

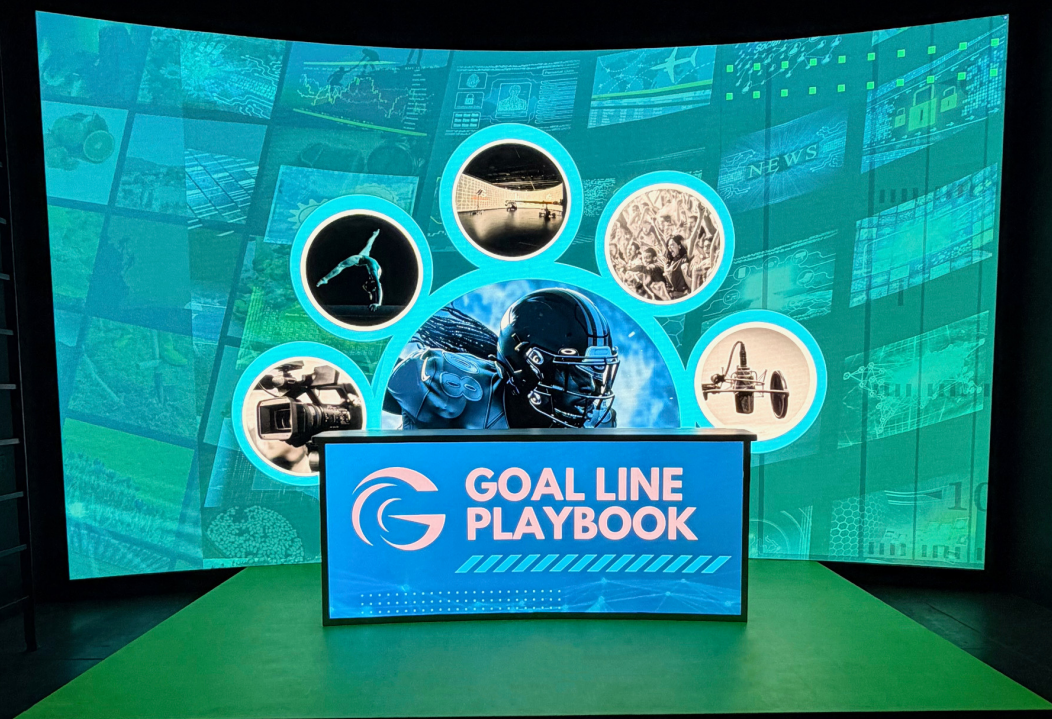


GOAL LINE
STUDIOS

STUDIO B

Technical Specification Package

LED volume, processing, and plan geometry
Prepared for vendor, integrator, and fabrication review



SURFACES

3

PANELS

187

TOTAL PIXELS

6,156,288

PROCESSORS

3



01 SYSTEM OVERVIEW

Studio B at a Glance

Studio B is a three surface LED volume built for virtual production and live broadcast. A curved rear wall, a walk on floor, and an integrated anchor desk face combine into 6,156,288 addressable pixels across 187 panels, driven by three independent processors on a common house reference.

Surface	Resolution	Total pixels	Pitch	Panels	Processor
Wall	2688 x 1536	4,128,768	2.6 mm	112	NovaStar MX40 Pro
Floor	1152 x 896	1,032,192	3.9 mm	63	Brompton Tessera S8
Desk	1536 x 648	995,328	1.5 mm	12	NovaStar MX30
System total		6,156,288		187	3 processors

Pixel pitch values above are the manufacturer nominal designations. Exact geometric pitch is 2.604 mm on the wall, 3.906 mm on the floor, and 1.5625 mm on the desk.

Surface Dimensions

Surface	Active area (metric)	Active area (imperial)	Aspect	Form
Wall	7.000 m x 4.000 m	22 ft 11.6 in x 13 ft 1.5 in	1.75 : 1	Curved, concave to set
Floor	4.500 m x 3.500 m	14 ft 9 in x 11 ft 6 in	1.29 : 1	Flat, walk on
Desk	2.400 m x 1.013 m	7 ft 10.5 in x 3 ft 3.9 in	2.37 : 1	Curved face, anchor desk

Reference Notes for Vendors

Surface naming	Wall, Floor, and Desk designations in this document are authoritative. An earlier revision of the plan drawing carried transposed legend labels on the Floor and Desk surfaces.
Dimensional basis	Surface dimensions are calculated from panel count and cabinet size, which is the controlling geometry. Plan dimensions are design intent and should be field verified before fabrication.
Panel sourcing	Wall and floor cabinets are 500 x 500 mm units. Manufacturer and model confirmation is listed in the open items schedule at the back of this package.



