) TR2 Philips, 2% Leading/Trailing/Triac* *(Not available for 80CA12L, 90CA10L, or 97CA10L unless 10° optic is specified) L23 Lutron, Hi-Lume 1% 2-Wire	Standard Effects Device 04 Soft Focus Lens 00 No Lens* *(Standard for 10° optic. Not available for wet location or Warm Dim)	F Flange Overlay (No Applique) G Zero Sightline Gypsum (1/16" Applique)* *(Not available for wet location) P Zero Sightline Plaster (1/8" Applique)* *(Not available for wet location)
		AG Satin Silver								
		IG Industrial Gray								
		AU Cashmere Gold								
		AB Arch Bronze								
		BB Burnt Bronze								
		BK Black								
		SS Stainless Steel* *(Increased lead time)								
		CH Chrome* *(Increased lead time)								
		MB Matte Bronze* *(Increased lead time)								
		PB Polished Bronze* *(Increased lead time)								
		PR Primer								
CF Custom* *(Consult Factory)										
	HIGH FLUX WARM DIM 6.50" TALL HOUSING 90WA11H 90+ CRI, 1130 Source Lumens Incandescent Profile (Delivered - 2PD 703, 2RD 817, 2SD 803) 90WA12H 90+ CRI, 1265 Source Lumens Standard Profile (Delivered - 2PD 791, 2RD 918, 2SD 903)	WL 2700K - 1800K WD 3000K - 1800K	20 20°* *(Not Title 24 compliant with 2PD) 40 40° 60 60°* *(Not available for 2PD)	Remodel RM Remodel RR Remote-Remodel						
*SEE PAGE 3 FOR DETAILED WARM DIM PROFILE COMPARISON.										
*ALL DELIVERED LUMEN OUTPUTS AND T24 COMPLIANCE REFLECT 3000K PAIRED WITH 40° OPTIC AND SOFT FOCUS LENS.										
**REFERENCE PAGE 3 FOR COMPLETE T24 COMPLIANT CONFIGURATION BREAKDOWN.										



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



[DATE OF REV: 11282022]

2 SERIES LED DEEP REGRESS

ACCESSORIES

ALTERNATE EFFECTS DEVICES

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

HANGER BAR EXTENDER KIT

Extends hanger bars from 24.0" to 46.0" maximum.

- 2S-HBE-46** Extender, Hanger Bar

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

PERFORMANCE - 3000K

LUMEN PACKAGE	WATTAGE	DEEP REGRESS - 40° OPTIC - SOFT FOCUS LENS					
		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
90WA11H	14	817	58	703	50	803	57
90WA12H	14	918	65	791	56	903	64

LUMEN PACKAGE	WATTAGE	DEEP REGRESS - 10° OPTIC - NO SOFT FOCUS LENS					
		2RD		2PD		2SD	
		DELIVERED	LPW	DELIVERED	LPW	DELIVERED	LPW
80CA12L	14	648	45	581	40	657	45
90CA10L	14	549	38	492	34	557	38
97CA10L	14	506	35	454	32	514	35

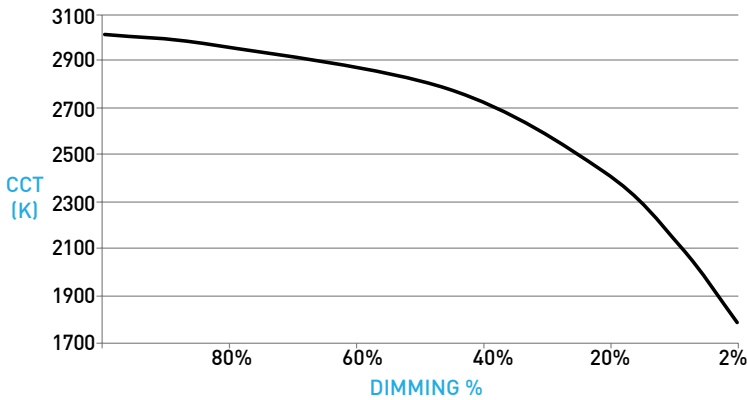
OUTPUT MULTIPLIER	
CCT	CCT SCALE
2200K (Consult factory for JA8 details)	0.800
2700K	0.957
3000K	1.000
3500K	1.019
4000K	1.030

