CUSTOM LED LIGHT PANELS / LGP / LIGHTBOXES

Product technical guide

Custom light guide plates, finished LED panels and illuminated display systems.



From product selection to an approved drawing

Use the chapter for your product to review its structure, configuration and installation requirements. This reference does not replace the approved drawing, model-specific quotation or applicable compliance documents.

Custom LED light panels: single-piece finished outer dimensions up to 2000 x 3000 mm. Light guide thickness and overall assembly depth follow the approved project design. All FH LED assemblies use custom LED strips.

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Contents and ordering

Custom LED light panels	3
Construction and sample reference	5
Custom light guide plates	10
Installation-ready panels	13
Custom-shape panels	14
Tunable white panels	15
Optical pattern methods	16
Advertising lightboxes	17
Complete lightbox supply	19
Power supplies and accessories	21
Specialty products	23
Large-format LGP planning	24
OEM integration	26
Laser-dot LGP planning	28

Ordering and documentation - all product families

Minimum order: 10 pcs. Samples: 7 days after drawing and specification approval; shipping time is additional.

Applicable CE / RoHS documentation is available by model. Scope is confirmed in the quotation.

Power supplies, controllers, mounting parts and cables are included only as itemized. MEAN WELL model ratings belong to the selected power supply, not automatically to the complete panel or lightbox.

01 / Custom LED light panels

Product page: fanghaolighting.com/led-light-panels.html

Made-to-order edge-lit panels for retail displays, backlit surfaces and OEM integration. Single-piece finished panels up to 2000 × 3000 mm, with the light guide, LEDs and structure configured for your project.

The light guide. The lighting. One finished panel.

A patterned light guide plate is combined with FH custom LEDs, optical layers, support and wiring. The finished panel is configured around its display, installation space and required light effect.

- Light guide plate
- FH custom LED strips
- Diffuser
- Reflective layer
- Agreed support structure
- Panel wiring

The external power supply, dimmer and remote control are not included as standard. Any accessories and mounting parts are itemized in the quotation.

Built to your dimensions.

Specify the finished outside size and visible illuminated area separately. Single-piece finished panels are available up to 2000 × 3000 mm.

Configured for the application.

The light guide, optical layers and LED configuration are selected for the panel size and agreed lighting requirements.

Planned for the installation.

Confirm the support, edge treatment, mounting details and cable exit against the fixture or installation drawing.

Define the panel. Then configure the construction.

Light guide thickness and overall assembly depth are different dimensions. They are selected for the approved project design.

Maximum single-piece finished panel size	2000 × 3000 mm Finished outside dimensions.
Light guide plate thickness	Selected for the panel size, optical requirements and agreed structure.
Finished assembly depth	Project-specific; confirmed separately from the light guide plate thickness.
Visible illuminated area	Defined separately from the finished outside dimensions.
Frame, support and mounting	Developed to the approved drawing and installation requirements.
Cable exit and connection	Position, lead length and connection details follow the approved drawing.
Panel power and weight	Confirmed for the selected dimensions and configuration.

The light guide, optical stack and support are reviewed together. The maximum outside dimensions are not a promise that every thickness or lighting configuration is available at that size.

Lighting and electrical options

Input	12 V or 24 V DC, according to the approved LED configuration.
Light effect	Single-CCT white, tunable white, RGB or RGBW, by configuration.
Optical requirements	Confirm the required light color, brightness and acceptance criteria with a representative sample.
Dimming and controls	Available where specified, using compatible LEDs, power supplies and controllers.
External accessories	Power supply, dimmer, remote control and mounting parts are supplied only when itemized.

A light panel that fits the display.

Plan the panel together with the graphic, surface material or equipment in front of it.

Retail displays

Backlighting for store fixtures, product displays, shelves and branded display surfaces.

Backlit surfaces

Illuminated graphics and translucent interior features, configured around the selected face material.

OEM integration

Custom illuminated assemblies for displays and equipment, with the support and connections reviewed to drawing.

See how the panel comes together.

Explore the visible edge, rear support and wiring, alongside the recorded 600 × 400 × 20 mm sample.

Drawing. Sample. Approved build.

Use the project drawing and representative sample to agree the configuration before production.

Share the brief

Send the finished size, visible area, application, quantity, light effect and installation details.

Review the sample

Confirm the structure, optical appearance, electrical configuration and relevant inspection points.

Confirm the supply

Approve the drawing, itemized accessories, packing and delivery requirements for the order.

02 / Construction and sample reference

Product page: fanghaolighting.com/frameless-light-guide-panel

Explore the panel structure and a recorded 600 × 400 × 20 mm sample. The light guide, optical layers, LEDs and support are reviewed together for your finished design.

A clean visible edge. An engineered structure.

Frameless describes the visible edge treatment. A concealed channel, rear profile or other agreed support may still be used; the final structure follows the installation drawing.

