Direct View LEDs

Direct View LED's (DVLED's) are seamless, bezel free, LED panels that vary in pixel pitch configurations and can adapt to practically any indoor or outdoor environment.
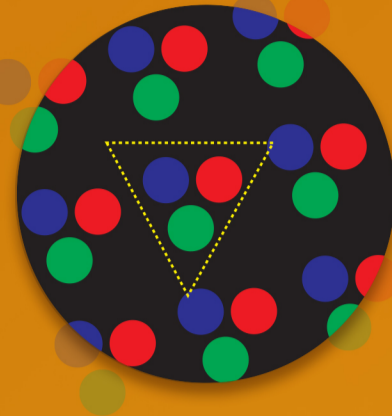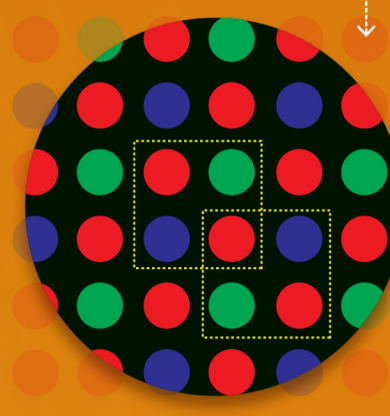
01 The Basics Explained

The DVLED Pixel
A DVLED pixel is the smallest element of a picture creating a single point of color.

There are two types of DVLED pixel configurations.

TRUE Pixel Configuration
A True Pixel can use discrete lamp based LEDs utilizing (1) red, (1) green, and (1) blue in a cluster or a single SMD LED that contains all three chips in a single package.

VIRTUAL Pixel Configuration
Virtual pixels are made up of discrete lamp based diodes and utilize a second red in the cluster. This provides the ability to create virtual pixels between the physical pixels by addressing the virtual clusters separately. This happens so quickly the human eye simply sees an additional point of color.

TRUE Pixels Provide

True Pixels provide a clearer picture and better color reproduction vs the same stated virtual resolution

True Pixels provide better contrast due to more black space

True Pixels are easier to calibrate

True Pixels provide better color reproduction over time

Virtual technology can be a budget option vs a higher True Pixel technology

Diodes on a virtual display are evenly spaced and there are more of them.

This can require a longer viewing distance for the resolution offered and may result in a lower contrast.
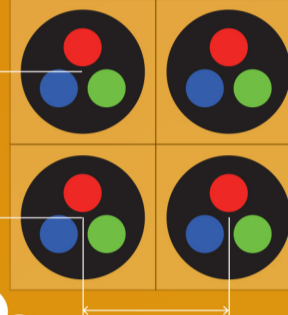
Pixel Pitch
Pixel Pitch is the distance from the center of a pixel to the center of the adjacent pixel both horizontally and vertically.

The smaller the pixel pitch the clearer the image.
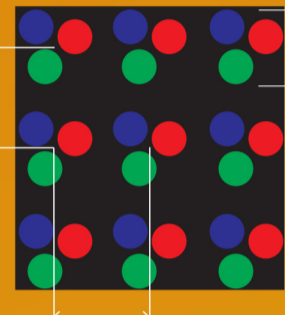
Represents (1) pixel

Represents (1) SMD chip or (1) pixel

02 The Parts

The DVLED Module
The module is the smallest replaceable section of the face on a DLV display.

Individual modules mount to a single cabinet, which also contains power supplies, data distribution