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

WARM DIM PERFORMANCE - 40° OPTIC - SOFT FOCUS LENS

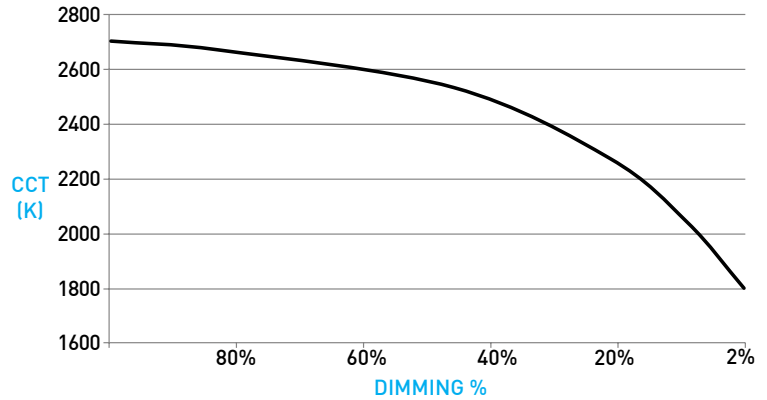
STANDARD DIMMING PROFILE

90WA12H 3000K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	3000	2950	2920	2775	2375	2000	1800
Light Output (Lm)	1265	1012	885	632	253	126	25
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	90	90	90	90	90	90	90



WARM DIM TO MIRROR INCANDESCENT DIMMING PROFILE

90WA11H 2700K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	2700	2650	2625	2550	2200	1900	1800
Light Output (Lm)	1130	880	770	550	220	110	30
Power (W)	14	11	10	7	3	1.5	0.3
Efficacy (LPW)	80	80	80	80	80	80	80



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	11H	12H	10L	14L	19H	10L	12L	17H	11H	12H	10L	14L	19H	10L	12L	17H	11H	12H
2RD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2PD									✓	✓	✓	✓	✓	✓	✓									
2SD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

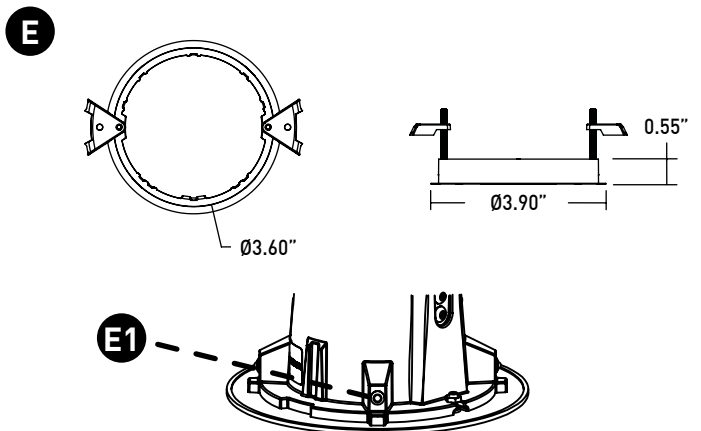
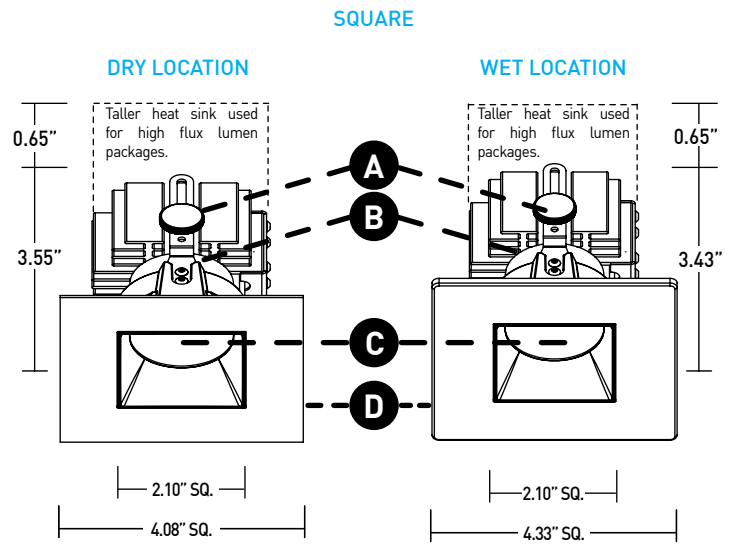
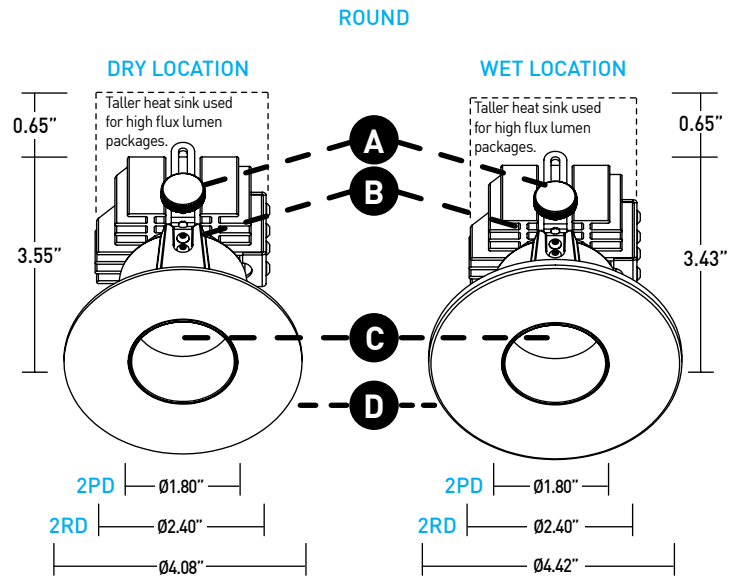
2 SERIES LED DEEP REGRESS