Light guide plate thickness and the finished assembly depth are specified separately. The optical layers, support, cable exit and mounting requirements are coordinated for the selected panel.

One finished assembly

- Diffuser / visible face
- Patterned light guide plate
- FH custom LED strips
- Reflective layer
- Agreed frame or rear support
- Panel wiring and connection

The external power supply, dimmer and remote control are not included as standard. Additional accessories and mounting parts are itemized in the quotation.

600 × 400 × 20 mm



Actual 600 x 400 x 20 mm sample; the 20 mm dimension is the finished assembly depth.

A finished LED panel with a full 600 × 400 mm visible face. The 20 mm dimension is the finished assembly depth.

Finished outside size	600 × 400 × 20 mm
Visible face	600 × 400 mm for this sample.
Sample panel power	Approximately 20 W for this configuration.
Included in the sample panel	LED strips, outer frame, light guide plate, diffuser sheet and reflective sheet.
Accessories on request	External power supply, dimmer and remote control; not included as standard.
Optional power supply	MEAN WELL, 24 V DC, 60 W rated output. The 60 W rating is the power supply capacity, not the panel consumption.

This is one sample configuration. Its depth, power and accessories do not set the specification for every custom panel.

Readings for this sample.



Supplied sample instrument display. Recorded readings are limited to this sample and the documented measurement conditions.

The supplied instrument photograph records the following values for the sample shown.

Color temperature: 3997 K

Color rendering index: Ra 97.6

These recorded readings are not guaranteed values for every configuration.

The screen also shows approximately 12.91 klx illuminance. Sensor position and distance are not recorded, so this is not a product output rating. No nine-point data or calculated uniformity percentage is available for this sample.

Agree the required optical performance and measurement method for the selected configuration before approving production.

Finished panel sample checks & packing

Confirm dimensions, the LED strip and thickness before sampling. Inspect the finished sample for scratches, check the required brightness, then measure its light distribution.

• 01 Confirm the specification Agree on the finished dimensions, selected LED strip, PMMA thickness and finished assembly depth.

• 02 Build the sample Start sample production after the size, LED strip and thickness have been confirmed.

• 03 Inspect the surface and brightness First check for scratches. Then check whether the illuminated sample meets the agreed brightness requirement.

• 04 Measure nine points Use an instrument to measure three points in each of the upper, middle and lower rows. Calculate the average and review uniformity from the minimum and maximum readings.

• 05 Pack the checked panel Our usual packing is bubble wrap plus 20 mm honeycomb paperboard. Confirm any additional transport requirements for the order.

Upper row	P1 / P2 / P3
Middle row	P4 / P5 / P6
Lower row	P7 / P8 / P9

Three instrument readings per row, nine readings in total.

Average brightness = sum of the nine readings / 9.

Uniformity = minimum reading / maximum reading; multiply by 100 to express it as a percentage.

The brightness requirement, measurement conditions and uniformity acceptance threshold are confirmed for the project before sample approval.

Actual packing photographs



FH packing work with the exposed honeycomb paperboard edge visible.



Completed panel packages with paperboard protection and strapping.

Packing photographs show the package construction. Optical results are established by the instrument readings for the approved sample.

Finished panel construction

Engineering reference only. Dimensions, optical configuration and support follow the approved drawing and sample.

FH LIGHTING / FINISHED LED PANEL

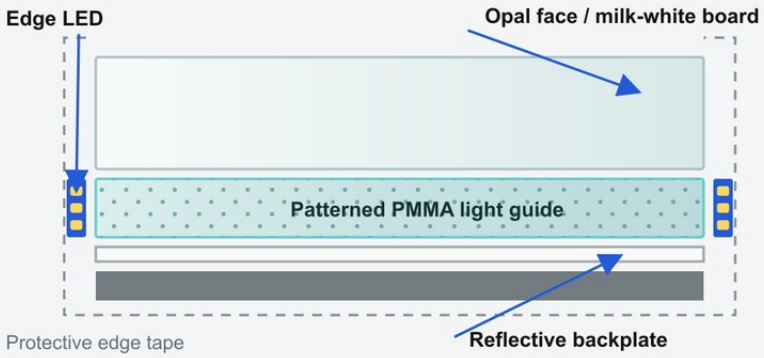
Two construction methods, one clean luminous face

Layer order and component function are preserved from the production reference; dimensions follow the approved drawing.

