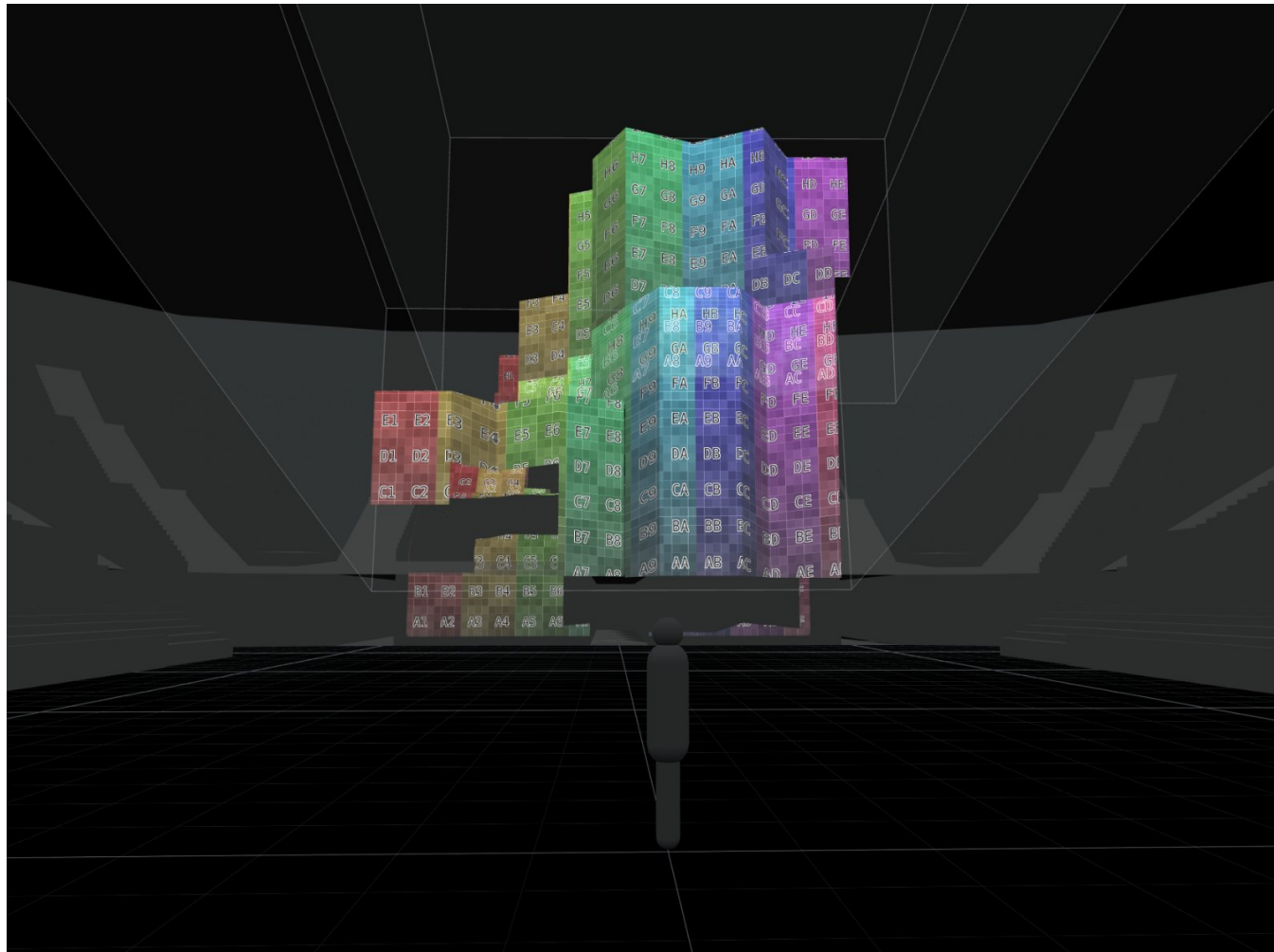




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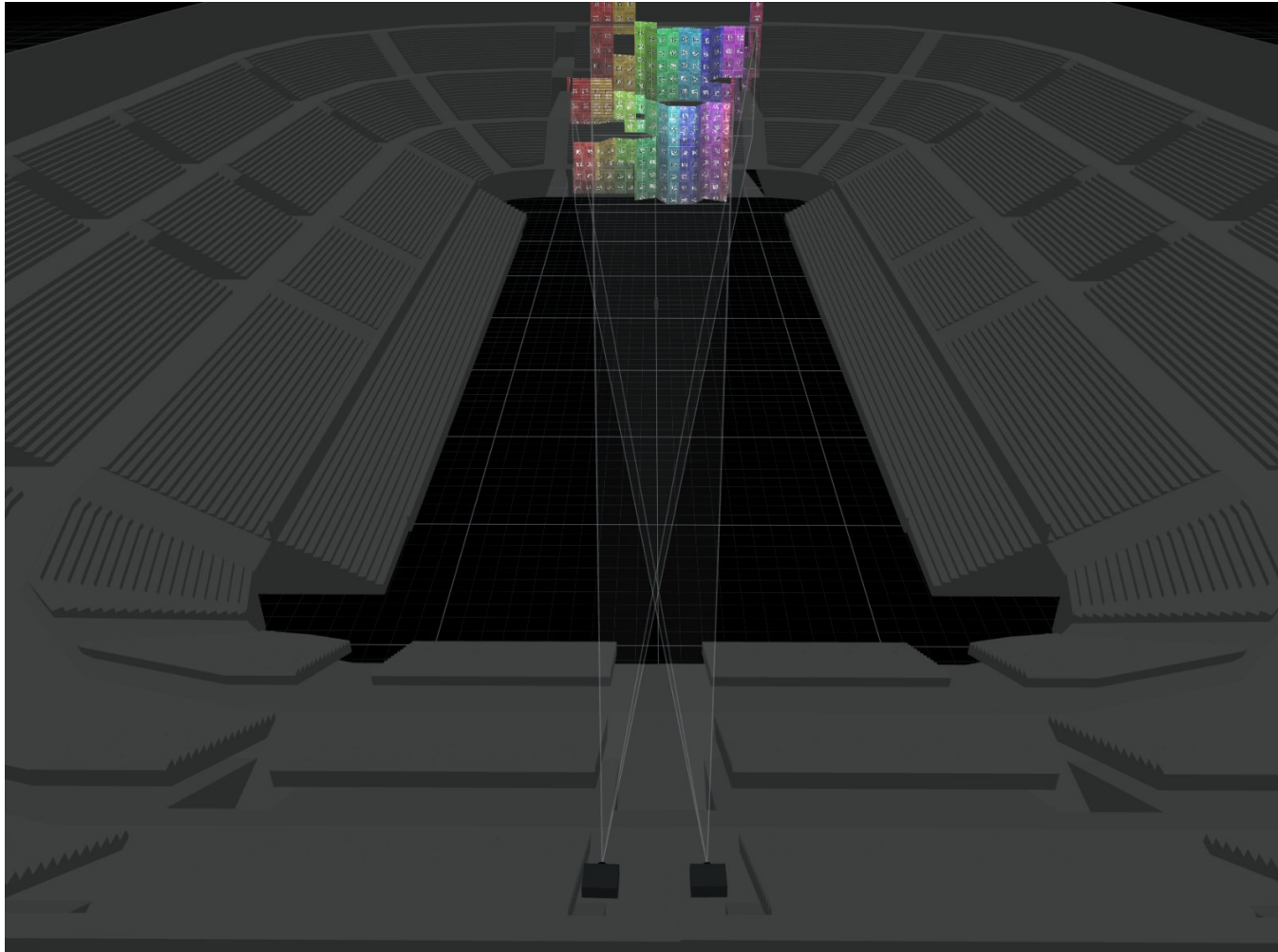
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PREVISUALISATION



