

TECH-TIPS

CROWN LITE

A Series of Educational Notes to Promote a Better Understanding of Lighting, Electrical, and Data

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"LIGHTING, ELECTRICAL, and DATA for POP/POS DISPLAYS, SIGNS AND EXHIBITS"

A Check List of Lighting, Electrical, and Data System Design Considerations

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The human eye is naturally attracted to the brightest element in the environment. Lighting attracts the buyer's attention and creates excitement. Well lit displays simply sell more merchandise at retail, increasing your Brand's ROI.

A properly lit display with well thought out electrical and data distribution systems is not an accident. It is the end result of a deliberate and focused collaboration between sales, creative design, product development, engineering, estimating, purchasing, and your lighting and electrical vendor/partner.

Lighting is a specialty, combining art and science. The earlier in a project an experienced lighting and electrical specialist is brought in, the better the display will look and perform, the fewer

changes will have to be made, and the less the final system will cost.

The most capable design and engineering staff will acknowledge the need for outside help in the design, development and manufacturing of high quality, economical POP lighting and electrical systems.

The lighting and electrical vendor must be able to: review the display's requirements, make suggestions to improve lighting quality and system economics, refine the design concept, generate detailed specifications, and render meaningful cost estimates; responding quickly to sample and prototype needs.

Crownlite is a strong lighting, electrical, and data components manufacturer that has been filling this roll for over 60+ years.

The Following Detailed Requirements Checklist . . .

. . . Explores major design and engineering areas that affect cost, quality, and performance. It underscores the complexity of what may seem to be deceptively simple components of a project. It can be used in many ways: as a design aid, to help generate complete and detailed lighting and electrical specifications, or as a means of quickly and easily communicating project requirements to the manufacturer. Drawings and actual physical samples always speed the process and insure a more accurate and timely response.

Mr. Siegel, a graduate Electrical Engineer (EE), is President of Crownlite Mfg. Corp., a prime manufacturer of lighting, electrical, and data systems, and mechanical components for POP Display, POS, and trade show and exhibit markets. He holds memberships in the Illuminating Engineering Society of North America, where he contributed to three national committees: Luminaire Design and Light Control, Retail Lighting, and Polarized Lighting, and the Institute of Electrical and Electronic Engineers. He is certified by the Association of Energy Engineers as a Lighting Efficiency Professional (CLEP), by the EPA as a Surveyor-Ally, and by Con-Edison. He has spent the last 35 years in the design, engineering, and manufacture of lighting and electrical systems and luminaries, and in the education of others in the principles of good lighting.

A Check List of Lighting, Electrical, and Data System Design Considerations

Basic Client and Project Information

- ❖ Lead contact: name, title and position, address, phone, fax?
- ❖ Project name?
- ❖ Are there current specifications, drawings, prototypes, or samples available for review?
- ❖ Is this a new product/program or has it been bought before?
- ❖ Rough estimate of number of stores or displays needed?
- ❖ Current stage and status of project: estimate, bid, or buy?

Application Considerations

- ❖ Projects goals and objectives?
- ❖ What is it expected to be accomplished?
- ❖ What is the current display design concept?
- ❖ Who will be using the display? How? When? Where?
- ❖ What are the limiting constraints and driving influences for the design: scope, resources, time, UL and code issues, performance, quality, cost?
- ❖ Permanent or semi-permanent?
- ❖ Are there graphics?
- ❖ One sided or two sided?
- ❖ Where will the unit be placed? What is the environment like?
- ❖ What will the display be competing with in its immediate surrounding area?
- ❖ Will a mock-up be required?

Lighting Quality and Optics

- ❖ What are the goals for the display lighting system? What type of system is currently envisioned?
- ❖ How critical is light level? What average ambient light level is in the immediate surrounding area?
- ❖ What light distribution pattern seems appropriate?
- ❖ How important is color? Is a high color rendering source required? Color Changing?
- ❖ Will lighting unit be visible or concealed within the display?
- ❖ Special effects? Size constraints?
- ❖ Which source technologies are best suited for this application? LED? Fluorescent? Incandescent? Other?
- ❖ Will special thermal management, controls (color changing/scene programming), dimming, or sensors need?

- ❖ Will lens, louvers, custom reflectors, or other shielding media be required?

