PALERILL

LIGHTING & INTERIORS

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Crystal Chandelier Sizing & Specification

A working guide for rooms with height

Diameter, drop, ceiling load and electrical specification — the four decisions that are fixed before a fixture is built, and the arithmetic behind each one.

Contents

Six decisions, one worksheet, two reference pages

Most oversized chandeliers that disappoint in a finished room were chosen from a photograph rather than from the geometry of the space. This guide is a measuring document, not a catalogue. It sets out the order in which the numbers should be settled, and the conventions that go with them.

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> **How to read the labels.** Figures taken from our own catalogue are described as first-party reads and carry the export date. Figures that are industry practice rather than standards — the walking clearance, the tabletop clearance, the room-add rule — are labelled *convention* wherever they appear. A convention is a starting point. It is not a code requirement and no authority enforces it.

The four decisions, in order

01 · Diameter
Does it suit the opening, the table or the bed?

02 · Drop
Where does the lowest crystal sit above the floor?

03 · Load
What must the ceiling and the fixing carry?

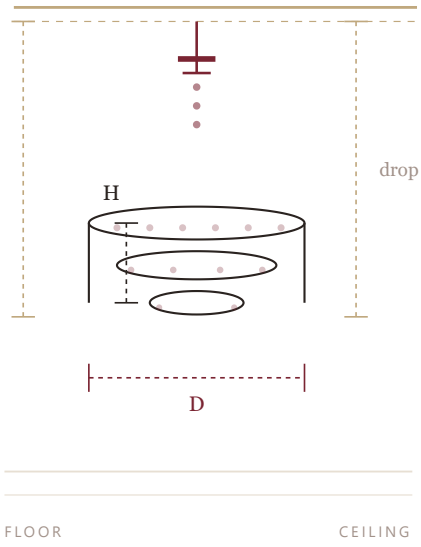
04 · Electrical
Voltage, socket, circuit, dimming, certification.

Prepared for designers, architects, contractors and private clients specifying a made-to-order crystal fixture. Dimensions are given in centimetres with inches in brackets, because factories quote in centimetres and North American drawings are usually in inches.

01 The three numbers that decide the fixture

A chandelier size is two numbers, not one — and the drop is a third

Every specification sheet prints two or three dimensions in a fixed order, and swapping them is the most common way a buyer orders the wrong fixture. The three figures answer three different questions, and only one of them tells you where the light will actually hang.



D — diameter

The widest horizontal measurement of the body, excluding arms and any glass that overhangs. This is the figure that decides whether the fixture suits the room.

H — body height

From the lowest crystal to the top of the frame, with no suspension attached. It is fixed at production and tells you how much vertical space the body occupies.

Drop — total hanging height

Ceiling surface down to the lowest point, including chain, rod or wire plus canopy. Only this figure decides the clearance you keep under the light.

Two traps cause almost all wrong orders

Millimetres read as centimetres. A sheet printed *D 1500* is 150 cm, not 15 m. On a manufacturing drawing the unit is often implied rather than written, so check the suffix on every figure before doing arithmetic with it.

A body height described simply as "height". A 150 cm body is not a 150 cm drop. If a listing says "height 150 cm" and nothing else, it is almost always the body — and the suspension that turns it into a drop has not been stated at all.

> **Read them in this order.** Diameter → body height → total drop → weight. Diameter decides fit, body height decides headroom, drop decides where the lowest crystal sits, and weight decides the fixing. Agreeing the diameter first and the drop last is what produces a fixture that has to be re-hung.