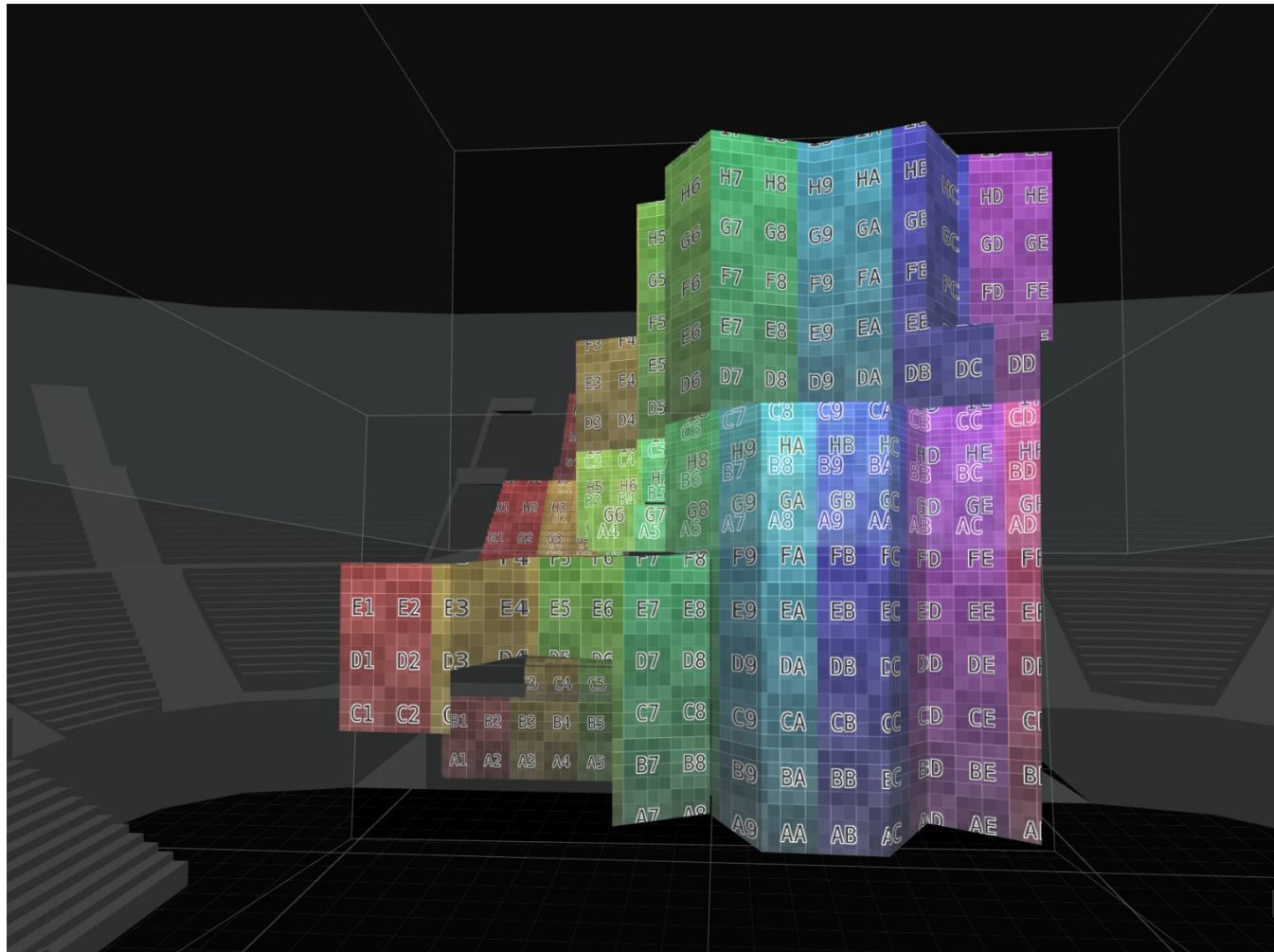
Standard preview of Demo 3D objects, View 1. The scene's ambient setting lights this preview only — no analysis figure in this document depends on it.

PREVISUALISATION