METHOD 01

Without Visible Profile

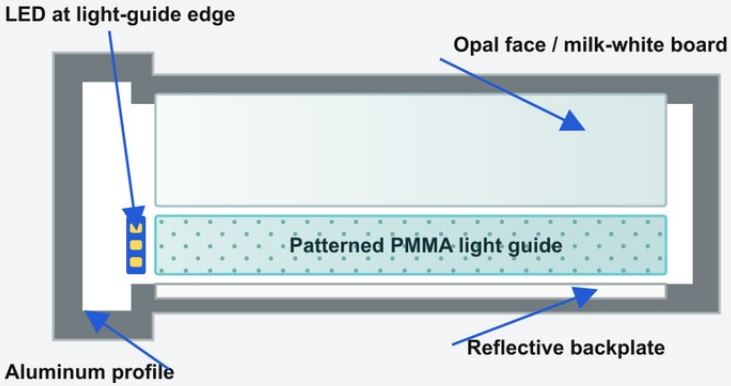
Edge tape closes the stack while the luminous face remains visually frameless.



METHOD 02

Concealed Aluminum Profile

The same optical stack is retained inside a protected, serviceable edge profile.



OPAL FACE REFERENCE	PMMA LIGHT GUIDE	LED ENTRY	EDGE FINISH
Selected for the project	Project-specific thickness	To the approved design	Tape or concealed profile

03 / Custom light guide plates

Product page: fanghaolighting.com/light-guide-panel.html

Custom DONCHAMP PMMA light guide plates, cut and patterned in Shanghai for signs, displays, cabinets and integrated lighting.

Specifications

The LGP is a passive optical component. The dimensions below describe the PMMA plate; electrical values apply only to a separately selected LED system.

- Optical patterns matched to panel dimensions and LED entry edges.
- Custom outlines, openings, slots and fixing holes from approved drawings.
- For light boxes, retail fixtures, shelves, cabinets, signs and wayfinding displays.

Physical	
Supply Scope	Patterned PMMA light guide plate
PMMA Panel Thickness	2, 3, 4, 5, 6, 8, 10 mm
Material Brand	DONCHAMP optical-grade PMMA
Processing	Laser dotting, mechanical V-cut lines, or laser engraving
Maximum Panel Size	2000 × 3000 mm maximum finished LGP; process limits apply
Optional optical layers	
Diffuser (optional)	Opal or frosted PC / PS, 0.5-3 mm
Reflector (optional)	Silver or white PET / PS, 0.3 / 0.5 / 1.0 mm

Dimensions, optical span, pattern process, and assembly depth must be reviewed together. Maximum values are not interchangeable across every configuration.

The quotation identifies whether LEDs, diffuser, reflector, power supply, wiring, and packing are included. Freight and transit time are separate from sample production.

Laser-dot processing	Up to 1500 mm wide
Screen printing	Up to 1200 × 2400 mm
Other sizes and methods	Drawing and optical review required; maximum values do not apply to every process.

Light entry & control

One-edge, two-edge, or four-edge input is selected from the optical span, aspect ratio, target uniformity, LED load, and thermal requirements.

LED integration for the light guide plate

Short spans can be evaluated with one-edge input. Longer rectangular panels generally use two opposing edges, while large or near-square panels are reviewed for four-edge input and balanced thermal loading.

Optional lighting uses FH custom LED strips. Specify the required voltage, light color, brightness and control interface.

Key details buyers usually confirm first.

What is supplied as an LGP component?

A bare LGP is a patterned PMMA light guide plate. LEDs, diffuser, reflector, wiring and power supply are included only when itemized in the quotation.

How does an LGP differ from a finished LED panel?

The LGP redirects light from an external LED source. A finished LED panel combines that plate with the face, edge lighting, backing and wiring as one illuminated assembly.

What limits apply to a custom LGP?

Custom sizes are reviewed against PMMA thickness, optical pattern, LED entry and handling requirements. The stated maximum size is not available for every combination; larger surfaces may need multiple panels.

What information is needed for a quote?

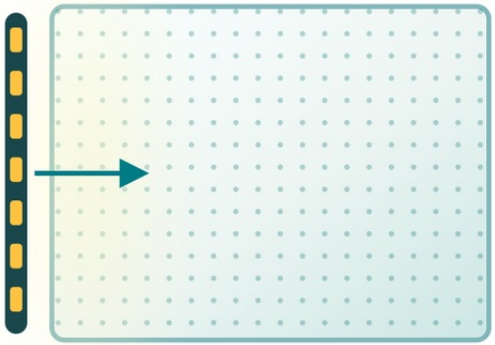
Send the plate dimensions, quantity, application, preferred PMMA thickness, LED entry edges and installation conditions. State whether you need the patterned plate only or a finished illuminated assembly; a drawing helps confirm cutouts and cable routes.

LGP light-entry configurations

Engineering reference only. Dimensions, optical configuration and support follow the approved drawing and sample.

