## Smart City Signage Powered by BoldVu®



# Smart City Initiatives

#### Improve

Traffic management, public safety, waste management, parking, connectivity & mobility Business investment, education, talent, leisure & tourism, citizen engagement

#### Attract

#### Optimize

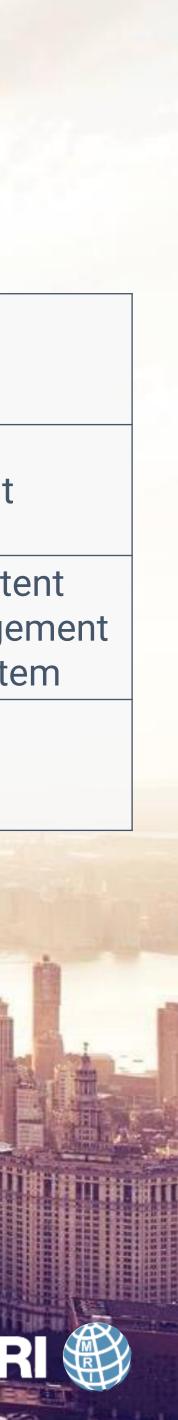
Revenue generation, waste reduction, public services, job creation, data collection, city communication



## Smart City Kiosk System Architecture

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|   | CLIENT                   |                          |                                    | EDGE            |                               | CLOUD                    |                                  |                            |
|---|--------------------------|--------------------------|------------------------------------|-----------------|-------------------------------|--------------------------|----------------------------------|----------------------------|
|   | Wayfinding VoIP          |                          | Sensor & Safety Analytics          |                 | Dashboard – Remote Management |                          |                                  |                            |
|   | Environmental<br>Sensing | Audience<br>Analytics    | Media Playback                     | Aggregate Au    | dience Analytics              | Environmental<br>Metrics | Audience<br>Analytics<br>Metrics | Conte<br>Manager<br>Syster |
|   | OS Platform              |                          |                                    | Content Storage |                               | Cloud Server             |                                  |                            |
|   | Media Player             |                          | High-End Compute                   |                 |                               |                          |                                  |                            |
|   | Speaker/Mic              | Display                  | Camera                             | FPGA            | RAID                          |                          |                                  |                            |
|   | Beacon                   | Environmental<br>Sensors | Personal Tablet /<br>Touch Display |                 |                               |                          |                                  |                            |
|   | USB Charging             | Ethernet<br>Switch       | Small Cell / WiFi<br>Access Point  |                 |                               |                          |                                  |                            |
| Carlo |                          |                          |                                    |                 |                               |                          |                                  |                            |



### Smart City Alignment

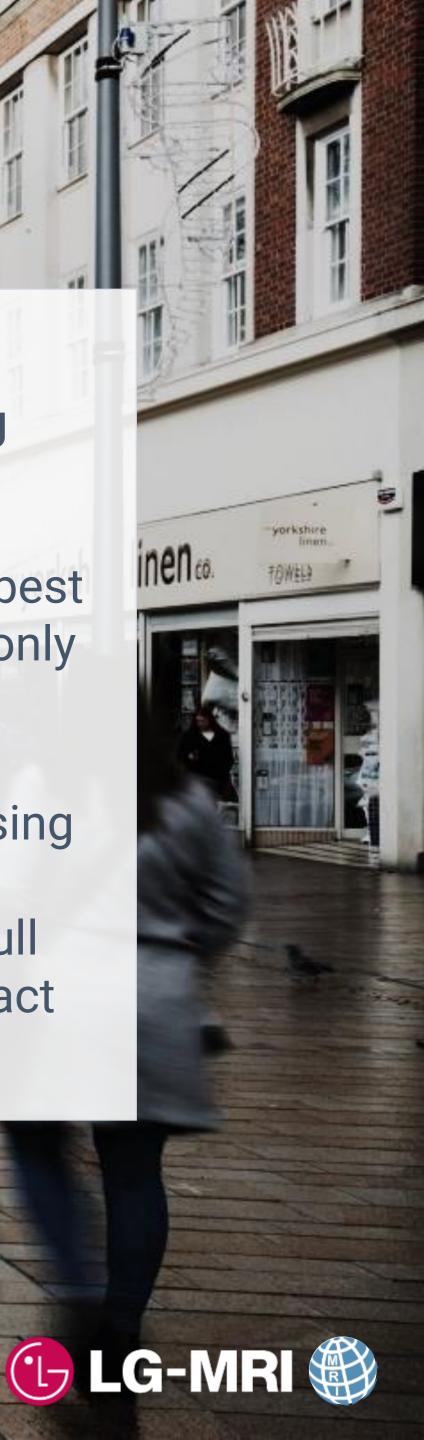
#### Long Contract Lengths (5-25 years)