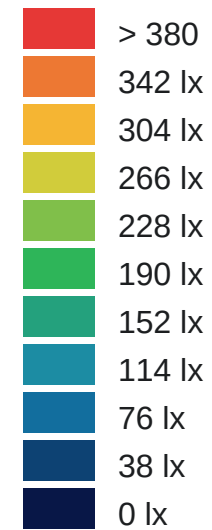
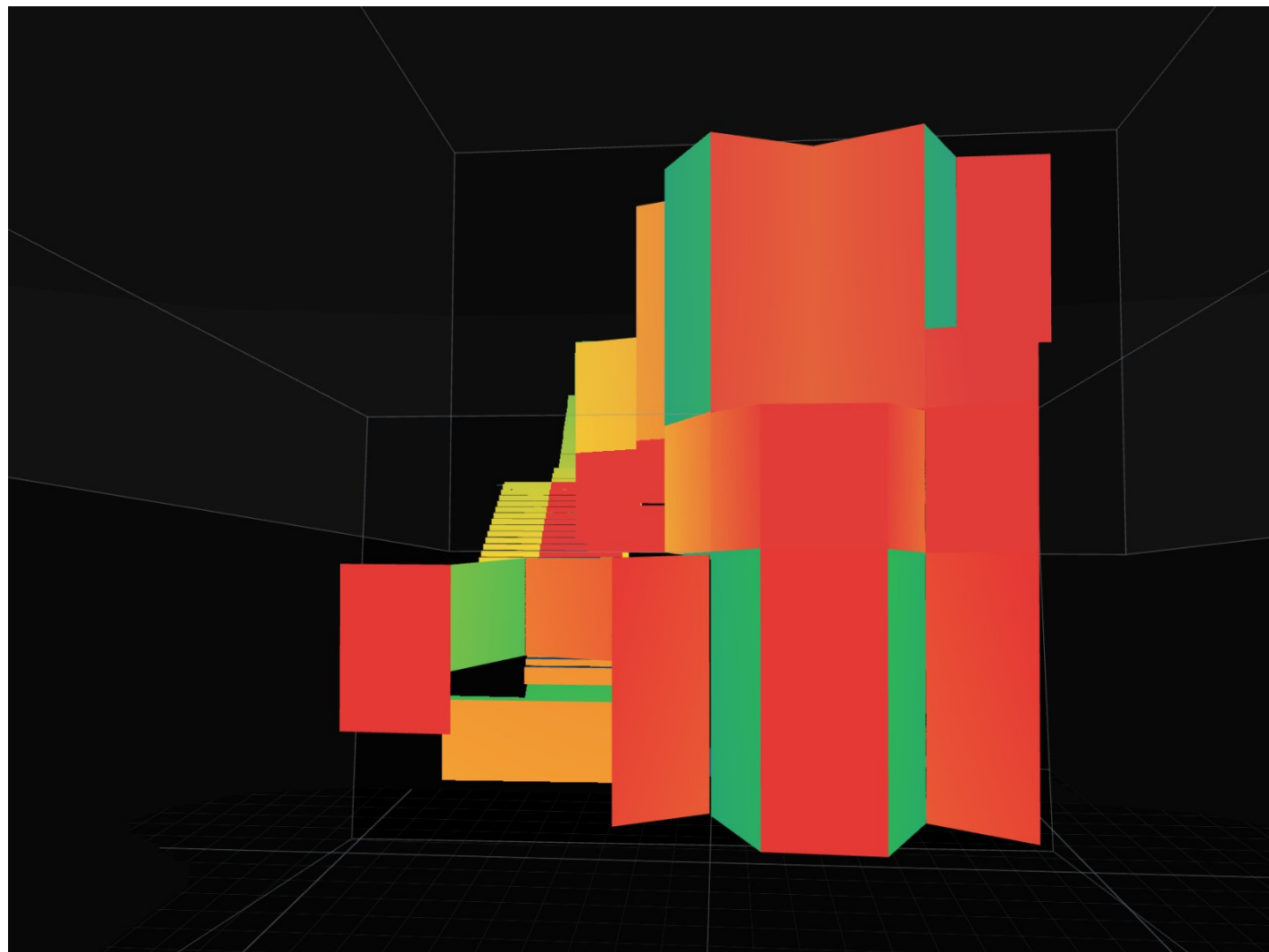
Standard preview of Demo 3D objects, View 2. The scene's ambient setting lights this preview only — no analysis figure in this document depends on it.