02 PRIMARY SURFACE

LED Wall

The rear wall is a 14 by 8 cabinet array carrying 4,128,768 pixels across a continuous concave arc. It is the primary in camera background surface and the largest processing load in the room.

Resolution	2688 x 1536 pixels
Total pixels	4,128,768
Pixel pitch	2.6 mm nominal (2.604 mm geometric)
Cabinet size	500 x 500 mm
Pixels per cabinet	192 x 192
Array	14 columns x 8 rows, 112 cabinets
Active area	7.000 m x 4.000 m (22.97 ft x 13.12 ft)
Aspect ratio	1.75 : 1 (7 : 4)
Orientation	Vertical, concave toward the set
Processor	NovaStar MX40 Pro



Curve Geometry

The wall is faceted, not bent. Each of the 13 cabinet joints carries 3.4 degrees of angle, producing a total included sweep of 44.2 degrees across the array. The radius, chord, and curve depth below are derived from the developed arc length and the total sweep, and are provided for structure, rigging, and camera planning.

Parameter	Value	Basis
Angle per cabinet joint	3.4 degrees	Specified
Cabinet joints	13	Specified
Total included sweep	44.2 degrees	Specified
Developed arc length	7.000 m (22.97 ft)	Calculated from panel count
Radius	9.07 m (29.77 ft)	Derived, field verify
Chord across face	6.83 m (22.40 ft)	Derived, field verify
Curve depth at center	0.67 m (2.19 ft)	Derived, field verify

The plan drawing carries setback dimensions of 6.85 ft at the wall ends and 4.75 ft at the apex. The 2.10 ft difference corroborates the derived curve depth of 2.19 ft to within approximately one inch.



03 SECONDARY SURFACES

LED Floor and Anchor Desk

LED Floor

Resolution	1152 x 896 pixels
Total pixels	1,032,192
Pixel pitch	3.9 mm nominal (3.906 mm geometric)
Cabinet size	500 x 500 mm
Pixels per cabinet	128 x 128
Array	9 columns x 7 rows, 63 cabinets
Active area	4.500 m x 3.500 m (14.76 ft x 11.48 ft)
Orientation	Horizontal, walk on
Processor	Brompton Tessera S8

Floor dimensions calculated from cabinet count match the plan drawing exactly at 14.75 ft by 11.5 ft. Load rating, surface treatment, and diffuser or protective overlay specification for talent and camera traffic are listed as open items.

Anchor Desk Face

Resolution	1536 x 648 pixels
Total pixels	995,328
Pixel pitch	1.5625 mm (Unilumin designation 1.5, published 1.56 mm)
Panel model	Unilumin ULuxe (ULW III), 1.5 variant
Panel size	600 x 337.5 x 45 mm
Pixels per panel	384 x 216
Array	4 columns x 3 rows, 12 panels
Active area	2.400 m x 1.013 m (94.5 in x 39.9 in)
Panel weight	5 kg per panel, 60 kg total (132 lb)
Maintenance access	Front
Curve capability	0 to +7 degrees concave per joint
Processor	NovaStar MX30

The desk footprint on the plan measures 8.9 ft across the chord with 3.0 ft of depth. The LED face is 7.87 ft of developed width, so the desk shell extends past the illuminated face on both ends. Final curve set per joint should be confirmed against the shell radius during fabrication and kept inside the 0 to +7 degree concave range the panel supports.



04 PANEL DATA

Unilumin ULuxe (ULW III) Panel Specifications

Manufacturer published data for the ULuxe ULW III indoor fixed installation series. The 1.5 column is the Studio B desk configuration. Adjacent columns are included for spares planning and future reconfiguration.