A typical listing line, read correctly

```
Ø 120 cm × H 180 cm  ·  wire 300 cm adjustable  ·  chain suspension  ·  24 × E14  ·  230 V / 50 Hz  ·  96 kg
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TOKEN	WHAT IT DECIDES
Ø 120 cm	Diameter — whether it suits the opening or the table
H 180 cm	Body height, not drop — how much of the vertical budget it consumes
wire 300 cm	Longest suspension available; the shortest is body plus link stack

TOKEN	WHAT IT DECIDES
24 × E14	Socket count and base — light output and circuit load
230 V / 50 Hz	The market built for; North America needs another driver
96 kg	Finished net weight — what the fixing point is checked against

02 Sizing: which dimension governs

Every room type reads from a different reference — and none of them is floor area

A chandelier is judged against the thing it hangs in or over, not against the square footage of the room. In a foyer that is the opening above it. In a stairwell it is the narrowest width of the void. In a dining room it is the table. In a bedroom it is the bed. Choosing the reference first removes most of the argument.

SPACE	SET DIAMETER FROM	SET DROP FROM
Foyer / double-height void	Width of the opening you stand under	Head clearance at every landing, plus the sightline from the front door
Stairwell	Narrowest width of the void, read from below	The full vertical run, checked from both floors
Dining room	Table width — about one third of it as a starting point	75–85 cm (30–33 in) above the table surface
Bedroom	Bed width, not room width	Clearance above the bed and the walking side
Hospitality lobby	Volume and seating layout	Light level at floor and the sightline from the entrance
Great room / tall ceiling	Width of the seating group or the opening	Proportion of the vertical run above the furniture

Diameter is a starting point in every row. The drop is the number that cannot be corrected after production.

The three conventions worth knowing

The room-add rule. Add the width and the length of a rectangular room in feet, and read the total as a diameter in inches. A 12 ft by 14 ft room points at about 26 in (66 cm); a 20 ft by 24 ft room points at about 44 in (112 cm). This is a convention with no standards body behind it, and it assumes four walls, a flat ceiling and a single fixture. An open stairwell void has no enclosed width to add, so the rule does not apply there.

The one-third rule for openings. In a foyer or a void, a fixture that reads as roughly one third to one half of the width of the opening sits correctly. Which end of that range you take depends on how much architecture already occupies the space.

The catalogue ceiling. The largest diameter stated anywhere in our published option list is 200 cm (78.7 in). A room that needs more than roughly 79 in has to be handled as a bespoke commission rather than chosen from the standard list — which is a normal request, but it changes the lead time.

> **When a single diameter is the wrong question.** A vaulted or sloped ceiling has no single width to measure. A long dining table wants a linear fixture rather than a round one. Once a fixture passes the weight a joist will take without a spreader, the diameter stops being the limiting decision. In all three cases the diameter is still needed for the drawing — it just should not be the first number agreed.

> **Why a single diameter is not enough.** The measurement people forget is the mounting point, not the room. Two rooms of identical floor area can want very different fixtures because one has a structural ceiling above the centre and the other has a plasterboard soffit at the edge. Photograph the ceiling from the doorway before shortlisting anything: it answers the diameter question and the fixing question in the same frame.

02 The sizing tables

Read across from the measurement you can take to the diameter you can order

Foyer opening → starting diameter

OPENING WIDTH	START AT
2.4 m (7 ft 10 in)	80 cm (31.5 in)
3.0 m (9 ft 10 in)	100 cm (39.4 in)
3.5 m (11 ft 6 in)	115 cm (45.3 in)
4.0 m (13 ft 1 in)	135 cm (53.1 in)

One third of the opening, rounded to a size we publish. Seen mainly from directly below, a wider composition with a shallower body reads better than a deep drum.