Electrical Considerations

- ❖ How will power be brought to display? How will it be routed and distributed?
- ❖ Will the display be relocated to new locations? By whom? How often?
- ❖ How will the line service connection to the building supply be done? How many circuits will be required? How will they be protected?
- ❖ Will there be dedicated circuits required for computer and other sensitive mission critical electrical equipment at the point of purchase (POP) or service (POS)?
- ❖ Who is responsible for factory or field installation of the wiring system? Will an licensed electrician be required?
- ❖ Would a Plug-N-Play wiring system cut installation time and save cost? Will it meet UL standards and codes?
- ❖ How important is code compliance to the Brand and Retailer? For your own liability exposure? Which standards apply? Underwriters? UL65? UL962? UL1598? UL153? UL48? UL8570? UL2300? National Electric Code (NEC)? Local or State codes? Others?
- ❖ Are the ballast/driver-power supply types, ballast factor, ac / dc Voltages, and line frequency correct for the application?
- ❖ If low voltage ac or dc is going to be used, how is power being brought to the primary side circuits?
- ❖ What extra special enclosures, cables, and connectors will be required to complete the installation and for code compliance?
- ❖ Is energy consumption important?
- ❖ Are cord sets, switches, fuses, outlets, or 'daisy chaining' required?
- ❖ Will fixtures and components be pre-mounted, pre-wired, or pre-lamped? To what extent?
- ❖ How and when will maintenance be done? How often? By who?

Mechanical Considerations

- ❖ Can parts count be reduced?
- ❖ Which are the structural parts and which are only trim? Where must the strength be?
- ❖ What finishes are envisioned?
- ❖ Is there a need for corrosion protection or other special undercoating or finish?

A Check List of Lighting, Electrical, and Data System Design Considerations

- ❖ Can materials and finishes be substituted for less expensive ones?
- ❖ How frequently will the display be repositioned in the field?
- ❖ Does the display move or have moving parts?
- ❖ Are there size or weight limitations?
- ❖ Will the display be floor, counter, recessed, surfaced - wall, or ceiling mounted; Cable or pendant hung?
- ❖ Are there any special mounting conditions? Would special holes, or hardware make assembly / installation easier?
- ❖ Will the display be accessible to the public?
- ❖ Is temperature, humidity, or vibration a consideration?
- ❖ Will heat be an issue? Is ventilation appropriate?
- ❖ Are the tolerances and component specs shown on drawings firm or flexible?
- ❖ Wired or wireless? Do we need a router? Switch? Hub? Patch Panels? Cables?
- ❖ Who will be doing the local display/POS data installation? Trained/certified IT personnel?
- ❖ Would a Plug-N-Play wiring system allow the display installers to do the work instead of a licensed professional - Saving cost?
- ❖ What connection speeds are needed? Cat5? Cat6? Shielded? Unshielded?
- ❖ Connectors pre-wired and assembled or done in the field as needed?
- ❖ How many line feeds do we need? Cable lengths?
- ❖ Will we need patch panels? Surface mounted? Recessed? How many ports?
- ❖ Punch down tools required?

Packaging Requirements

- ❖ Bulk pack or individual cartons?
- ❖ Will there be any special markings, or labeling?
- ❖ Is a re-shippable carton required?
- ❖ Will the unit be shipped as a complete kit, part of larger pack-out, or be installed into the display before shipping?
- ❖ Is Warehousing or drop shipping required?

Items to be Included In Pack-out

- ❖ Will an installation instruction sheet be used?
- ❖ Will a parts bag be required?
- ❖ Are there any other components needed?

Delivery Requirements

- ❖ What is the estimated lead time and delivery schedule?
- ❖ Where will products be delivered to?
- ❖ Will they be picked up at the vendors factory or be direct shipped? Is delivery free? Even if made via common carrier?

Data Distribution Considerations

- ❖ Do the products being displayed need a data source?
- ❖ Does the POS or customer service local PC system need a data connection?
- ❖ Is a connection to the WWW web required? Store server? G3-G4? Both?

Safety and Liability Issues

- ❖ What certifications are required and what codes need to be met? UL? NEC? CSA (Canadian)? CE (European)?
- ❖ Do all units meet National Electrical Code requirements at a minimum?
- ❖ Does the whole display need to be UL listed? Or, is listing the lighting fixtures and other separate components sufficient?
- ❖ Who will be doing field installation and maintenance?
- ❖ Is there a requirement in some store locations that fixtures and electrical equipment be Union made or installed?

Environmental Concerns

- ❖ At the end of the displays useful life, will there be a hazardous waste disposal or other environmental problem?

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