

CODE IS THE FLOOR. STANDARD IS THE CEILING.

Scope: Coves · Toe-kicks · Reveal channels · Millwork integration · 24 V LV tape · 120 V integral linear · Drivers (Lutron Hi-Lume / Ketra D4 / Q-Tran) · Channel selection · Mitre & end details · Color science · HomeWorks / Athena control. Manufacturer- and NEC-aligned. Luxury residential only.

§01	OPERATING PRINCIPLES
- Light is finish. Treat the cove like trim, not like wire. - Spec the channel before the tape. Reveal geometry drives everything. - Drivers live where they can be serviced — never sealed inside finished millwork. - Color and dim performance are commissioned, not assumed. - One reveal, one channel, one tape spec per fixture run. No mixing on a sightline.	

§02	APPROVED PLATFORMS — RESTREPO BASELINE
- Control: Lutron HomeWorks QSX or Athena. Ketra D4 for tunable color when specified. - Power & Channel: Q-Tran transformers + Q-Tran extruded aluminum channel as the default. - Driver alternates (control-driven): Lutron Hi-Lume Premier LTEA series for non-Ketra circuits. - Specifier-driven alternates: EcoSense Lighting and PureEdge Lighting — only when on the lighting plan. - Tape: 24 V high-CRI (≥ 95) only. No 12 V tape on residential interior linear.	

§03	PROHIBITED — DO NOT
- Drivers buried in sealed millwork or above non-removable trim. - Substituting a different driver brand for the specified one without written direction. - Mixing tape reels or batches mid-run on the same sightline. 12 V tape on luxury residential interior linear, under any circumstance. - Adhesive-only mounting of tape. Channel is mandatory on every visible run. - Unfused 24 V outputs on any run longer than 8 ft. - Splicing tape with solder on a hot-glued joint. Use channel-rated mechanical connectors. - Powering RGB or RGBW tape from a non-Lutron-listed driver on a Lutron load.	

§04	DRIVER STRATEGY & REMOTING
- Default: drivers in a dedicated lighting closet or AV/IT rack on the same level as the load. - Long runs: local drivers permitted where V-drop or distance exceeds budget. Document on as-built. - Driver location must be accessible behind a removable panel without finish damage. - V-drop budget driver-to-fixture: 1.5 % max (Lutron AN591, ERP AN110). - Pull strings + service loop at every driver location. Label every output. - Group drivers by zone, not by circuit. Heat dissipation 2 in. min between driver bodies.	

§05	Q-TRAN POWER LAYER
- Q-Tran QTM (AC) or Q6M for higher loads — sized at 80 % max continuous load. - DC tape: Q-Tran QZ 0-10 V driver when 0-10 V control is on the spec. - One transformer per zone. No daisy-chained zones across a single transformer. - Output fused per Q-Tran spec. Inline fuse holder accessible at the driver. - Output wiring: 12 AWG min for runs > 10 ft; 10 AWG for runs > 25 ft. - Bond transformer chassis per NEC 250.4. Verify ground continuity at trim. - Reference Q-Tran iQA channel + power-supply datasheets in Library.	

§06	LUTRON CONTROL LAYER
- Hi-Lume Premier LTEA: forward-phase or EcoSystem digital. Match driver mode to the panel. - Ketra D4: dedicated D4 link from a Lutron processor. No mixing D4 with QS on the same wire. - Athena: keypad-driven scenes. Commissioning database delivered to client at closeout. - HomeWorks QSX: panelized lighting. Reference Vol 02 §11 for panel mounting and feeds. - Tunable-white drivers: confirm 0-10 V vs EcoSystem digital before rough-in pull. - Every Lutron driver labeled with circuit, zone, and processor address.	

§07	TAPE SELECTION & COLOR
- CRI ≥ 95, R9 ≥ 90 minimum. No exceptions on luxury residential interior. - Single CCT runs: 2700 K default warm; 3000 K when specified by lighting designer. - Tunable-white runs: Ketra D4 tape; do not substitute 0-10 V tunable for D4 spec. - Lumen output: matched to channel + diffuser combo, not raw tape spec. - MacAdam ellipse 3-step or tighter on all runs visible on a single sightline. - Single reel per continuous run. If splicing required, splice at a corner, never in a sightline.	

§08	CHANNEL & REVEAL GEOMETRY
- Channel selected before drywall framing. Reveal geometry drives stud layout. - Recessed channel: drywall reveal ≥ 1/8 in. on each side. No drywall touching the diffuser. - Surface channel: backing block in framing. No drywall-only fasteners. - Diffuser: frosted (matte) for cove and toe-kick; clear only when fixture is concealed. - Channel depth: 1.5 × tape height minimum to control hot-spotting. - Reference Restrepo Channel & Reveal Standard in Library.	

§09	MITRE, END-CAP & JOINT DETAILS
- External corners: 45° mitre. No butt joints visible on a sightline. - Internal corners: butt joint acceptable; tape continues across with no break. - End caps: full-depth, color-matched to channel anodizing. - Joint between two channels: aligned within 1/64 in. on the diffuser face. - Closure tolerance at millwork: 1/16 in. max gap from channel edge to finish. - Mock-up every unique mitre condition before production cuts.	

§10	DRYWALL & MILLWORK COORDINATION
- Channel rough-in pre-drywall. Drywall returns into the reveal, not over the channel. - Painters: keep paint out of the channel. Tape and mask the diffuser slot before primer. - Millwork pocket: routed to channel manufacturer's exact dimension sheet. - Heat: 2 in. clear air space above driver and channel inside millwork. - Service access: removable panel or kick-plate at every driver and every transformer. - Coordinate with drywall lead before rock; coordinate with millworker before mill.	

§11	WIRING, LOOP & SERVICE
- Output cable: stranded, jacketed, channel-rated. No solid-core on tape feeds. - Service loop at every driver and every channel entry. 6 in. minimum. - Strain relief at every cable entry into channel or driver enclosure. - Polarity verified at every connector before final closure. - Splice locations documented on as-built. No hidden splices.	

§12	COMMISSIONING & CLOSEOUT
- Burn-in: 24 hours minimum at 100 % before scene tuning. - Color verification with a calibrated meter on every Ketra zone. - Dim curve tested at 1 %, 10 %, 50 %, 100 %. No flicker, no pop-on. - Lutron commissioning database delivered to client. Backup on file with Restrepo. - As-built shows every driver, every channel run, every splice. - Owner walk-through with scene book before sign-off.	

§13	SPECIFIER-DRIVEN ALTERNATES
- EcoSense Lighting: approved when on the lighting plan. Driver remoting per AN-equivalent. - PureEdge Lighting (Reveal series): approved when specified. Verify channel and trim compatibility. - Substitutions require written direction from the lighting designer or owner's rep. - All alternates follow the same channel, reveal, and commissioning standards.	

QC GATE — VERIFY BEFORE CLOSE-IN

☐ Channel set pre-drywall · reveal verified	☐ Drivers accessible · service panels set	☐ V-drop budget ≤ 1.5 % verified	☐ CRI ≥ 95 · single reel per sightline	☐ Mitres mocked-up · joints aligned
☐ Polarity verified at every connector	☐ Burn-in 24 h before scene tuning	☐ Ketra zones color-metered	☐ Commissioning database delivered	☐ As-built matches field exactly