Room width × length → diameter

ROOM (FT)	CONVENTION Ø
12 × 14	26 in (66 cm)
14 × 18	32 in (81 cm)
16 × 20	36 in (91 cm)
20 × 24	44 in (112 cm)

Width plus length in feet, read as inches. A convention, not a standard.

Stairwell void width → safe diameter range

NARROWEST VOID WIDTH	ONE THIRD (FLOOR)	ONE HALF (STATEMENT)	WHAT TO WATCH
1.2 m (3 ft 11 in)	400 mm	600 mm	Narrow voids read tall: a slim cascade suits better than a wide disc
1.8 m (5 ft 11 in)	600 mm	900 mm	Most common residential void
2.4 m (7 ft 10 in)	800 mm	1.2 m	Leave 900 mm clear to the handrail
3.0 m (9 ft 10 in)	1.0 m	1.5 m	Beyond half the opening, the fixture blocks the view up the stair

A fixture wider than the void can be struck from the stairs. Keep at least 900 mm (36 in) of clear air between the widest point of the body and the handrail.

Centimetres and inches, without rounding errors

CM	IN	IN	CM
50	19.7	30	76.2
60	23.6	36	91.4
80	31.5	40	101.6
100	39.4	48	121.9
120	47.2	60	152.4
150	59.1	72	182.9
200	78.7	84	213.4

One inch is exactly 25.4 mm by definition (1959). Divide centimetres by 2.54 — there is no approximation involved.

A long dining table wants a linear fixture rather than a round one, so the table width sets the depth and the table length sets the span. Where a round piece is preferred, keep the diameter inside the table width so nobody sitting at the end is looking at the side of the body.

03 Drop: the subtraction you do twice

Take the clearance off the ceiling height — what remains is the budget

Drop is not "how long the chain looks good". It is the outcome of two constraints: the headroom you must keep, and the share of the vertical run the fixture should occupy. In a double-height space it is the only dimension that cannot be corrected after production.

> **The subtraction.** Finished floor-to-ceiling height at the fixing point, minus the clearance you want to keep under the lowest crystal, equals the total hanging height the room allows. Take the body height off that, and what is left is the suspension length to specify.

Worked example: a 20 ft (6.10 m) foyer

STEP	METRIC	IMPERIAL
Finished floor to ceiling at the fixing point	6.10 m	20 ft 0 in
Less walking clearance	− 2.10 m	− 6 ft 11 in
Total hanging height available	**4.00 m**	**13 ft 1 in**
Less body height of the chosen fixture	− 1.60 m	− 5 ft 3 in
Suspension to specify	**2.40 m**	**7 ft 10 in**

Longest hang available, by void height

VOID HEIGHT OVER THE LOWER FLOOR	CLEARANCE KEPT	LONGEST HANG
5.49 m (18 ft)	2.10 m	3.39 m (11 ft 1 in)
6.10 m (20 ft)	2.10 m	4.00 m (13 ft 1 in)
6.71 m (22 ft)	2.10 m	4.61 m (15 ft 1 in)
7.62 m (25 ft)	2.10 m	5.52 m (18 ft 1 in)

The clearance is a trade convention. Every longest-hang figure is arithmetic from the two columns to its left.

Chain, wire or rod: adjustability is never unlimited

A chain fixture has removable links and a wire fixture has a cable trimmed at installation; in both cases the canopy slides up to close the gap against the plaster. The shortest setting is the body plus the smallest link stack the canopy will cover, and the longest is the supplier length — so a fixture quoted at 3 m of wire cannot be set at 40 cm without rebuilding the canopy. Rod suspension is different again: a rod is cut to a fixed length at the factory, so its drop is decided before production rather than on site.

> **If the drop you need is shorter than body plus minimum link stack, no amount of adjustment closes the gap.** That is the moment to change the fixture format — usually to a wider, shallower composition — rather than to keep shortening the suspension.

03 Clearances, and the stairwell case

The same subtraction, read from two floors

CLEARANCE	FIGURE	WHERE IT APPLIES
Walking	2.10 m (6 ft 11 in)	Under the lowest point, anywhere a person stands or walks — including every landing
Above a table	75–85 cm (30–33 in)	From the tabletop, not the floor. The wider trade range is 762–914 mm
To a handrail	900 mm (36 in)	Clear air between the widest point of the body and the rail
Above a bathtub	900 mm / 2.5 m	Horizontal from the tub edge, and height above the rim, per the electrical zone rules