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**
Proprietary optic integrates Reflection, Refraction and TIR offering 10°, 20°, 40° & 60° beams.
- 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.

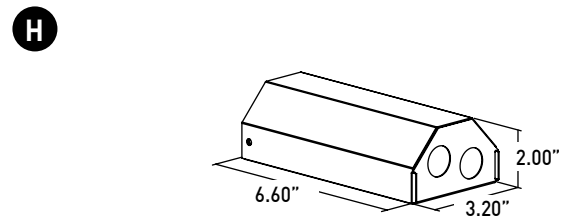
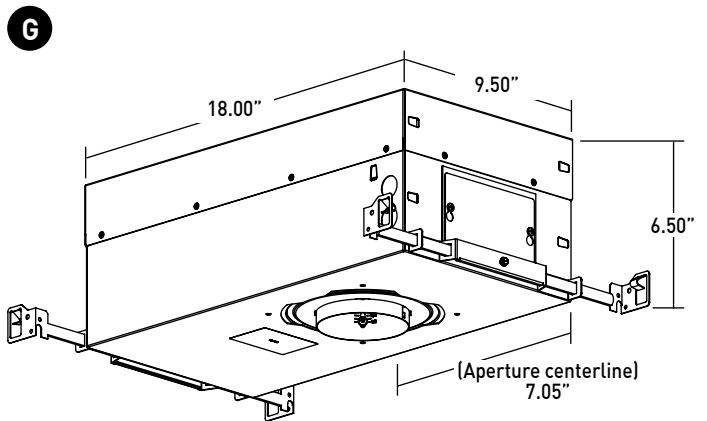
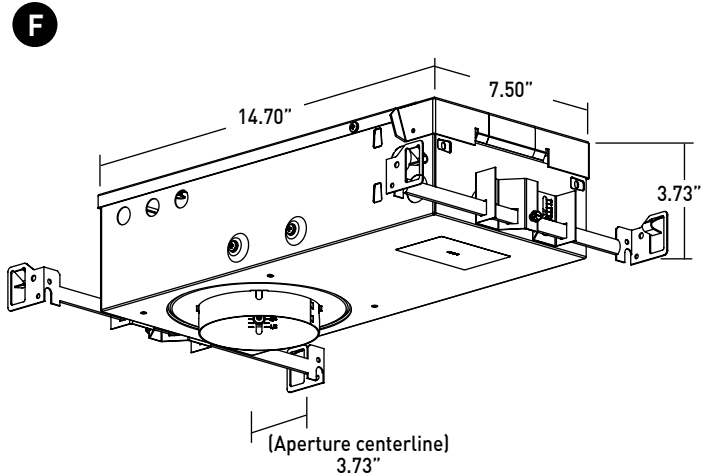
HOUSING MOUNTING NOTES

- AT and AR install types are required for CCEA, 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. Can be extended up to 46" maximum with 2S-HBE-46 kit.
- 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". See page 7 for maximum allowable wiring distances. 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 included with RR Install Type.
- Requires plenum rated Class 2 cable between fixture and remote driver. Cable supplied by others.
- See page 7 for maximum allowable wiring distances.

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.