#### BoldVu Panels perform reliably and consistently for 10+ years

#### **Strongly Funded by Advertising**

BoldVu Panels carry the industry's best performance track record and the only visual performance guarantee

BoldVu Panels ensure that advertising rate cards are maximized and consistently maintained for the full duration of the municipality contract



# BoldVu<sup>®</sup> Panels

- Engineered for outdoors & direct sunlight
- Single/Double-sided configurations
- Touchscreen options
- Sealed chassis, no air filters, no regular maintenance
- House, power, and cool connected devices
- Designed, engineered, fabricated and assembled in the USA





#### Westfield Century City

3:43 PM

#### **FOUCH SCREEN TO BEGIN**







# BoldVu<sup>®</sup> Panel Design

- Up to two display faces can share a common electronics chassis and thermal management system
- Unit is weather-proof, vandal-proof, self-cooled, and has its own power conditioning center
- Capacity to house, power, and cool peripheral devices inside the electronics chassis – no need for additional chassis
- Externally housed devices can be powered through the display

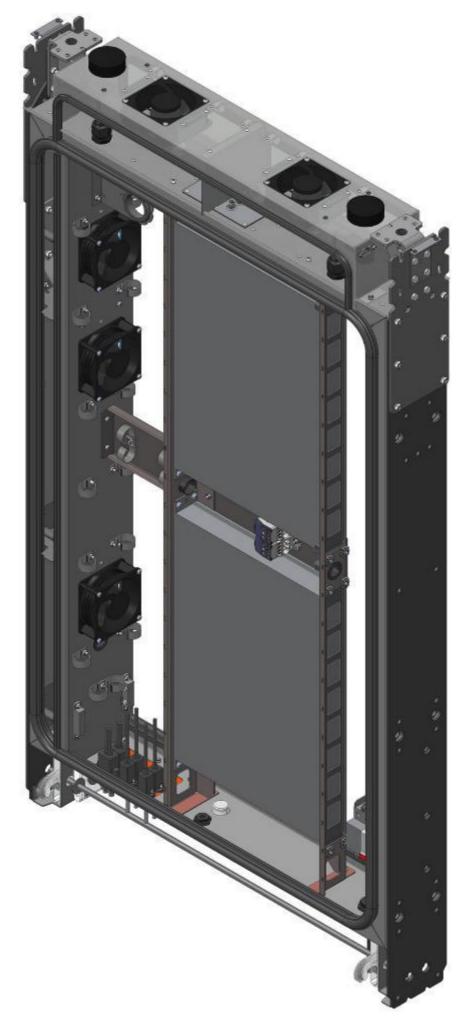






#### BoldVu<sup>®</sup> Panel Design

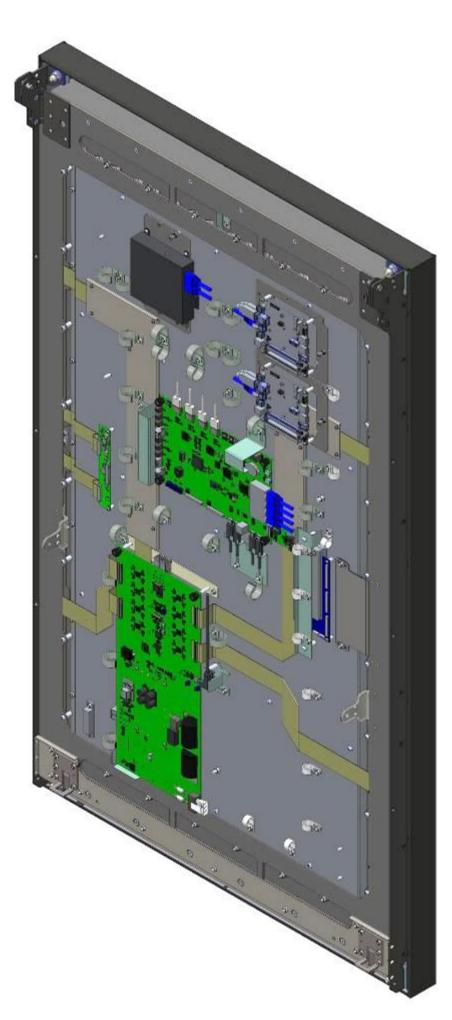
Hinges open on both sides for internal access



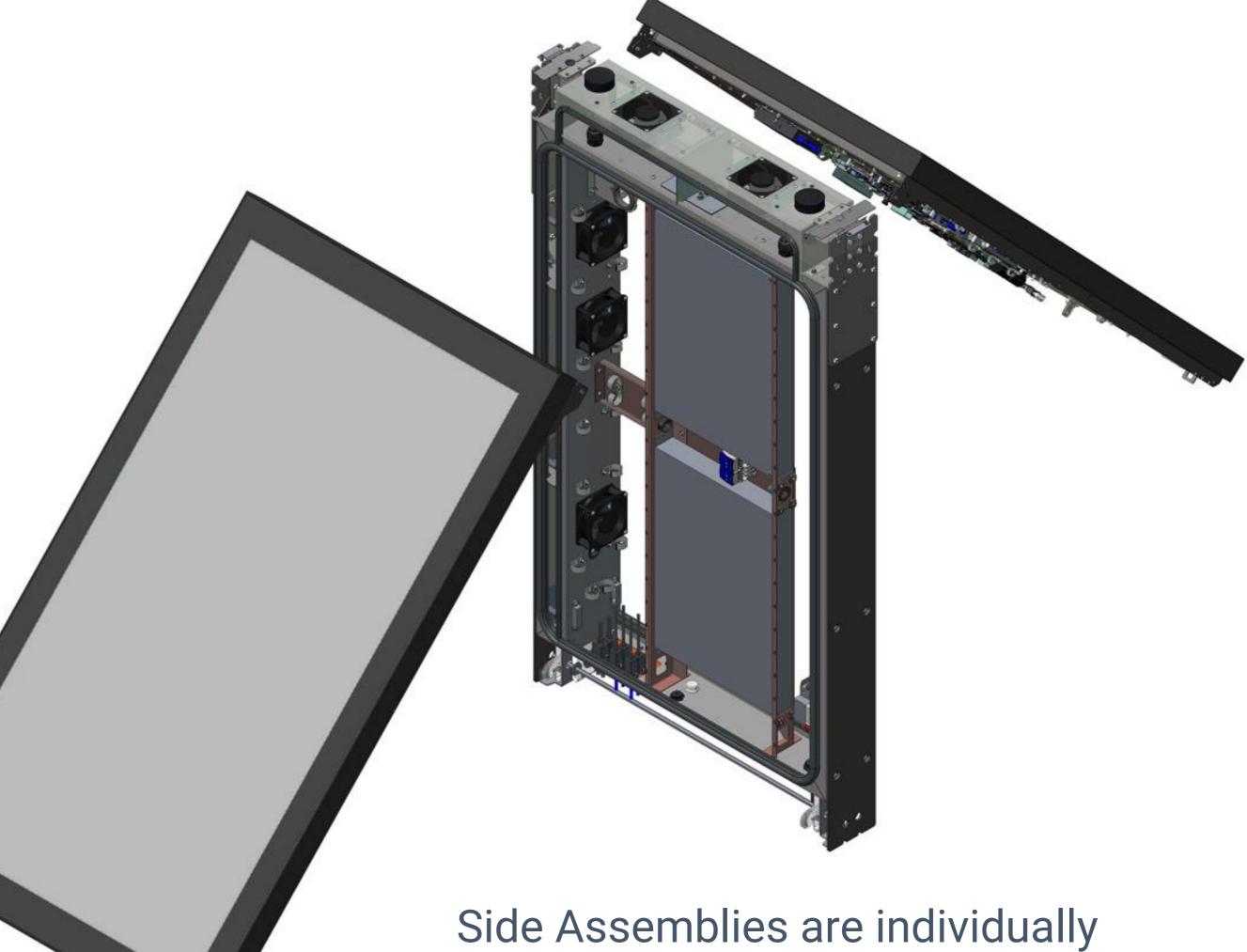
Center mounting rack & I/O for peripheral devices (2) RETMA 1U Rack Units