01 / COMPACT PANELS

One-edge entry

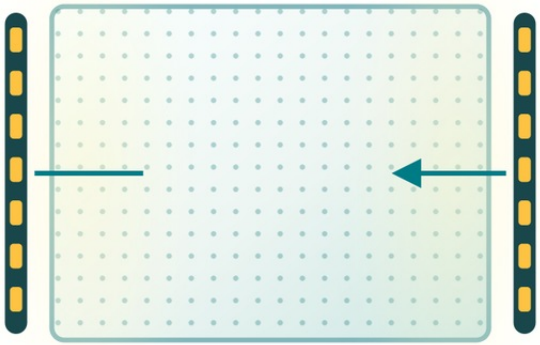


REFERENCE STARTING POINT

Short optical span, typically up to ~355 mm

02 / RECTANGULAR PANELS

Two-edge entry

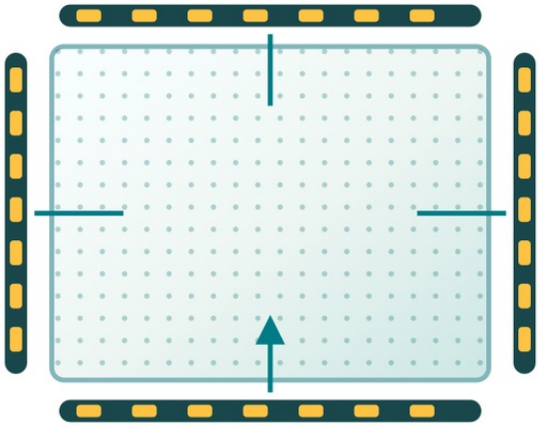


BALANCED OPPOSING INPUT

Longer rectangular spans and uniformity control

03 / LARGE OR SQUARE PANELS

Four-edge entry



FULL-PERIMETER REVIEW

Large spans above ~914 mm or near-square

04 / Installation-ready panels

Product page: fanghaolighting.com/installation-ready-panel.html

A clean frameless luminous face with a concealed rear structure prepared for mounting, heat management, cable routing, and project installation.

The visible panel stays simple while the concealed structure does the practical work.

Prepared around the final mounting condition

The rear profile protects the optical stack, manages the LED thermal path, provides secure fixing points, and places the cable exit where the installation requires it.

- Wall-mounted, recessed, suspended, lay-on, or furniture-integrated
- Single-panel construction with a continuous luminous face
- White light, tunable white, RGB, or RGBW configurations
- Mounting profile and cable position confirmed from project drawings

Physical	
Panel dimensions	Custom to approved drawings and support conditions
Light guide plate	2, 3, 4, 5, 6, 8, 10 mm PMMA reference range; finished depth by structure
Input	24V DC typical, with driver selected for the calculated load
Environment	Indoor standard; protected versions reviewed by project

05 / Custom-shape panels

Product page: fanghaolighting.com/custom-shape-panel.html

Round, curved, polygonal, linear, and project-specific luminous surfaces designed around the drawing, light-entry direction, joints, finish, and mounting.

Shape, optical span, and service access are engineered together.

Curves, long runs, and joined luminous surfaces

FH reviews CAD drawings, light-entry positions, joint lines, cable exits, visible edge treatment, and installation support before sample production.

- Round, oval, trapezoid, organic, and project-specific outlines
- Uniformity planned around geometry and LED input direction
- Large surfaces divided into transportable, serviceable modules
- Backlighting for stone, resin, acrylic, graphics, and translucent finishes

Physical	
Drawing format	CAD, DXF, DWG, STEP, PDF, or dimensioned artwork
Edge lighting	One to four sides according to optical span and shape
Sample timing	Normally 7 days, excluding transport
Module joints	Defined for transport, installation, service, and visual alignment

Review the outline with the optical system

A custom outline also needs a pattern, LED arrangement and mounting review. Use these guides to prepare the process and integration details alongside the shape drawing.

06 / Tunable white panels

Product page: fanghaolighting.com/tunable-white-panel.html

Warm-to-cool white luminous surfaces configured for display color, visual comfort, ambience, and customer-selected control.

Specify the visible white range and control method around the application.

Static white, tunable white, RGB, and RGBW

For tunable-white and RGB systems, FH coordinates the LED channels, color mixing, compatible driver or controller, and optical pattern so the full panel changes output evenly.

Custom tunable-white LED strips: 2700K / 4000K / 6500K reference settings. Other strip options include single-CCT white, tunable white, RGB, and RGBW; white-light selections cover 2800-7500K depending on the selected strip. RGB color effects are specified separately.

Physical	
Input	24V DC typical; final power based on LED load
Dimming	Project-selected local, remote, scene, or building control
CRI	Selected through the approved LED package
Uniformity	Pattern and light entry optimized for size and viewing condition
Maximum Unprocessed Sheet Size	3000 × 2000 mm for the line-scribing machine, before cutting and processing. Finished panel dimensions require project review.

07 / Optical pattern methods

Product page: fanghaolighting.com/optical-patterns.html

The pattern process is selected after reviewing dimensions, geometry, target uniformity, visible finish, quantity, and production budget.