Ceiling fan swap	2.13 m (7 ft)	A fan is normally set at this height; the chandelier inherits the clearance

All figures in this table are design conventions, not code requirements. Wet-location zones and circuit rules are questions for a qualified electrician working on site.



A stairwell fixture is read from the ground floor, from the treads and from the landing above — which is why the drop is checked twice.

Measure the void before you shortlist a fixture

A stairwell is sized against three measurements, and none of them is the room. Record all three in millimetres and in feet and inches, photograph the void from both floors, and confirm where the structural ceiling is. None of this needs a fixture present, so finish it first.

MEASUREMENT	WHERE TO TAKE IT	WHAT IT DECIDES
Vertical drop	Ceiling plane down to the lower floor	Total hanging height the fixture may use
Narrowest void width	Stringer or balustrade to the opposite wall	Maximum safe fixture diameter
Headroom at the top landing	Upper floor surface to the fixture's lowest point	Whether the drop budget has to shrink
Headroom over the treads	Nosing line to the fixture's lowest point	Whether it fouls somebody climbing

> **Why the drop is checked twice.** From the upper floor, the lowest point of the fixture should still sit at least 2.10 m above the lower floor it hangs over, and nobody standing on the top tread should meet it at eye level. A fixture that passes the ground-floor test can still fail the landing test.

04 Ceiling load and fixing

A large crystal fixture is a structural item, not a decorative one

A large crystal chandelier is often the heaviest thing hung from a residential ceiling, and it is usually specified late — after the ceiling has been built. That combination is where installations go wrong.

What makes a crystal fixture heavy

Crystal and glass. The components dominate the weight. A dense cascade of solid crystal is dramatically heavier than the same silhouette in thin glass.

Frame and arms. Steel or brass framing, tiers and supports add structural mass, and more tiers add more of both.

Diameter and height. Both increase the number of components roughly in proportion.

Suspension. Chain, rod and canopy hardware must be rated for the finished weight — not for the weight of the fixture minus packaging.

Two numbers your contractor needs, in writing

FIGURE	WHAT IT IS USED FOR
Finished net weight	The assembled fixture as it will hang, ready to be compared against the capacity of the fixing point
Recommended fixing and load information	What the fixing point must carry, and the arrangement supplied with the fixture

Ask for both at drawing-approval stage. Guessing at either is how a fixture ends up hanging from a plasterboard fixing that was never rated for it.

What each ceiling type usually needs

CEILING TYPE	WHAT USUALLY HAS TO HAPPEN
Concrete slab	A rated anchor set into the slab, with the canopy position coordinated with the ceiling finish
Timber joist	A fixing into structure, not into the ceiling board — often a spreader or bridging arrangement
Steel truss	A rated connection to the truss, checked against the fixture's suspension point
Suspended ceiling	Independent support from the structure above; ceiling tiles cannot carry the fixture

> **Read the drawing the other way round.** Because loft, tier count and crystal density drive the weight, it is worth treating mounting height as a constraint rather than a preference. A taller cascade means more components, more weight and a larger canopy to distribute it. If the structure is limited, the honest solution is usually a slightly wider and shallower composition — and it often looks better in the room anyway.

A ceiling fan box is the strongest fixing point in most rooms — but read the marking first. The rating stamped on the box is a fan rating, and it has to be photographed and checked before a heavier crystal body goes up. Installation is a sequence, not a moment: tiered fixtures normally ship partly assembled so the crystal is protected, and the installer works to a hardware list, hanging framework first.