Parameter	ULW III 1.2	ULW III 1.5 (Studio B)	ULW III 1.8
Pixel pitch	1.25 mm	1.56 mm	1.8 mm
LED type	3 in 1 SMD	3 in 1 SMD	3 in 1 SMD
Brightness	800 cd/m ²	800 cd/m ²	800 cd/m ²
Pixels per module	120 x 270	96 x 216	80 x 180
Pixel density	640,000 /m ²	409,600 /m ²	284,444 /m ²
Pixels per panel	480 x 270	384 x 216	320 x 180
Module size	150 x 337.5 mm	150 x 337.5 mm	150 x 337.5 mm
Panel size	600 x 337.5 x 45 mm	600 x 337.5 x 45 mm	600 x 337.5 x 45 mm
Weight	5 kg per panel	5 kg per panel	5 kg per panel
Maintenance	Front	Front	Front
Ingress protection	Rear IP30	Rear IP30	Rear IP30
Curve	0 to +5 concave	0 to +7 concave	0 to +7 concave
Planeness	0.15 mm or less	0.15 mm or less	0.15 mm or less
Material	Die cast aluminum	Die cast aluminum	Die cast aluminum
Calibration	Brightness and chroma	Brightness and chroma	Brightness and chroma
Color temperature	2,000K to 9,500K	2,000K to 9,500K	2,000K to 9,500K
Viewing angle H / V	160 deg / 160 deg	160 deg / 160 deg	160 deg / 160 deg
Contrast ratio	5000 : 1	5000 : 1	5000 : 1
Input power, max	120 W per panel	135 W per panel	130 W per panel
Input power, typical	40 W per panel	45 W per panel	43 W per panel
Input voltage	AC 100 to 240 V	AC 100 to 240 V	AC 100 to 240 V
Processing depth	16 bit	16 bit	16 bit
Refresh rate	7,680 Hz	7,680 Hz	7,680 Hz
Video frame rate	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
LED life	100,000 hours	100,000 hours	100,000 hours
Operating temp / RH	10 to 40 C, 10 to 80%	10 to 40 C, 10 to 80%	10 to 40 C, 10 to 80%
Storage temp / RH	-20 to 60 C, 10 to 85%	-20 to 60 C, 10 to 85%	-20 to 60 C, 10 to 85%

Desk configuration totals at 12 panels: 1,620 W maximum draw, 540 W typical draw, 60 kg (132 lb) of panel weight before shell and mounting structure.



05 PROCESSING AND CONTROL

Signal Chain

Each surface runs on a dedicated processor. The wall and desk sit in the NovaStar COEX domain and the floor sits in the Brompton Tessera domain, so a single house reference feeding all three is the controlling requirement for camera safe output.

Processor	Surface	Pixel load	Output and input capability
NovaStar MX40 Pro	Wall	4,128,768	20 x Gigabit Ethernet, 4 x 10G optical. Inputs: 3 x HDMI 2.0, DP 1.2, 12G-SDI. Genlock in with loop, bi level and tri level.
Brompton Tessera S8	Floor	1,032,192	8 x 1G Ethernet outputs, 4.5 M pixel capacity. Inputs: HDMI 2.0, 12G-SDI. Genlock, ShutterSync, HFR+ to 250 Hz, 2 frame latency or 1 frame in Ultra Low Latency.
NovaStar MX30	Desk	995,328	10 x Gigabit Ethernet, 2 x 10G optical, up to 6.5 M pixel capacity. Inputs: HDMI 2.0, HDMI 1.4, DP 1.1, 2 x 3G-SDI. Genlock in with loop, bi level, tri level, and blackburst.

Port Loading

Ethernet port counts below are the minimum required at 60 Hz before redundancy. Add spare ports for closed loop or backup data runs where the install calls for it.

Surface	Pixel load	Ports at 8 bit	Ports at 10 bit	Ports at 10 or 12 bit
Wall	4,128,768	7 of 20	9 of 20	13 of 20
Floor	1,032,192	2 of 8	Confirm at commissioning	Confirm at commissioning
Desk	995,328	2 of 10	3 of 10	4 of 10

NovaStar port capacity figures assume A10s Pro receiving cards. Higher bit depth and HDR reduce per port capacity, so receiving card confirmation is required before final data mapping. Brompton ports carry a nominal 525,000 pixels at 8 bit and 60 Hz.