#### Side Assembly



Core panel circuitry mounted to Side Assembly



removeable/replaceable



# Peripheral Integration

Media player

Modem

WiFi Access Point

M2M device

Fiber to ethernet

Camera(s)

Ethernet router

Ethernet switch

Environmental sensors

USB charging station

Small cell

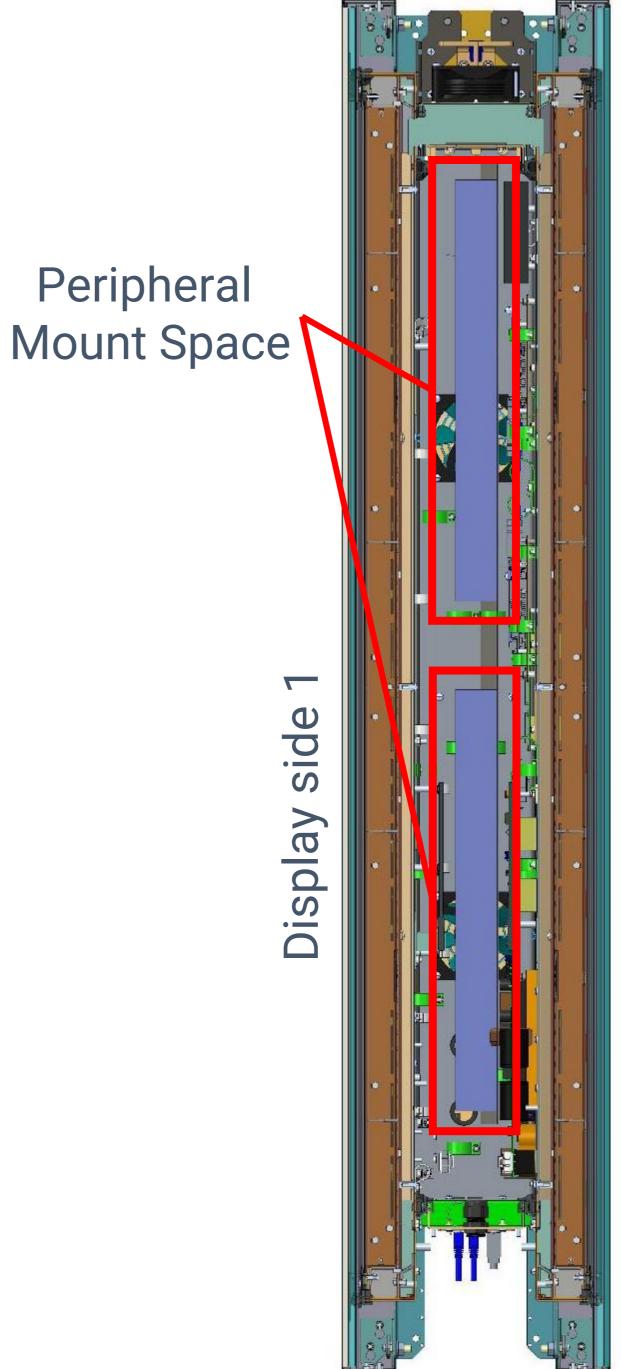
Personal touchscreen

Mount space and power available inside BoldVu chassis

Housed outside and powered through BoldVu panel



# Display side 2



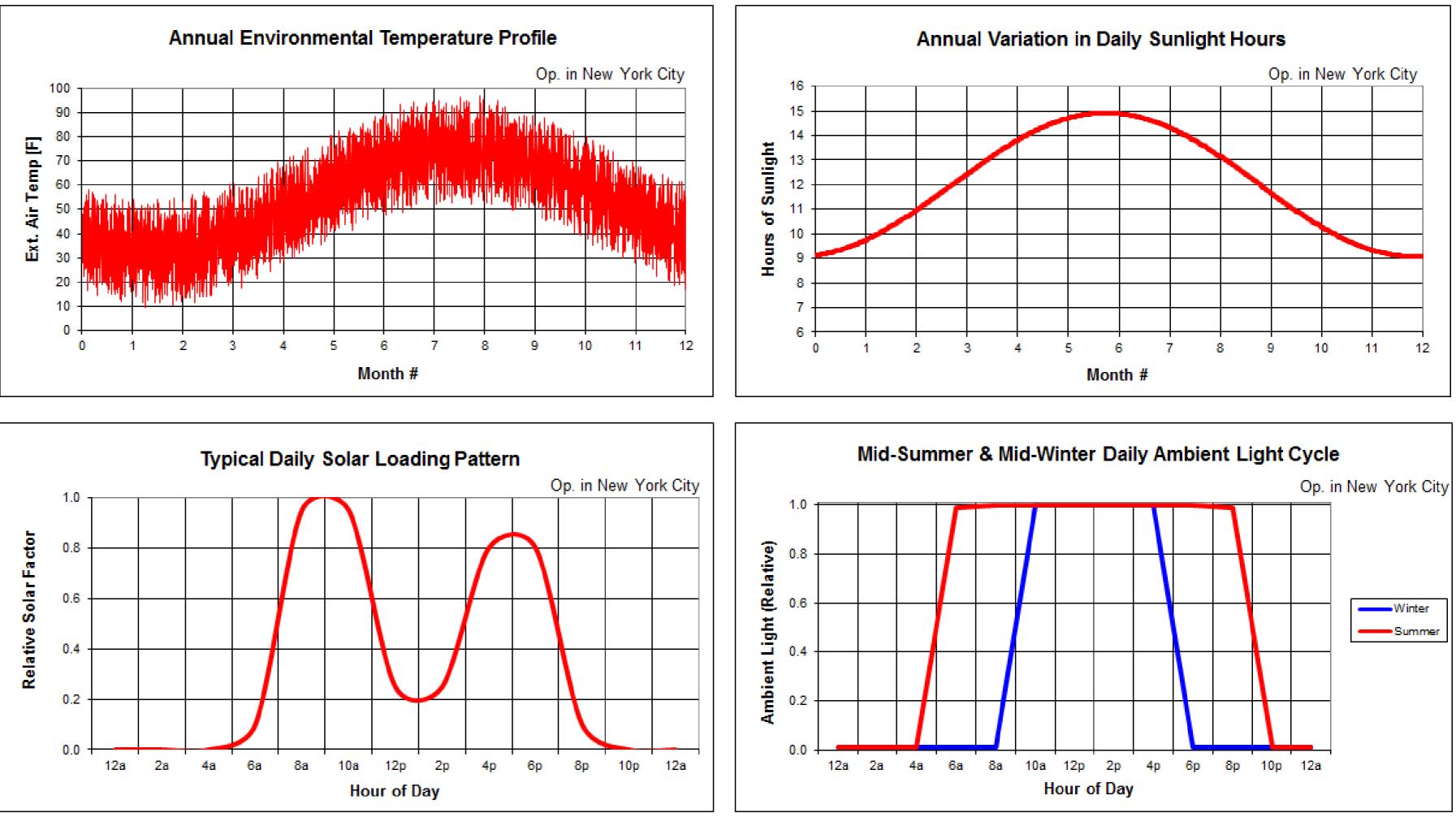
# 15-Year Backlight Performance Analysis