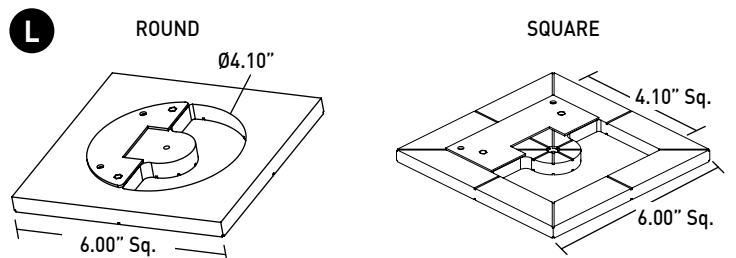
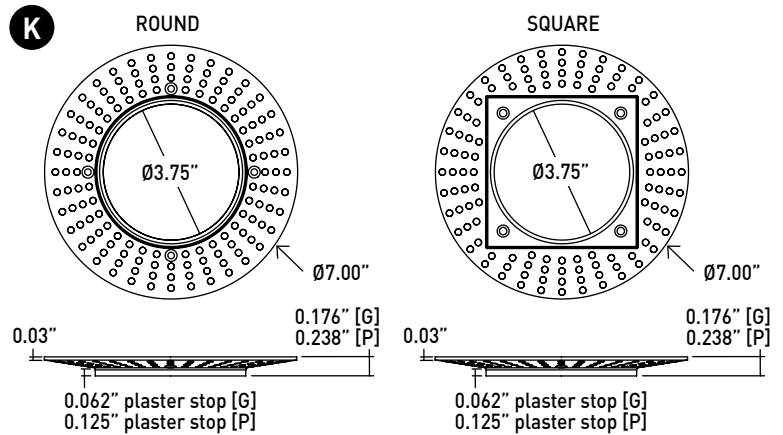
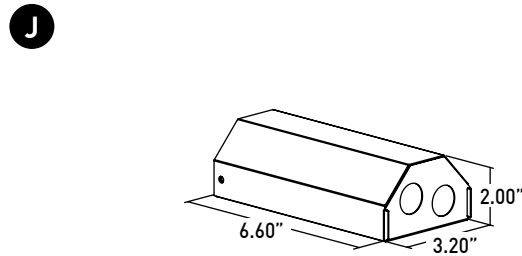
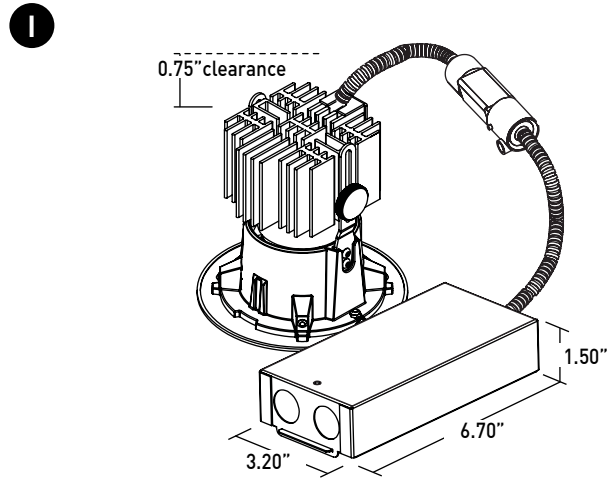
K APPLIQUÉ

- 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.

STATIC WHITE LED

2-step MacAdam ellipse LED module available in 80+, 90+ and 97+ CRI configurations in color temperatures of 2200K, 2700K, 3000K, 3500K and 4000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

WARM DIM LED

3-step MacAdam ellipse warm dim LED module available in 90+ CRI configuration. 3000K or 2700K at full brightness, warming to 1800K at full dim. Average rated lamp life of 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 8 to confirm appropriate dimming curve for compatibility with selected control.

MAXIMUM ALLOWABLE REMOTE DRIVER WIRING DISTANCES

DRIVER	WIRE AWG				
	12	14	16	18	20
TR2, AN4, LN2	285'	180'	113'	71'	45'
L23, LH1, LP1	60'	40'	25'	15'	-
EA2, LA2, ED1, LD1	-	-	118'	72'	46'

LISTING

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

DECLARE

LBC Red List Approved.

WEIGHT

Trim - 2 lbs max

Low Flux Housing - 4.2 lbs

High Flux Housing - 7.4 lbs

Remote / Remodel Driver - 1.4 lbs

LIMITED WARRANTY

Manufacturer's Limited Warranty guarantees product(s) listed to be free from defects in material and workmanship under normal use and service for 1-year. LED and power supplies are warranted to operate with 70% of original flux and remain within a range of 3 duv for a period of 5-years. 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

- 1.01/12/2021: ADDED 2200K, 2700K-1800K WARM DIM AND 10 DEGREE OPTIC OFFERINGS.
- 04/06/2022: REMOVED REMOTE REMODEL ACCESSORY KIT DLA2-RMT-AK.
- 10/17/2022: REMOVED 90WA12H 3200K-1800K WARM DIM AND ADDED 90WA12H 3000K-1800K WARM DIM.
- 11/28/2022: REMODEL FIXTURES UPDATED WITH METAL CLASP CONNECTORS.
- 04/26/2023: ADDED DECLARE LBC RED LIST APPROVED.



Declare.

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