PREVISUALISATION



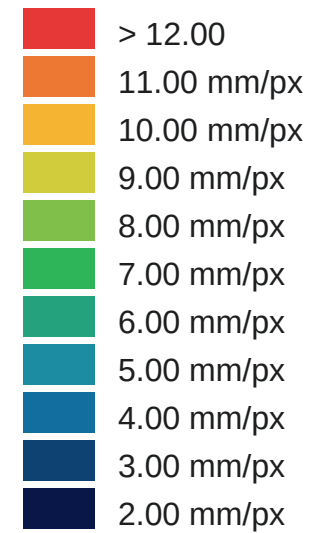
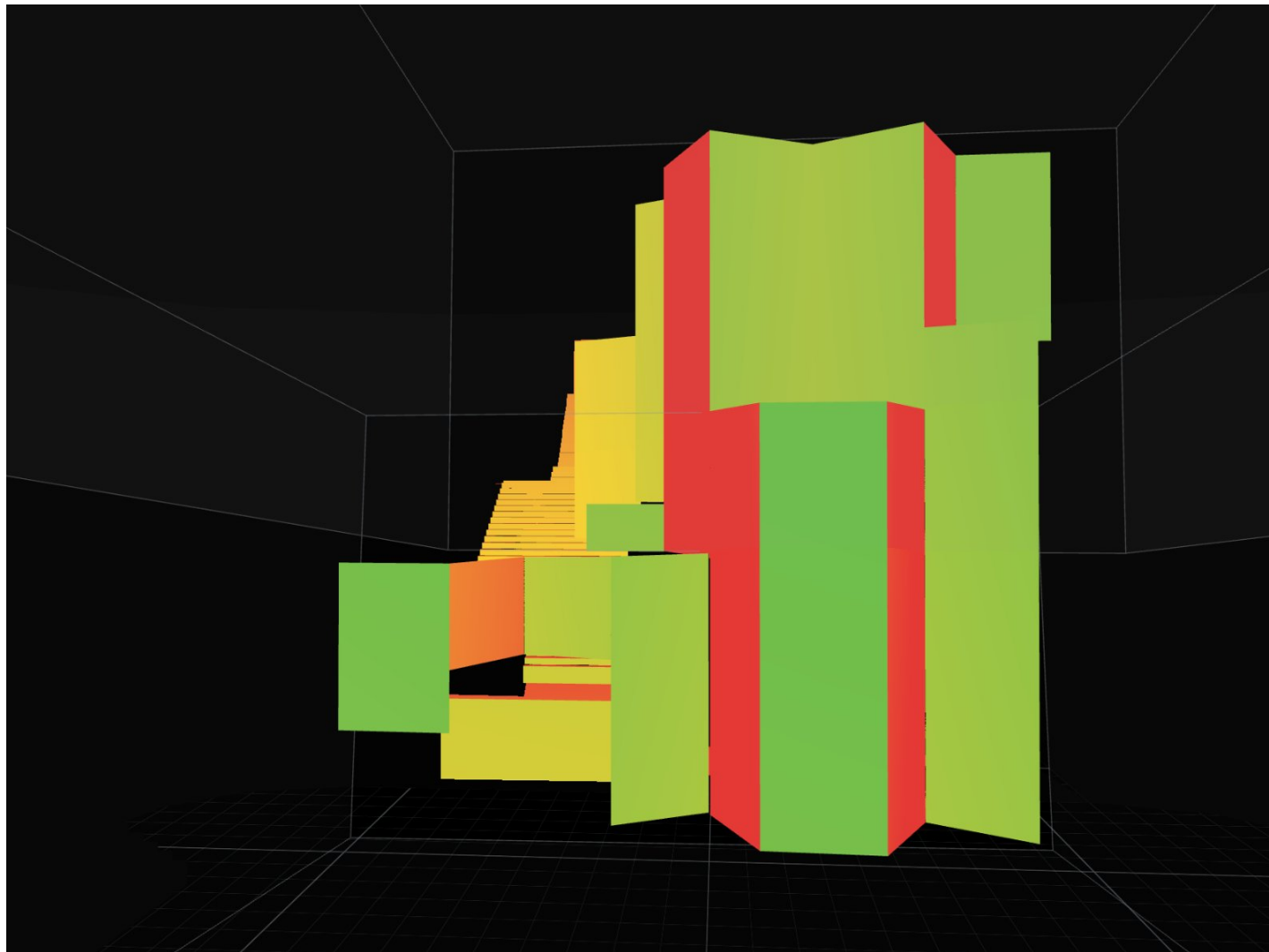
Standard preview of Demo 3D objects, View 3. The scene's ambient setting lights this preview only — no analysis figure in this document depends on it.