SMD (Surface Mount Device) that has one each RGB diodes

The module is a printed circuit board with SMDs mounted on it

The Display is comprised of multiple cabinets connected to form a seamless surface for a clear image.
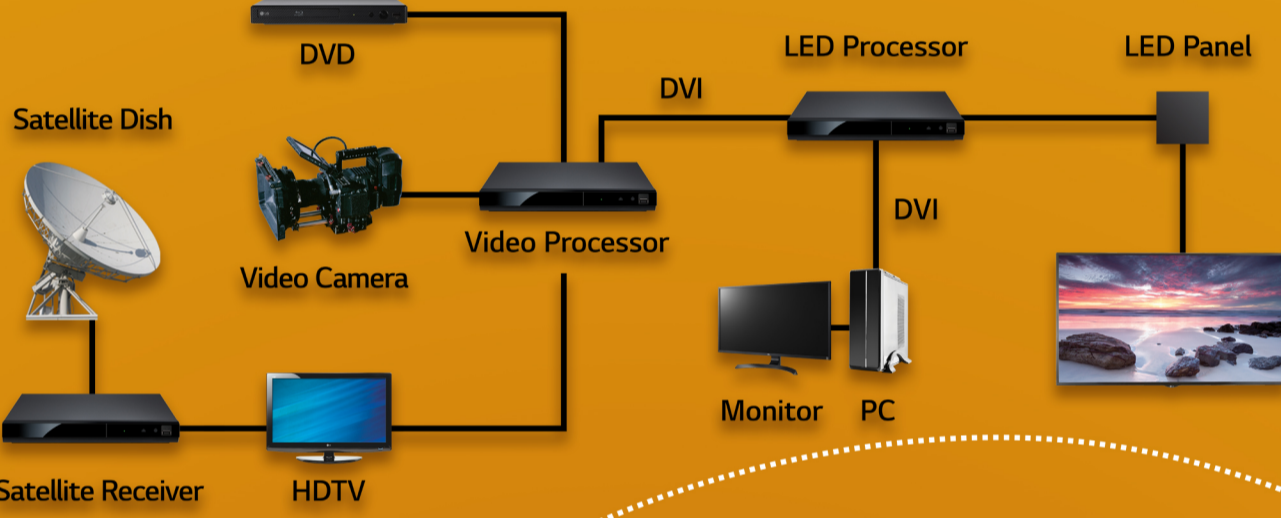
The Controller
Using software the controller configures the DVL display, connects to the input signal for pass through, and receives diagnostics from the DVL display for reporting and alerts.

Satellite Dish
DVD
DVI
LED Processor
LED Panel
Video Camera
Video Processor
DVI
Monitor
PC
Satellite Receiver
HDTV

03 Viewing Distance

Viewing Distance Rule of Thumb
3.5' back for every 1mm of pixel pitch.
This is a rule of thumb because everyone's eyes react differently. Also, consider the angle when hanging the display in the air.
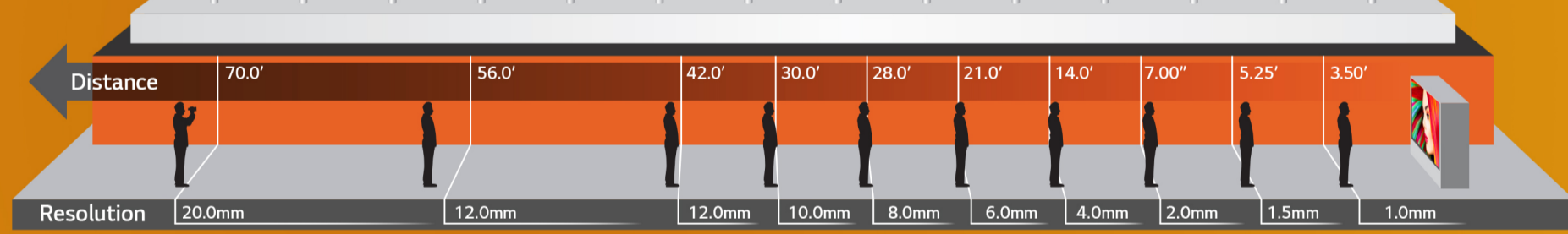*Example: 15' viewing distance 15/3.5 = 4.2 – recommended resolution 4mm*