05 Electrical specification

Voltage, frequency and the mark on the socket

The electrical side of a fixture — voltage, wiring, driver and, on commercial projects, certification — is where specifications get held up at inspection. It is settled at brief stage, not at dispatch.

Voltage and frequency travel together

MARKET	VOLTAGE	FREQUENCY	TYPICAL MARK
United States	110–120 V	60 Hz	UL or ETL
Canada	110–120 V	60 Hz	CSA, or cULus where the assembly is accepted on both sides
United Kingdom	220–240 V	50 Hz	UKCA / CE
Europe	220–240 V	50 Hz	CE
Australia	230 V	50 Hz	RCM
Gulf states	220–240 V	50 Hz	Depends on the project specification

Fixtures are built to the destination voltage rather than adapted on site. This matters for the driver, the lamp type and anything the fixture will be dimmed by. A fixture built for one market is not interchangeable with the other without changing the driver and the lamp. Where a project has both a Canadian and a US location, specify the destination for each fixture rather than assuming one order covers both.

Socket families are not interchangeable

BASE	THREAD	PAIRED WITH	WHERE IT APPEARS
E12	12 mm (0.47 in)	120 V, North America	Candle sleeve, small crystal body
E14	14 mm (0.55 in)	230 V, Europe and UK	Candle sleeve, small crystal body
E26	26 mm (1.02 in)	120 V, North America	Exposed lamp, wide body
E27	27 mm (1.06 in)	230 V, Europe and UK	Exposed lamp, wide body

The base is a physical thread measured in millimetres; the letter E stands for Edison screw. IEC 60061 defines these threads, so the number on the socket and the number on the lamp box have to match exactly. An E14 lamp will not enter an E12 holder in either direction.

> **Why a crystal chandelier uses the small pair.** A decorative fixture with candle sleeves normally takes E12 on a North American supply and E14 on a European one, because the sleeve is narrow and the lamp has to disappear inside it. The larger pair appears on fixtures with exposed lamps and wider bodies.

What actually changes with the destination

COMPONENT	120 V / 60 HZ	220–240 V / 50 HZ
Driver	Rated for the North American supply	Rated for the European or Gulf supply

05 Light output, socket by socket

Installed lumens are arithmetic, not a mystery

The output of a chandelier is the socket count multiplied by the lumens printed on one lamp. That is what the fixture installs, before any of it is lost to the room.

SOCKETS	INSTALLED LUMENS at 500 lm per lamp	INCANDESCENT DRAW at 40 W	LED DRAW at 5 W
6	3,000 lm	240 W	30 W
12	6,000 lm	480 W	60 W
24	12,000 lm	960 W	120 W
36	18,000 lm	1,440 W	180 W

A 5 W retrofit LED candle lamp rated at 500 lumens gives 100 lumens per watt; a 40 W incandescent candle lamp gives about the same light at 12.5 lumens per watt. Twelve sockets install 6,000 lumens either way — what changes is the electricity.

What that means for a room

A 6,000 lumen fixture in a 300 sq ft room puts 20 lumens per square foot on the floor before losses, which is a dining-room figure rather than a hallway figure. A decorative body at a 0.4 utilisation factor delivers about 8 of those. Read the installed figure as the ceiling of what the fixture can contribute, and treat the second lighting layer as the part that closes the gap.

The conversion is 1 lumen per square foot = 10.76 lux, so 20 lumens per square foot is 215 lux.

Replaceable sockets or integrated LED

CRITERION	REPLACEABLE SOCKET	INTEGRATED LED
Failure point	A lamp that costs a few dollars and is changed from a ladder	The light engine and driver inside the body — a fixture service
Rated life	Whatever the lamp is rated for, changeable indefinitely	25,000–50,000 hours on the module — 14 to 27 years at 5 hours a day
Best where	The fixture hangs high, or access for maintenance is difficult	The body is deep and the light engine is specific to it
Watch	Socket rating governs, not the lamp's claimed output	Driver replacement is not a lamp change

A socket marked 40 W is not improved by a 60 W lamp, however efficient the lamp claims to be. The rating that governs is the one printed on the socket or on the fixture label — not the one in a listing.