ILLUMINANCE



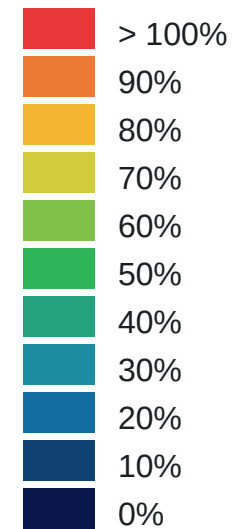
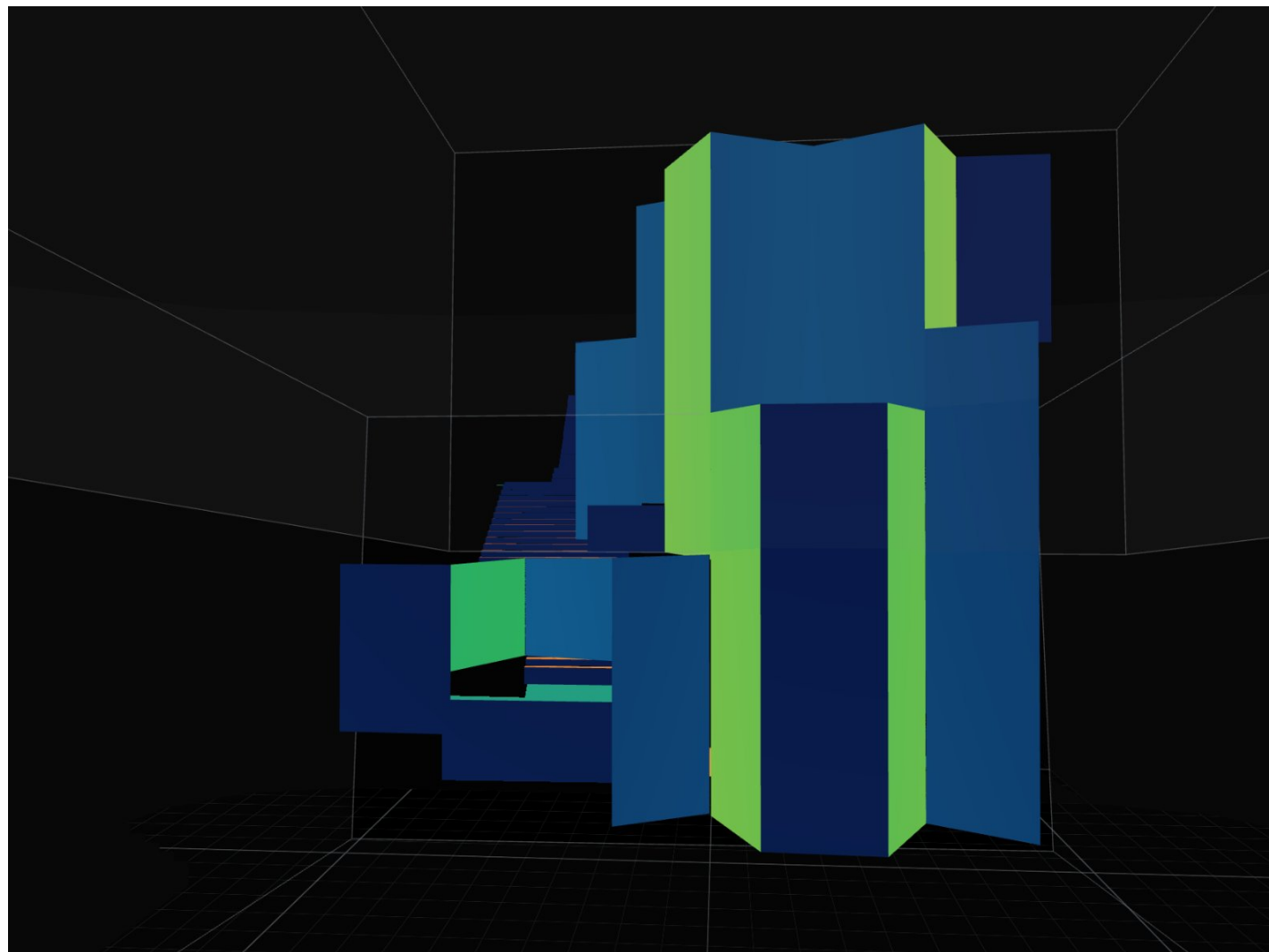
Illuminance is the light arriving at a surface, measured in lux — one lumen spread over one square metre. It is what a meter held flat against the surface would read. It falls with the square of the throw distance and with the cosine of the angle the beam strikes at, so a far corner lit obliquely is always dimmer than the centre. Overlaps here are summed, as an untreated rig delivers.