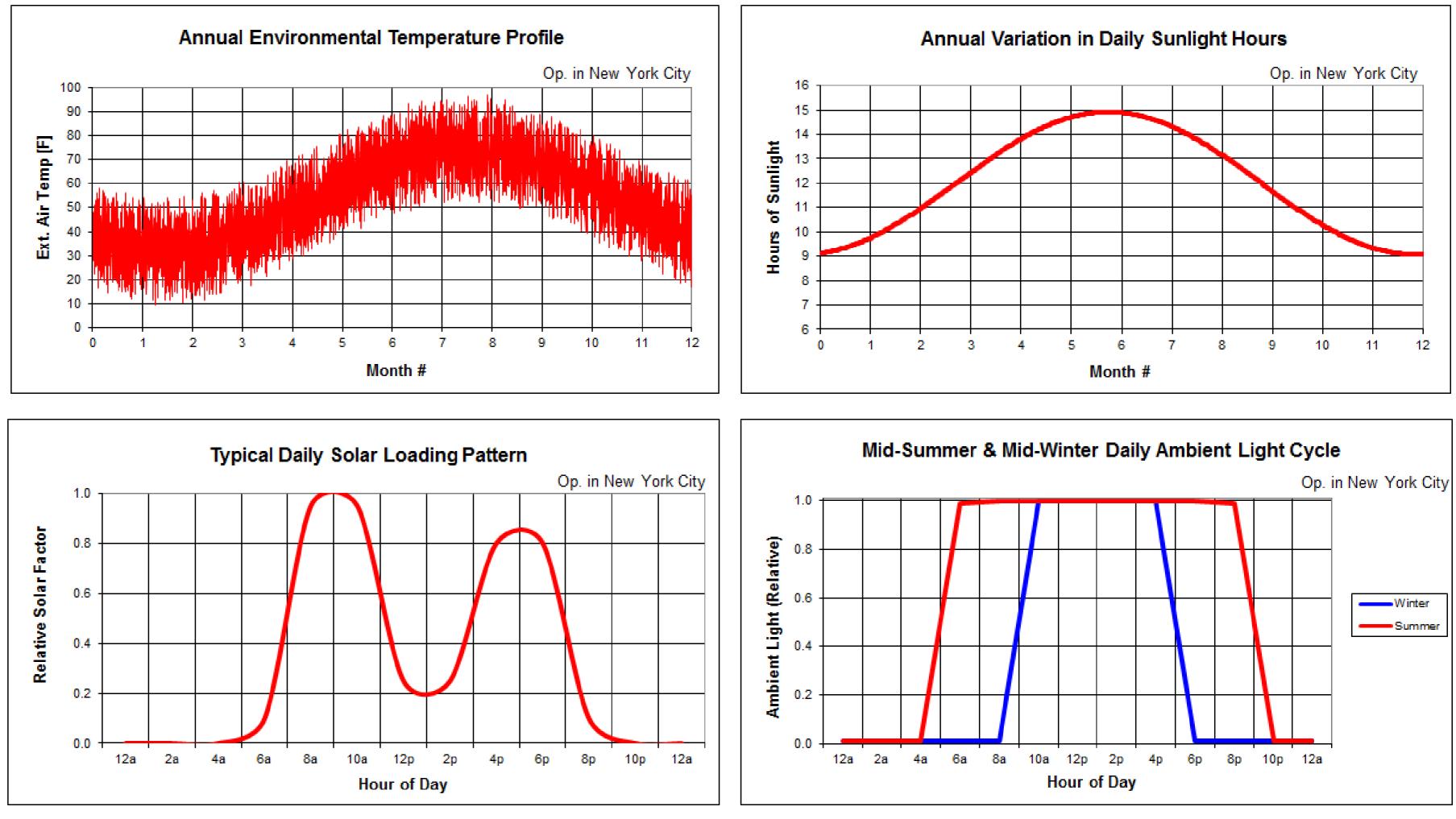
Location: New York City

Luminance: 3500 nits (day) 500 nits (night)