Keep in Mind

The maximum size of the space

The minimum viewing distance

The distance to the target audience

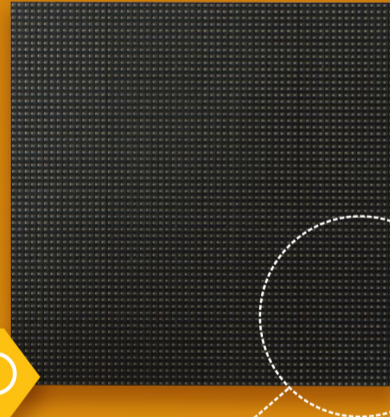### Recommended Minimum Viewing Distances
Resolution vs. Distance

Distance	70.0'	56.0'	42.0'	30.0'	28.0'	21.0'	14.0'	7.00'	5.25'	3.50'
Resolution	20.0mm	12.0mm	12.0mm	10.0mm	8.0mm	6.0mm	4.0mm	2.0mm	1.5mm	1.0mm

04 Special Features

Seamless Design
DVLs do not have bezels creating a seamless image.

The module is bezeless... the SMDs go edge-to-edge

Configurations
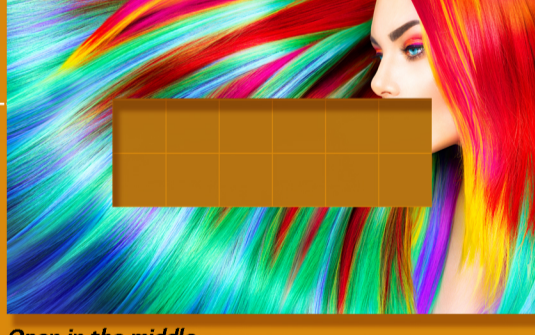Versitile mounting systems can configure outside the 16x9 constraints.
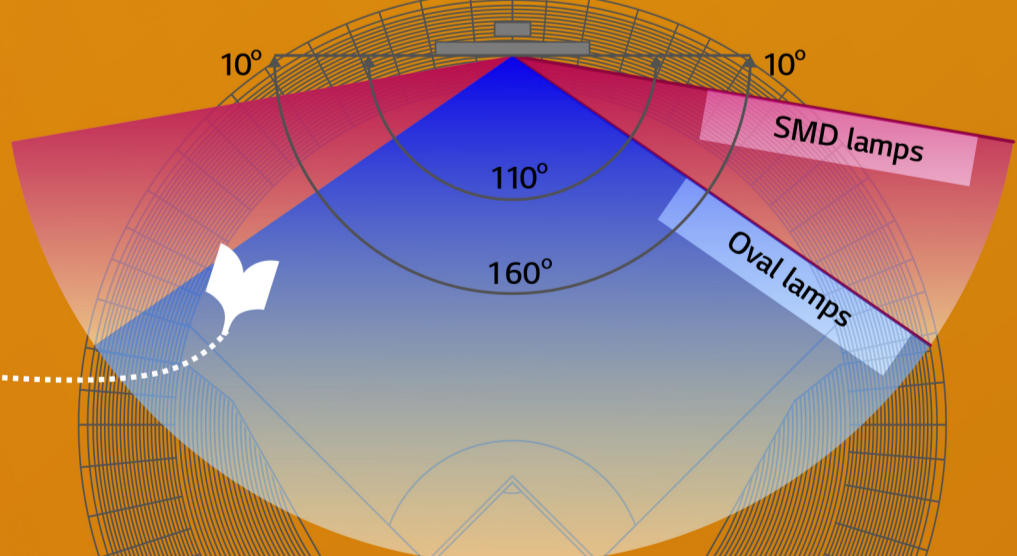
Rectangular

Step up or down

Open in the middle

Corner

Color
Color calibration can be done to the pixel level for a more consistent image.

Off-Axis Viewing
Off-Axis viewing is point to half brightness and image degradation.

10°   10°
110°
SMD lamps
160°
Oval lamps

05 Placement Opportunities

Design Rooms

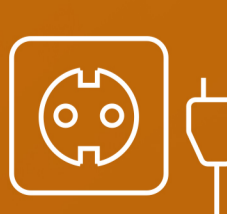Museums and Galleries

Control Rooms

Boardroom

Broadcast

Hospitality

06 ROI

24/7 Operation

Easy to Install

Commercial Grade Warranties

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