Three visible pattern routes cover most custom panel programs.

Laser Dot Pattern LGP

Digitally optimized dot density for uniform illumination, custom outlines, and varied production runs.

Physical	
Maximum width	Up to 1500 mm; finished length by project review
Typical use	Retail displays, counters, signage, and custom lighting

Laser Dot Light Guide Panel

Engraved Line LGP

Line patterns redirect light across the plate. Mechanical line-scribing is distinct from laser-dot patterns and laser-engraved artwork.

Physical	
Reference capacity	Up to 2000 x 3000 mm
Typical use	Architectural surfaces and large custom displays

Screen-Printed LGP

Repeatable optical dots with clean edges and full-surface pattern coverage.

Physical	
Maximum size	Up to 1200 x 2400 mm
Typical use	Standardized panels, lightboxes, and production programs

FH confirms the process after drawing, optical, volume, and cost review.

Physical	
Laser Engraved	Compact OEM modules and controlled custom graphics
TV Backlight	Thin display and equipment backlight applications
Hybrid Pattern	Project-specific combinations for unusual geometry or optical span

Laser-Engraved Acrylic Samples

Laser engraving forms artwork and lettering in these illuminated samples. It is a separate process from mechanically scribed LGP lines and laser-dot optical patterns.

08 / Advertising lightboxes

Product page: fanghaolighting.com/advertising-lightboxes.html

Custom snap-open, magnetic and SEG fabric lightboxes with FH custom LED strips and matched MEAN WELL power supplies.

10 pcs minimum · Samples in 7 days after approval

Three ways to hold your graphic.

Snap-Open Lightbox

Front-opening profiles for posters that change regularly.

Graphic access: Four-side snap-open profile

Best use: Wall or display integrated

Magnetic Lightbox

A removable magnetic face lets you change the displayed graphic.

Sample outer frame: 485 × 335 × 21 mm

Effective visible area: 420 × 297 mm

SEG Fabric Lightbox

Tensioned fabric graphics for retail walls and exhibitions.

Graphic access: Silicone-edge textile

Build: One piece or transport modules

Illuminated Poster Frame

Choose snap-open or magnetic access above for a slim illuminated poster frame.

Crystal Lightbox

Clear polished acrylic with edge-lit PMMA for premium counters and directories.

Double-Sided & Portable Display

Two illuminated faces for windows, suspended signs, wayfinding, and promotion.

Lightbox configuration specifications

Shared reference specifications for the three formats. Confirm the graphic size, visible opening and outer frame size separately.

Physical	
Reference size limit	Up to 1200 × 2400 mm for the reference configuration; frame depth and finished drawing are confirmed per order.
SEG Fabric Lightbox	Up to 1200 × 2400 mm for the LGP reference configuration; larger modular systems require a separate layout.
Material	Patterned LGP, reflector and aluminum frame. Poster or SEG textile, cover and rear panel are specified by structure.

Frame finish	Snap-open / magnetic: matt silver, black, gold or custom. SEG: matt silver or custom.
Frame depth	Selected by profile, access method and single- or double-sided construction.
IP rating	IP40 for indoor dry locations
Optical	
Color temperature (CCT)	Single white: 3000K / 4000K / 5000K / 6500K; tunable white: 2700-6500K. RGB options for snap-open and magnetic structures.
CRI	80 / 90 options, according to the selected custom LED strip
Uniformity target	≥85% reference target; measurement conditions agreed with the sample
Luminous efficacy	Confirmed for the selected custom LED strip and finished assembly
Electrical	
Input Voltage	12 V or 24 V DC constant voltage
Power rating and wiring	FH custom LED strips; total lightbox power, wire gauge and connector are specified for the selected size and circuit.
Cable length	500 mm, 1000 mm or custom cable length
Power supply	MEAN WELL; exact model and inclusion confirmed in the quotation
Dimming & Control	PWM, 0-10 V, DALI, DMX or TRIAC through a compatible power supply or controller, where specified

09 / Complete lightbox supply

Product page: fanghaolighting.com/complete-lightbox-solutions.html

FH Lighting coordinates the lightbox structure, custom light guide panel, matched LED system, power supply, wiring, packing, and project documentation as one supply package.

One coordinated system instead of disconnected components.

FH develops and produces light guide panels and illuminated display systems in Shanghai. A complete project can combine the frame or cabinet, optical panel, LEDs, power supply, wiring, graphic retention, service access, and packing plan.

Final specifications are confirmed from the approved drawing, sample, installation condition, electrical standard, destination, and order quantity.

The lightbox, optical system, electrical set, and delivery plan are reviewed together.

Lightbox Structure

Aluminum, crystal, magnetic, snap-open, SEG fabric, single-sided, double-sided, or drawing-based construction.