PIXEL DENSITY



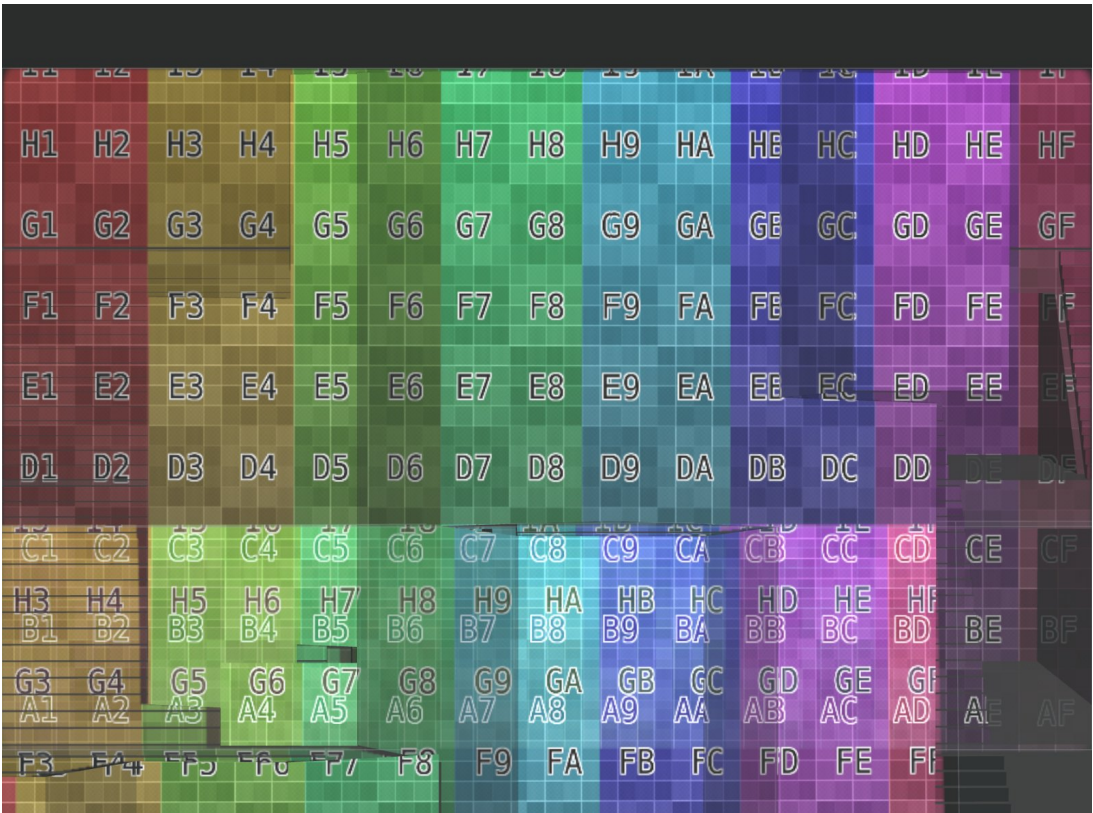
Pixel density is the size one projected pixel occupies on the surface, in millimetres. Smaller is finer. It grows with throw distance and with the angle of incidence, so the far edge of a wall is always coarser than the near one. Where beams overlap the COARSEST projector is the one shown: every unit covering a point renders the same content, so detail finer than the coarsest of them cannot be reproduced there.