Working backwards from the room explains the socket count. A 300 sq ft sitting room at 15 lumens per square foot wants 4,500 lumens on the floor. At a 0.4 utilisation factor the fixture has to install about 11,000 lumens, which is 22 lamps at 500 lumens each — and that is why a body of this scale carries 24 sockets rather than 12. The arithmetic, not the styling, sets the count.

05 Circuit load and dimming

The number the electrician needs, and the number the dimmer limits

What the fixture draws at the breaker

SOCKETS AT 40 W	WATTS	AMPS AT 120 V	AMPS AT 230 V	FITS A 15 A US CIRCUIT (1,440 W CONTINUOUS)
6	240 W	2.0 A	1.0 A	Yes — 17%
12	480 W	4.0 A	2.1 A	Yes — 33%
24	960 W	8.0 A	4.2 A	Yes — 67%
36	1,440 W	12.0 A	6.3 A	At the limit, no margin

US branch circuits are sized for a continuous load at 80% of the breaker rating, so a 15 A circuit carries 1,440 W continuously and a 20 A circuit 1,920 W. In Europe a 230 V supply halves the current: a 16 A lighting circuit carries 3,680 W on the same 80% rule.

A 36-socket incandescent fixture lands on 1,440 W exactly — the whole allowance on a 15 A circuit with nothing left for the rest of the room. That fixture belongs on 20 A, or on LED lamps. The same body on 5 W LED lamps draws 180 W, which is 1.5 A at 120 V and 12.5% of the circuit. That is why a relamp is often the cheapest way to add a chandelier to an existing room without pulling a new cable.

A dimmer is rated twice

A common wall dimmer carries 600 W of incandescent lamps but only 150 W of LED lamps, because the inrush of an LED driver is harder on the triac than the steady draw of a filament. The arithmetic becomes decisive at the top of the range.

LOAD	12 SOCKETS	24 SOCKETS	36 SOCKETS	AGAINST A 600 W / 150 W DIMMER
40 W incandescent	480 W	960 W	1,440 W	12 fits; 24 and 36 do not
5 W LED retrofit	60 W	120 W	180 W	12 and 24 fit the LED rating; 36 does not

> **The lamp has to be dimmable in its own right.** A retrofit LED that is not marked dimmable will flicker or drop out at the bottom of the travel regardless of the dimmer. Compatibility between a specific dimmer and a specific LED driver is a tested pairing rather than a specification — so buy one lamp, fit it in one socket, and dim it through the full range before ordering the rest.

Where flicker limits can be written into a purchase order, the figures usually cited are **PstLM at or below 1.0** and **SVM at or below 0.4**, with IEEE 1789-2015 as the reference for the modulation depth that produces them.

How much light a room actually wants

ROOM	LUMENS / SQ FT	LUX ON THE FLOOR
Sitting room	15	161
Dining room	20	215
Circulation and hallway	10	108

Targets are for the total lighting layer, not for the chandelier alone. The fixture contributes a share of it; downlights, cove or wall lighting close the rest.

06 Certification and documentation

A listing is granted to an assembly, not to a company

In Canada, electrical products are expected to bear a certification mark from a recognised certification body — CSA is the most commonly named. In the United States the equivalent is typically UL or ETL. What certification means in practice is that the electrical assembly has been evaluated against a safety standard and that the factory producing it can be inspected.

MARK	MARKET	WHAT IT COVERS
CSA	Canada	Evaluation of the electrical assembly against a Canadian safety standard, plus factory inspection
UL	United States	Listing of the electrical assembly against a UL standard
ETL	United States	An equivalent listing route to UL, issued by an NRTL
cULus	Both	A combined mark where one assembly is accepted on both sides of the border

A listing is granted for a specific electrical assembly rather than for a company in general, so what matters on a bespoke piece is the listing route attached to the design that actually ships. That has to be settled before the drawing set is approved and recorded in the order file — not after the crate is on the dock, and never after the electrician has arrived.

What this means for a custom fixture

- The electrical assembly has to be built to a standard that can be evaluated, not improvised on site.
- Components — drivers, connectors, wiring — have to be approved parts.