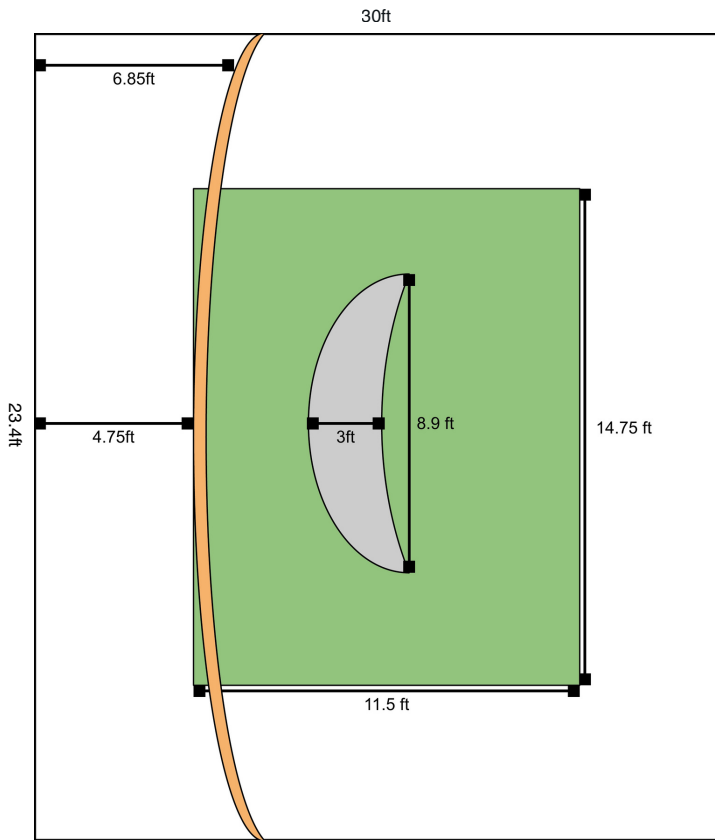
Synchronization Requirements

House reference	One tri level sync source distributed to all three processors and to every camera in the room. Do not daisy chain across processor brands.
Shutter alignment	Camera shutter angle and phase must be verified against each surface independently. Wall, floor, and desk sit on different refresh and processing paths and can band separately.
Frame rate	Confirm target broadcast frame rate before commissioning. Panel video frame rate on the desk is 50 or 60 Hz.
Latency	Processors differ in end to end latency. Offsets should be measured and compensated in the playback or render chain rather than assumed equal.
Calibration	Brightness and chroma calibration data should be supplied per surface and matched across all three so a camera panning across the volume sees consistent color.



06 PLAN GEOMETRY

Studio B Plan View



Legend

Surface	Resolution	Note
Wall	2688 x 1536	Curved rear surface, 44.2 deg total sweep
Floor	1152 x 896	11.5 ft x 14.75 ft walk on surface
Desk	1536 x 648	8.9 ft chord, 3.0 ft depth

Plan Dimensions

Stage area	30 ft x 23.4 ft
Floor surface	11.5 ft x 14.75 ft
Desk chord	8.9 ft
Desk depth	3.0 ft
Wall setback at ends	6.85 ft
Wall setback at apex	4.75 ft
Wall sweep	44.2 degrees

Plan legend has been corrected in this package. The source drawing carried the Floor and Desk labels transposed. Surface assignments shown here match the system specification and the installed panel hardware. Plan is drawn to design intent and is not a fabrication drawing. Field verify all dimensions before ordering structure, trim, or shell components.



07 POWER, ENVIRONMENT, AND OPEN ITEMS

Load and Environmental Data

Surface	Panels	Max draw	Typical draw	Panel weight	Basis
Desk	12	1,620 W	540 W	60 kg (132 lb)	Published, ULW III 1.5
Wall	112	Pending	Pending	Pending	Awaiting panel model confirmation
Floor	63	Pending	Pending	Pending	Awaiting panel model confirmation

Processor draw is additional and modest. The MX40 Pro is rated at approximately 70 W. Wall and floor figures resolve as soon as cabinet manufacturer and model are confirmed. Circuit schedules and distribution detail for the room are available on request.

Environmental Envelope

Operating temperature	10 C to 40 C (50 F to 104 F)
Operating humidity	10 to 80 percent RH, non condensing
Storage temperature	-20 C to 60 C (-4 F to 140 F)
Storage humidity	10 to 85 percent RH
Ingress protection	Rear IP30 on desk panels, indoor rated

Values reflect published desk panel data. Wall and floor cabinets are expected to sit inside the same envelope and should be confirmed against manufacturer documentation.

Open Items and Information Requested

- 1 Wall and floor cabinet manufacturer and model number, 500 x 500 mm units, for warranty, spares, per panel power, and per panel weight.
- 2 Receiving card type installed in wall and floor cabinets. Confirm A10s Pro or equivalent on the NovaStar side for full grayscale calibration and frame rate adaptive operation.
- 3 Written confirmation that the desk panels are the ULW III 1.5 variant at 1.5625 mm pitch.
- 4 Desk shell radius and the resulting per joint curve setting, confirmed inside the 0 to +7 degree concave range the panel supports.
- 5 Field verification of the wall radius, chord, and curve depth against the derived values in section 02.
- 6 Genlock reference distribution plan covering all three processors and all cameras, with shutter sync method documented per surface.
- 7 Floor surface load rating, protective overlay or diffuser specification, and edge trim detail for talent and camera traffic.
- 8 Spare panel inventory held per surface, and lead time on replacement cabinets.
- 9 Calibration data files per surface and the method used to match color across the three surfaces.



Document Control and Contact

Document	Studio B Technical Specification Package, Revision 1.0
Issued	August 11, 2026
Facility	Goal Line Studios, 5959 Coronado Lane, Pleasanton, California
Entity	A studio of Goal Line Studios
Technical contact	Chris Montgomery, Co-Founder and President
Email	chris@goalline.com
Phone	951-893-0810

This package is issued for vendor, integrator, and fabrication review. Figures marked derived or pending are engineering estimates and are not released for construction. Confirm all controlling dimensions in the field before fabrication or ordering.