PIXEL STRETCH



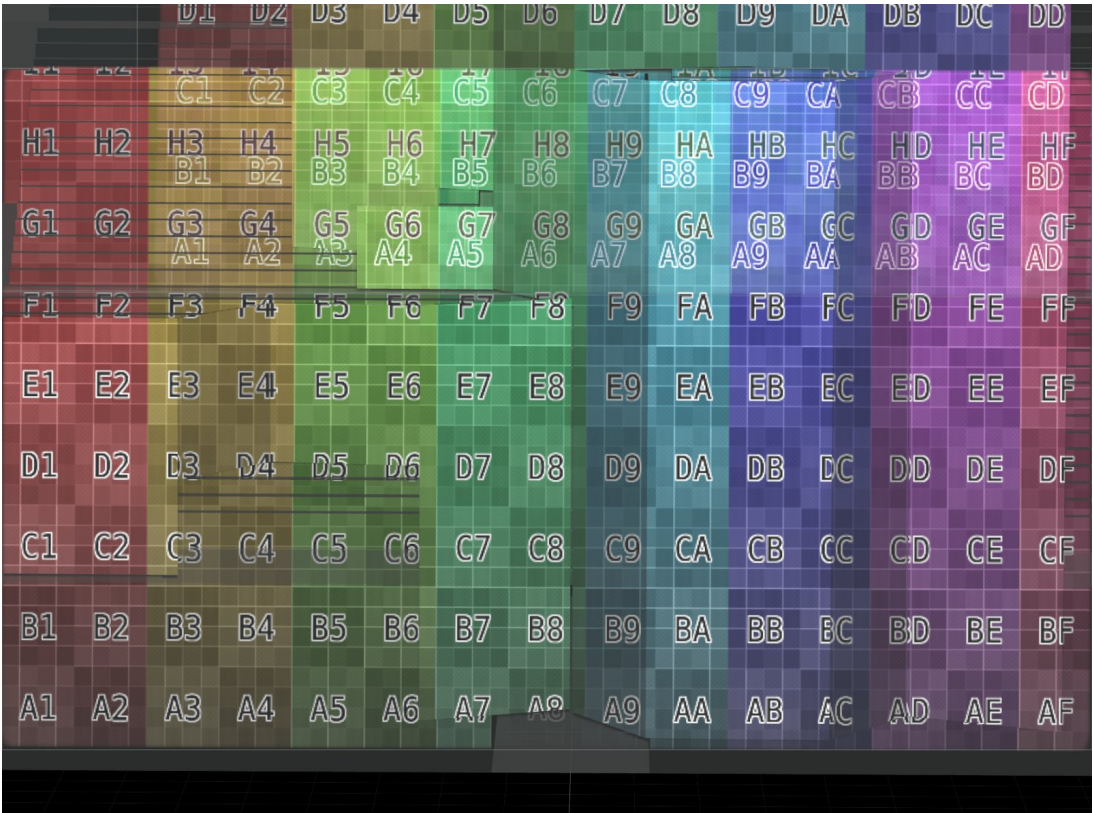
Pixel stretch is how far a pixel is from square-on to the surface, as one minus the cosine of the incidence angle. At 0% the beam meets the surface head on and a pixel lands square; at 100% it grazes, and the same pixel smears into a long thin sliver. Where beams overlap, the least stretched projector is the one shown.

PROJECTOR 1



Name	Projector 1	Stack	3	Lens shift (H / V)	0.0 % / 0.0 %
Model	Panasonic PT-RZ24K	Delivered output	60,000 lm	Position (X, Y, Z) m	-1.00, 17.36, 65.98
Lens	Panasonic ET-D75LE40	Throw ratio	6.00	Rotation (X, Y, Z)	-2.49, -1.59, 0.00°
Native resolution	1920 x 1200	Aspect ratio	1.60:1	Axis illuminance	362 lx
Rated lumens	20,000 lm	Projection size (W x H)	15.41 m x 9.63 m	Axis pixel pitch	8.50 mm
Brightness	100 %	Projection distance	92.47 m		

PROJECTOR 2



Name	Projector 2	Stack	3	Lens shift (H / V)	0.0 % / 0.0 %
Model	Panasonic PT-RZ24K	Delivered output	60,000 lm	Position (X, Y, Z) m	0.50, 17.36, 65.98
Lens	Panasonic ET-D75LE40	Throw ratio	6.00	Rotation (X, Y, Z)	-6.48, 0.50, 0.30°
Native resolution	1920 x 1200	Aspect ratio	1.60:1	Axis illuminance	368 lx
Rated lumens	20,000 lm	Projection size (W x H)	15.35 m x 9.60 m	Axis pixel pitch	8.43 mm
Brightness	100 %	Projection distance	92.13 m		

MEASURED PER SURFACE

SURFACE	AREA (M²)	COVERED	OVERLAP	BEST LX	AVG LX	WORST LX	AVG PITCH (MM)	WORST STRETCH
CTRV05 uv fixed	250.9	95%	20%	864	355	154	9.87	61%
Large venue	41251.1	1%	0%	572	114	4	33.62	98%

Averages are area-weighted over the COVERED area only — unlit area is excluded rather than counted as zero, which would make the average a disguised restatement of coverage. Best and worst are the extremes among roughly 4,000 samples per surface.