- On commercial and hospitality projects, the specification usually names the mark, and the authority having jurisdiction will look for it.
- If your specification names UL, ETL or cULus, send us the exact wording: that one word decides which components are ordered and which documents are prepared.

The documentation package that travels well

Drawings, load information, electrical specification and material references — the package an inspector or a consultant actually needs. Being able to hand an inspector a complete set is worth more than any brochure.

DOCUMENT	WHAT IT ANSWERS
Dimensioned drawing set	Diameter, body height, total drop and canopy position
Load information	Finished net weight and the recommended fixing arrangement
Electrical specification	Voltage, frequency, socket type, wattage, driver and dimming protocol
Finish and material references	Metal finish, crystal or glass reference, and any sample approvals

07 The brief: what we need from you

One message with these answers is enough to quote and to draw from

A brief that arrives complete is quoted faster and drawn more accurately. The list below is the full set — most projects do not need every line, but the first six are what turn an enquiry into a drawing.

- ☐ **Destination**
  Country, and province or state. This sets voltage, frequency and the certification route.
- ☐ **Voltage and phase**
  110–120 V or 220–240 V, single or three phase, and whether the circuit is new or existing.
- ☐ **Mounting height**
  Finished floor to ceiling, measured directly above the fixing point.
- ☐ **Void dimensions**
  Width of the opening or the narrowest void width, plus the vertical drop to the floor below.
- ☐ **Headroom to keep**
  The clearance under the lowest point, and any landing or tread it has to clear.
- ☐ **Ceiling construction**
  Concrete slab, timber joist, steel truss or suspended ceiling — and where the structural ceiling is.
- ☐ **Certification mark**
  The exact wording from the specification: CSA, UL, ETL or cULus. If none is named, say so.
- ☐ **Dimming protocol**
  Phase-cut, 0–10 V, DALI or a scene controller, if the fixture will be controlled.
- ☐ **Finish and material**
  Metal finish, crystal or glass reference, and whether samples are required for approval.
- ☐ **Installation date**
  And whether an inspection is scheduled, since that decides when documentation is needed.
- ☐ **Site access**
  Loading dock, service lift, or a narrow stair the crate has to fit through.
- ☐ **Drawings or photographs**
  A section drawing, or a photograph of the ceiling taken from the door.

> **If you would rather not do the arithmetic from a photograph.** Send the section drawing, or a photograph of the ceiling taken from the doorway, and we will size the fixture and report the drop against your ceiling height. Proportion is much easier to judge visually than numerically — the point of the exercise is a measurement, not an opinion.

What happens next

#	STEP	OUTPUT
01	Brief review	Confirmation of the achievable diameter and drop, or a proposed alternative format
02	Technical proposal	Dimensioned drawing, materials, voltage and certification route
03	Material approval	Finish and crystal samples signed off before production
04	Production	Built to the approved drawing, with a quality review before packing
05	Documentation	Drawing set, load information and electrical specification for the site file

A Quick reference

Every rule and figure in this guide, on one page

The drop subtraction

Ceiling – clearance – body = suspension

Total hanging height = finished floor-to-ceiling minus the clearance you keep.

Suspension length = total hanging height minus body height.

Clearances (convention)

Walking: **2.10 m / 6 ft 11 in**

Above a table: **75–85 cm / 30–33 in** from the surface

To a handrail: **900 mm / 36 in**

Diameter rules (convention)

Room: width + length in feet = Ø in inches

Foyer: **one third** of the opening width

Stairwell: **one third to one half** of the narrowest void

Dining: about **one third** of the table width

Catalogue limits

15 cm – 200 cm

The published option range, 5.9 in to 78.7 in. Beyond 200 cm is a bespoke commission.