Custom LGP

Ultra-thin or large-format PMMA light guide panel with project-selected optical pattern, thickness, entry sides, and diffuser.

LED & Power Supply

LED strip, color temperature, voltage, control, driver or power supply, connectors, and cable exits matched to the approved system.

Packing & Documentation

Assembly logic, modular packing, labeling, replacement parts, and shipping information coordinated around the project and destination.

Built for integrators, lightbox makers, distributors, and OEM/ODM buyers.

FH Lighting is commonly the underlying manufacturer rather than the direct contractor to the final property owner or retail brand. We supply components or complete illuminated systems to customers that manage the end project relationship.

Export Supply Programs

Specifications, sample approval, production stages, packing method, shipping dimensions, and required documents are reviewed with the importing customer before dispatch.

Systems for Commercial Properties

For integrators serving property projects, large illuminated faces can be divided, packed, transported, installed, and serviced around site access and visual requirements.

Components for Chain Rollouts

For customers serving chain brands, approved materials, repeat dimensions, labeling, regional packing, and replacement components can be coordinated across production batches.

OEM / ODM Supply Chains

FH supplies optical components and illuminated assemblies into customer-managed supply chains. End-client names remain confidential, and no direct endorsement is claimed without written authorization.

From drawings to a packed, installation-aware lightbox system.

Requirement Review

Confirm finished size, quantity, application, viewing sides, graphic type, mounting, destination, and electrical requirements.

Optical & Structural Proposal

Select the lightbox construction, LGP format, LED entry, diffuser, reflector, thermal path, power supply, and service method.

Sample & Approval

Review the drawing and sample against the agreed visual, mechanical, and electrical requirements before production.

Production & Export Packing

Coordinate production, inspection points, labeling, modular protection, shipping dimensions, and project-specific documentation.

Questions about complete lightbox supply.

Can FH supply the complete lightbox instead of only the LGP?

Yes. FH can coordinate the lightbox structure, custom light guide panel, LED system, power supply, wiring, graphic retention, and packing as one quoted project scope.

Can large-format lightboxes be prepared for export?

Yes. The structure can be reviewed for one-piece or modular production, packing protection, shipping dimensions, installation access, and destination requirements.

Can your products be used in commercial property and chain-brand systems?

Yes. FH can manufacture components or complete lightbox systems for integrators and suppliers serving those applications, with repeat specifications, delivery batches, labeling, replacement parts, and regional packing.

Does FH claim direct projects with the end brands or property owners?

No. FH commonly works as an upstream supplier and does not claim a direct commercial relationship, project attribution, or endorsement from an end brand, property owner, or chain retailer without written authorization.

What information is needed for a complete lightbox quotation?

Send the finished size, quantity, drawing or artwork, graphic type, viewing sides, mounting, input voltage, destination, installation conditions, and any required packing or documentation.

10 / Power supplies and accessories

Product page: fanghaolighting.com/lighting-accessories.html

Power supplies, low-voltage tracks and connections selected for the lighting system and its installation.

Power and connection options

MEAN WELL Power Supplies

Choose the power supply from the custom LED strip voltage, total load, dimming interface and installation environment. Specify the destination market and required documentation.

Brand	MEAN WELL
Output	12 V or 24 V DC to match the LED system
Selection	Wattage, enclosure, protection and control compatibility confirmed by model

3.5 mm Low-voltage Power Track

A slim conductor rail for distributing power along shelves and display fixtures. Plan the feed position and each pickup around the fixture drawing.

Track profile	3.5 mm high; 17.8 mm overall width; 16 mm base
Lengths	1000 / 1200 / 1500 / 1800 / 2000 mm
Material and finish	PVC with copper conductors; black or white
Voltage	12 / 24 V DC
System current	Rail, feed and pickup ratings must be checked together for the selected model

MEAN WELL model references

Examples for selection, not a fixed bill of materials. The quotation names the exact model, suffix, mains plug and output connector. Ratings below belong to the power supply, not the complete FH light panel.

HLG-120H

Electrical	
Input voltage (AC)	90-305 VAC
Rated output	HLG-120H-12: 12 V / 10 A / 120 W; HLG-120H-24: 24 V / 5 A / 120 W
Protection and control	A / AB: IP65; blank / B: IP67. B / AB versions offer 3-in-1 dimming; confirm the suffix.

ELG-150

Electrical	
Input voltage (AC)	100-305 VAC
Rated output	ELG-150-24: 24 V / 4.38 A / 105 W at 100-180 VAC; 24 V / 6.25 A / 150 W at 200-305 VAC.
Model selection	Allow for mains-voltage derating. IP rating and dimming depend on the selected suffix.