Environment: **Fully-exposed outdoor** East/West facing

Product: 55" BoldVu Double-sided

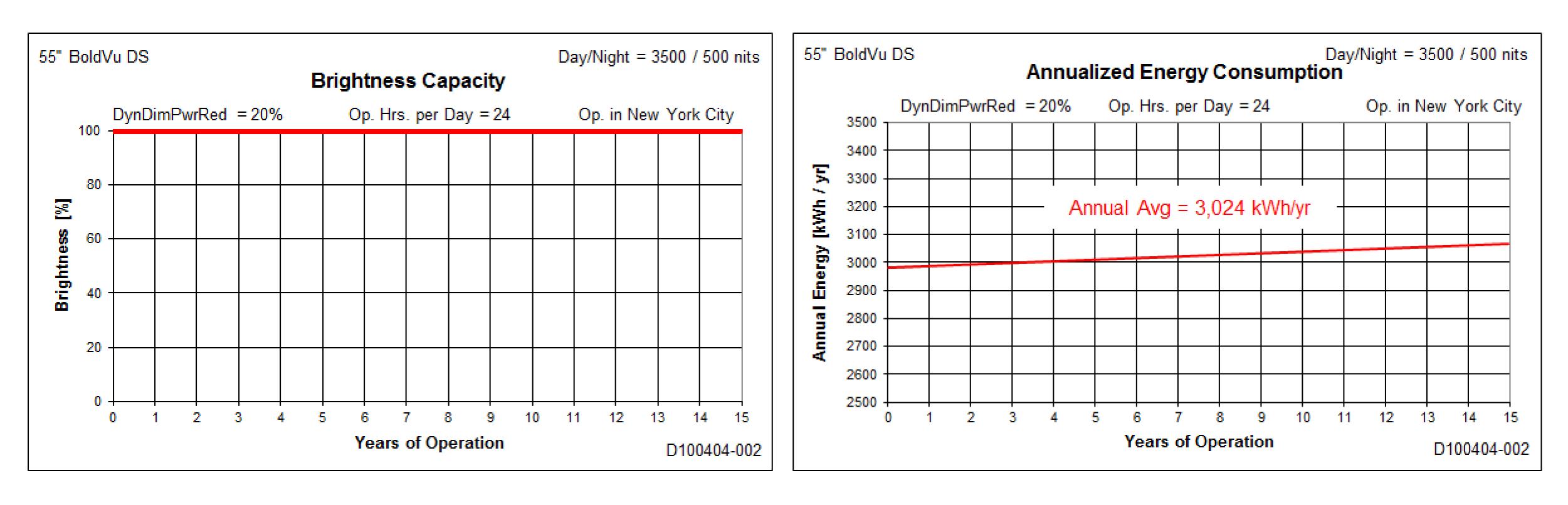








# 15-Year Backlight Performance Analysis



Display maintains luminance capacity over 15 years

<4% increase in power consumption over 15 years







### Smart City Benefits

#### Media Advertising

Generate jobs and revenue

Location-based, digital advertising revenue

Jobs created to build, install, and maintain kiosks

Self-sustaining digital network

Citywide Alerting Promote public safety

Real-time emergency messaging

Security cameras available

**Emergency calling** 

# **Public** information

Public high-speed internet

LTE small-cell support

Bluetooth beaconing

VOIP



Connectivity Enable access to **Data &** Analytics Value-added insights

**Environmental sensors** 

**Pedestrian and traffic** analytics

Parking, lighting, waste management optimization

**Concierge &** Information Citizen

engagement

Transit information

Real-time arrival & departures

Interactive wayfinding

City events and points of interest





# CFD LG-MRI (CONTROLOGIES CONTROLOGIES CONTRO