Electrical

North America **110–120 V / 60 Hz**, E12 or E26

UK, Europe, Australia, Gulf **220–240 V / 50 Hz**, E14 or E27

15 A US circuit carries **1,440 W** continuous; 20 A carries 1,920 W

Dimming

A dimmer is rated twice: **600 W incandescent / 150 W LED** is a common pairing.

24 × 40 W = 960 W — over the incandescent rating. 24 × 5 W LED = 120 W — inside the LED rating.

The four mistakes that cost the most

MISTAKE	WHY IT HAPPENS	THE FIX
Ordering the diameter first	It is the number on the photograph	Fix the drop budget first, then choose the diameter inside it
Reading body height as drop	The listing says “height” and nothing else	Ask for total hanging height in writing before the order is placed
Sizing from floor area	It is the number on the estate agent’s plan	Size from the opening, the table or the bed — never the square footage
Leaving the fixing to site	The ceiling is already closed by then	Get net weight and fixing information at drawing approval

Three sentences to keep

Drop before diameter. Diameter can be adjusted by taste; drop cannot be adjusted after production if the fixture has been cut to a rod.

Attach the metric that matters. A photograph of the ceiling from the door plus the floor-to-ceiling height answers more than a paragraph of description.

Weight is a structural question. Ask for the finished net weight and the fixing arrangement in writing, at drawing

B Units, conventions and sources

What is measured, what is convention, and what is arithmetic

Unit conversions used throughout

FROM	TO	FACTOR
Millimetres	Inches	÷ 25.4
Centimetres	Inches	÷ 2.54
Metres	Feet	× 3.2808
Square metres	Square feet	× 10.7639
Lumens per square foot	Lux	× 10.76
Watts	Amps at 120 V	÷ 120
Watts	Amps at 230 V	÷ 230

Where the numbers come from

FIGURE	SOURCE	NATURE
Published diameter range, 15–200 cm	PALERILL catalogue export, 15 Oct 2026	First-party, recomputed
Live catalogue size, 1,381 products / 9,851 variants	Same export	First-party, recomputed
Stated body heights, median 100 cm, p90 260 cm	Same export, variant names	First-party, recomputed
Walking clearance, 2.10 m (6 ft 11 in)	Trade convention	Not a standard, not measured here
Tabletop clearance, 30–36 in (762–914 mm)	Trade convention	Not a standard, not measured here
Room-add diameter rule	Industry convention	No standards body behind it
One third / one half of an opening	Design convention	Not a standard
Socket threads, E12 / E14 / E26 / E27	IEC 60061	Definitional
1 in = 25.4 mm	International inch, 1959	Definitional
80% continuous-load rule	US branch-circuit practice	Electrical practice, confirm locally
PstLM ≤ 1.0, SVM ≤ 0.4	IEEE 1789-2015 reference	Purchasable limit, not measured here

Scope of this document. This guide covers sizing and specification arithmetic. It does not certify a fixture, approve a fixing, or replace a site survey. Whether a ceiling can carry the fixture, and how the supply is wired, are questions for a qualified electrician or structural engineer working on the building. Clearances quoted here are design guidance, not code requirements.

Catalogue figures were recomputed from our own export and describe what the published option list states — which is a narrower claim than what the workshop can build. Where a dimension is not published for a specific product, the figure has to come from us in writing rather than from a listing.

PALERILL

Send the room.
We will send the fixture.

Floor-to-ceiling height, the width of the opening, and what the ceiling is built from. That is enough for us to come back with a diameter, a drop and a fixing arrangement that your contractor can work to.

START A PROJECT BRIEF →

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© 2026 PALERILL. Prepared as a technical reference for designers, architects, contractors and clients. Dimensions are given in centimetres with inches in brackets. Clearances and sizing rules described as conventions are industry practice, not standards, and are offered as a starting point for a site-specific design. Nothing in this document constitutes a certification, a structural approval or an electrical approval.