GST90A

Electrical	
Input voltage (AC)	90-264 VAC
Rated output	GST90A12: 12 V / 6.67 A / 80 W; GST90A24: 24 V / 3.75 A / 90 W
Model selection	Desktop adapter with IEC C14 AC inlet. Specify the mains cable and DC connector for the destination and load.

OWA-60E

Electrical	
Input voltage (AC)	90-264 VAC
Rated output	OWA-60E-12: 12 V / 5 A / 60 W; OWA-60E-24: 24 V / 2.5 A / 60 W
Protection and control	IP67 applies to the power-supply body only. Specify suitable connections and installation protection separately.

Specify the complete electrical path

Send the LED strip load, track length, number of pickups, cable routes and mounting details. The permitted system current is limited by its lowest-rated component.

11 / Specialty products

Product page: fanghaolighting.com/specialty-lighting.html

Light guide expertise extended into formed geometry, dynamic color, work surfaces, equipment interfaces, branding, and custom illuminated products.

Processed components or more complete assemblies for customer integration.

Printing, LEDs, wiring, surface treatment, and mounting can be combined around the approved scope.

Thermoformed Custom Light

Heat-formed acrylic lighting developed for curved, dimensional, and specialty concepts.

Full-Color RGB Light Panel

Color-changing luminous surfaces for display, ambience, and experiential applications.

Tracing Light Table

Thin illuminated work surfaces for drawing, inspection, tracing, and visual review.

Direct graphics and functional printing on approved rigid substrates.

Compact illumination for controls, equipment, machines, and interfaces.

Edge-lit acrylic logos, letters, hanging tags, and identification elements.

View laser-engraved artwork samples

More illuminated display options

Dynamic Acrylic Light Panel

Custom acrylic panels with sequenced color effects. Specify the animation, control method and installation environment so the LED strips and controller can be matched.

Physical	
Maximum size	2400 × 1000 mm
Thickness	17 mm

Floating Illuminated Shelf

An illuminated shelf with concealed fixing and power routing. Shelf dimensions, bracket spacing, allowable load and protective surface are confirmed from the fixture drawing.

Acrylic and Wayfinding Signs

Single- or double-sided illuminated acrylic signs, engraved graphics and hanging wayfinding panels. Send the artwork, viewing directions, fixing points and cable route.

12 / Large-format LGP planning

Product page: fanghaolighting.com/large-format-light-guide-panel.html

Large format light guide panels need a drawing-based review of the illuminated area, optical path and installation structure. FH Lighting evaluates the panel and LED arrangement together before confirming a sample scope.

Separate processing size from optical suitability

Width is a process reference

Laser dot processing has a reference maximum width of approximately 1500 mm. This does not define a universal maximum finished panel size or guarantee the result at every length. Send both dimensions and the visible window so the process, orientation and optical span can be reviewed.

Thickness and edge lighting

Common PMMA thicknesses are 2, 3, 4, 5, 6, 8, 10 mm. One-edge, two-edge or four-edge lighting may be considered according to the geometry and available LED space. Review the light-entry edges, reflector, diffuser and front material as a complete optical stack rather than selecting thickness from outside dimensions alone.

Plan the installation around the illuminated area

Support, access and panel divisions

Mark support positions, mounting depth, cable exits and installation access on the drawing. For a wall or long illuminated surface, discuss whether the design uses a single panel or reviewed sections, and where joints would be visible. Panel divisions are a design decision; a seamless appearance cannot be assumed.

Material and viewing conditions

Large display surfaces, luminous walls and stone or marble backlighting require an assessment of the material in front of the panel. Provide its thickness and translucency information or a reference sample. The front material, viewing distance and ambient light affect how the assembly is evaluated.

Confirm the sample and handling brief

Representative optical review

Share the drawing, application, quantities, LED color requirements and optical acceptance criteria. A small demonstration piece does not validate the optical result of a full-size assembly. Agree which sample size and configuration are needed for a meaningful review before moving to production.

Sample schedule and delivery constraints

Sample production normally takes 7 days, subject to the confirmed scope. Shipping time is additional. Include delivery access, handling limitations and packing requirements in the enquiry so these can be reviewed alongside the panel dimensions.

Large Format LGP Questions

Is 1500 mm a guaranteed finished panel size?

No. It is an approximate laser dot processing width reference. Finished geometry and optical suitability need engineering review.

Can a small sample prove full-size uniformity?

A small sample alone cannot validate a different optical span. Agree a representative sample and inspection method.

What is needed for stone backlighting review?

Provide the stone dimensions, thickness, translucency information or sample, mounting space and intended viewing conditions.

Should a large surface use one panel or several?

Review optical span, support, transport access and visible joints before deciding the panel layout.

13 / OEM integration

Product page: fanghaolighting.com/oem-light-guide-panel.html

FH Lighting supports custom PMMA light guide panels and OEM backlight assemblies. Start by defining which components you need supplied and which interfaces belong to your own product.