PROJECTORS

NAME	MODEL	RESOLUTION	STACK	RATED LUMENS	DELIVERED LUMENS	THROW RATIO	LENS MODEL	DISTANCE (M)	AXIS LUX	PITCH (MM)
Projector 1	Panasonic PT-RZ24K	1920 x 1200	3	20,000	60,000	6.00	Panasonic ET-D75LE40	92.47	362	8.50
Projector 2	Panasonic PT-RZ24K	1920 x 1200	3	20,000	60,000	6.00	Panasonic ET-D75LE40	92.13	368	8.43

ASSUMPTIONS

Every figure in this document comes from a model with known limits. Each point below names a specific thing that model does not do, so a reader can decide whether it matters for this venue. The full methodology, including every formula used, is available in the application under Methodology.

A1 Surfaces are perfectly diffuse (Lambertian) with unity gain and total reflectance. Real screen gain, retro-reflective surfaces, gloss, paint colour and material absorption are not modelled, and all of them move the light an audience actually sees.

A2 Reported figures are ILLUMINANCE on the surface, in lux — the light arriving. They are not luminance in cd/m^2 , which is what a viewer perceives and which depends on screen gain and viewing angle.

A3 Luminous intensity is uniform across the image rectangle. Real projectors are brighter on axis than at the corners beyond the pure geometric falloff, so corner figures here are mildly optimistic.

A4 Rated lumens are taken at face value. No allowance is made for lamp or laser ageing, thermal derating, eco modes, filter condition or measurement tolerance unless it is entered deliberately in the brightness percentage.

A5 Light is a single photopic channel. There is no colour model, and therefore no distinction between white lumens and colour lumens, no colour shift across a blend, and no gamut or white-balance matching between units.

A6 Contrast and black level are not modelled. Overlapping beams therefore show no black-level lift, which in a real blended rig is often the limiting factor rather than brightness.

A7 The lens is on-axis. Lens shift, keystone correction, warping and edge-blend geometry are not simulated, and lens shift is exported as zero for exactly that reason.

A8 A stack is a set of perfectly aligned, coincident units sharing one lens position, one throw and one image. Real convergence error between stacked units is not modelled.

A9 Ambient light is excluded from every analysis figure. The scene's ambient setting lights the standard preview only, so no reported number depends on a guessed room level the reader of the map cannot see.

A10 There is no inter-reflection, no bounce light and no atmospheric scattering. Haze, smoke, rain and a white-walled room all change the real result.

A11 Only geometry present in the plan blocks light. People, truss, drapes, set pieces, scaffolding and cabling are not modelled, so real coverage may be lower than shown.

A12 Shadow edges on imported models, curved surfaces and domes come from a depth map and are accurate to roughly a centimetre at facade scale. Flat screens are tested analytically and their edges are exact.

A13 Statistics are computed from a finite sample — about 4,096 points per surface — so the reported best and worst are the extremes among those samples, not proven global extrema.

A14 Blend mode assumes an IDEAL soft edge that conserves exactly one projector's worth of light across the seam. Real blends have a finite ramp width, a gamma to tune, and losses.

A15 Distances are metres and rotations degrees, measured from the lens. The interchange CSV converts to a Z-up, millimetre convention on the way out.

DISCLAIMERS

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- | | |
|----|---|
| D1 | This is a planning aid. It is not a photometric certification, not a substitute for a site survey, and not a replacement for the manufacturer's own throw calculator when specifying hardware. |
| D2 | No warranty of any kind is offered as to accuracy or fitness for purpose. Any figure that a decision rests on should be confirmed against the manufacturer's data and, where it matters, measured on site with a meter. |
| D3 | Results depend entirely on what was entered. Wrong lumens, a wrong throw ratio or a model at the wrong scale will produce confident, precise and completely incorrect output. |
| D4 | Nothing here is a safety assessment. Photobiological hazard and eye-safety distances (IEC 62471 / IEC 62471-5 and the projector's own hazard distance) are not evaluated, and a bright rig can be hazardous at close range regardless of what this report says. |
| D5 | Structural loading, rigging, power distribution, heat, ventilation and acoustics are entirely outside the model. |
| D6 | Sightlines, audience positions, content authoring resolution and playback capability are not assessed. |
| D7 | The report reflects one moment in the plan. Once a projector moves, every figure in an exported file is historical. |
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