Define the OEM supply scope

Patterned PMMA component

For integration into your own lighting system, specify the light guide plate geometry, optical pattern and edges available for LEDs. Common PMMA thicknesses are 2, 3, 4, 5, 6, 8, 10 mm. The customer assembly still determines how the plate is supported, illuminated and protected.

Reviewed backlight assembly

If the project needs an assembled backlight, identify the LGP, LEDs, reflector, diffuser, wiring and any mounting parts required. Confirm the supplied parts in the drawing and quotation. A component enquiry does not automatically include a power supply, controller or complete enclosure.

Review mechanical, optical and electrical interfaces

Fit and viewing conditions

Provide outside dimensions, visible area, cut-outs, holes, available depth and support locations. Explain the material placed in front of the light panel and the intended viewing conditions. Furniture, retail display and equipment backlights can require different acceptance criteria even when their outside dimensions match.

LED system and wiring

One-edge, two-edge and four-edge lighting can be considered. Projects may use 2700K, 4000K or 6500K; Tunable White, RGB and RGBW depend on the LED system and controls. State the required power interface and cable routing so these can be reviewed before the sample is made.

Prepare an OEM engineering review

Drawing and sample agreement

Send a drawing or dimensioned sketch, application, requested supply scope, sample quantity and intended order quantity. Include optical acceptance requirements and installation constraints. Large dimensions and optical results require engineering review; do not assume that a previous sample validates a changed size or LED arrangement.

Sample timing and production reference

Sample production usually takes 7 days, subject to confirmation of the reviewed scope. Allow separately for shipping and customer evaluation. Record the approved drawing, component scope and agreed inspection points before proceeding with the order.

OEM Backlight Questions

What should an OEM enquiry include?

Include the drawing, application, supply scope, quantities, LED requirements and installation interfaces.

Does every LGP include LEDs and a power supply?

No. Confirm whether the quotation covers a PMMA component or a reviewed assembly, and list the included parts.

Can an OEM backlight use RGBW?

RGBW depends on the selected LED system and controller; confirm the electrical and optical arrangement for the project.

When can sample production be scheduled?

Confirm the reviewed drawing and scope first. Sample production is normally 7 days, with transit time additional.

14 / Laser-dot LGP planning

Product page: fanghaolighting.com/laser-dot-light-guide-panel.html

FH Lighting manufactures laser dot PMMA light guide plates for edge-lit displays and OEM lighting. The pattern, LED arrangement and assembly are reviewed for each drawing.

Specify the plate and lighting system together

PMMA thickness and processing width

Common PMMA thicknesses are 2, 3, 4, 5, 6, 8, 10 mm. Laser dot processing supports widths up to approximately 1500 mm. This is a processing reference, not a finished-panel guarantee: the drawing, illuminated area and edge details require engineering review.

Light-entry edges and optical stack

One-edge, two-edge and four-edge lighting can be considered. Review the reflector, diffuser, LED placement and surrounding structure together. A photograph of one sample does not establish the optical performance of another size or LED system.

Light color and controls

Projects may use 2700K, 4000K or 6500K LED systems. Tunable White, RGB and RGBW depend on the selected LEDs and controls. Include wiring and power requirements in the brief; these options are not properties of the PMMA sheet alone.

Match the process to the application

Laser dot LGP may be considered for retail display inserts, signage, furniture lighting and OEM backlight assemblies. Suitability depends on the visible area, viewing conditions, mounting space and materials placed in front of the panel.

The Optical Patterns Hub compares laser dots, mechanically scribed lines, laser-engraved artwork and screen-printed patterns. These are distinct processes. Keep the process decision separate from the choice between a PMMA component and a finished illuminated assembly.

Drawings, samples and engineering review

Define geometry and acceptance requirements

Send the outside dimensions, visible window, thickness preference, holes and cut-outs. Mark the edges available for LEDs and explain how the panel will be supported. Provide any optical acceptance criteria so the sample and inspection approach can be discussed before production.

Plan the sample around the reviewed assembly

Include sample quantity, intended order quantity and timing. Sample production usually takes 7 days, subject to confirmation of the reviewed scope. Shipping time is separate. Use the Design Guide to prepare the brief and the Manufacturer Guide to compare supplier review processes.

Laser Dot LGP Questions

What thicknesses are commonly used?

Common PMMA thicknesses are 2, 3, 4, 5, 6, 8, 10 mm; final selection depends on the drawing and assembly.

What is the laser dot processing width limit?

The reference maximum width is approximately 1500 mm. Finished dimensions and optical suitability require engineering review.

Can the panel use different light-entry arrangements?

One-edge, two-edge and four-edge lighting can be considered according to the optical span and mounting space.

How long does sample production take?

Sample production normally takes 7 days. Confirm the project scope and schedule; transit time is additional.