



Photos Courtesy of Jeff Segal

PROJECT OVERVIEW

Project Name: **QolorFLEX LED Tape and Multiverse wireless DMX Lobby and Loge Installation**
Location: **The Joyce Theater, New York, NY**
Project Completion: **September 2021**

PROJECT LEADERSHIP

Director of Production: **Jeff Segal**
Lead Project Electrician: **Otto Martinian**
Project Electrician: **Jenna Hanlon**
Light Board Operator: **Kyle Hagen**
Lighting Package: **Laura Bickford, 4Wall**

ABOUT THE THEATER

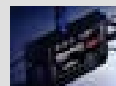
J O Y C E [The Joyce Theater Foundation, Inc.](https://www.joycefoundation.org/), is an international leader in dance presentation, with a 472-seat dance performance venue located in the Chelsea neighborhood of New York City.

CITY THEATRICAL SOLUTIONS USED



QolorFLEX® LED Tapes:

- QolorFLEX 5-in-1 LED Tape, RGBWWCW, 20 reels
- QolorFLEX Warm White LED Tape (24V), 35 reels



QolorFLEX Dimmers:

- QolorFLEX 5x8A Dimmers, 10 units
- QolorFLEX 5x2.5A 900MHz/2.4GHz Dimmers, 10 units



Power Supplies and LED Tape Accessories:

- Mean Well power supply, 80w, 24v, Six units
- Mean Well power supply, 150w, 24v, Seven units
- Mean Well power supply, 240w, 24v, Four units
- Mean Well power supply, 320w, 24v, Two units
- Aluminum Extrusion, 2M, 75 in total
- Diffusers, 2M, 42 in total
- Ribbon Cable, Five conductor, 18GA
- Ribbon Cable, Six conductor, 18GA



Multiverse® Wireless DMX/RDM: (one unit each)

- Multiverse Transmitter 900MHz/2.4GHz
- DMXcat® Multi Function Test Tool
- RadioScan™ Spectrum Analyzer

PROJECT CHALLENGES

The Joyce Theater's leadership was looking to update their theater's lighting using LED tape to gain brightness, efficiencies, and a clean, modern look for their upcoming Fall 2021 season, which included an exciting lineup of dance performances following the closure due to the COVID-19 pandemic (and it was an ideal time since they also chose to replace all of their seats; a fresh look for the whole theater). They were looking for an LED tape solution to replace the fluorescent tubes that existed in the lobby coves, incandescent rope light in the coves under the loge seating areas, and many incandescent tube bulbs (40w) that were originally installed to light the fascia/facing within the theater. The ideal solution would even out the amount of light and color temperature in the theater, while also reducing the power consumption.



Lobby Coves, post-installation of QolorFLEX 5-in-1 LED Tape

SOLUTION - LOBBY

After considering several options, the team from The Joyce Theater decided that a combination of QolorFLEX LED Tape, Dimmers, and Accessories and Multiverse wireless DMX/RDM products would provide them with the flexibility and controllability they were looking for in the LED lighting update to the theater. The team installed QolorFLEX LED Tape in the theater's lobby coves, the coves underneath the loge seating areas, and as accent lighting for the fascia of the loge seating areas and architecture.

For the lobby area specifically, the addition of 17 reels of QolorFLEX 5-in-1 LED Tape, RGBWWCW and 17 reels of QolorFLEX Warm White LED Tape, gave the team the flexibility to change light color as desired, whether it is for a general look, or for special performances and events. The lobby area lighting is set with a "daytime" look from the LED tape in its coves, and can also be changed to something more festive using the QolorFLEX 5x8A Dimmers that provide dimming control, by making changes via the onboard controls or from a team member's mobile device, with the DMXcat Multi Function Test Tool's smartphone app. The team found that the dimming curves, even at the low end of the curve, are smooth and solid.

In order to ensure an easy installation of the QolorFLEX LED Tape in the lobby, the team experimented with various mounting techniques at each of the desired installation locations to achieve the desired lighting effects and create an optimal installation plan. They worked around, and with, the existing architecture and electrical fixtures within the lobby and found the best methods for the overall installation.

"We wanted to even out the amount of light in all areas, as well as even out the color temperature. We were hoping to reduce our power consumption a bit, as well as create a cleaner look in all areas. We achieved that with [QolorFLEX 5-in-1 LED Tape](#) RGBWWCW in our lobby coves."

- Jeff Segal, Director of Production, The Joyce Theater Foundation, Inc.



LOBBY COVES



Pre-Installation



Post-Installation of QolorFLEX 5-in-1 LED Tape



Pre-Installation

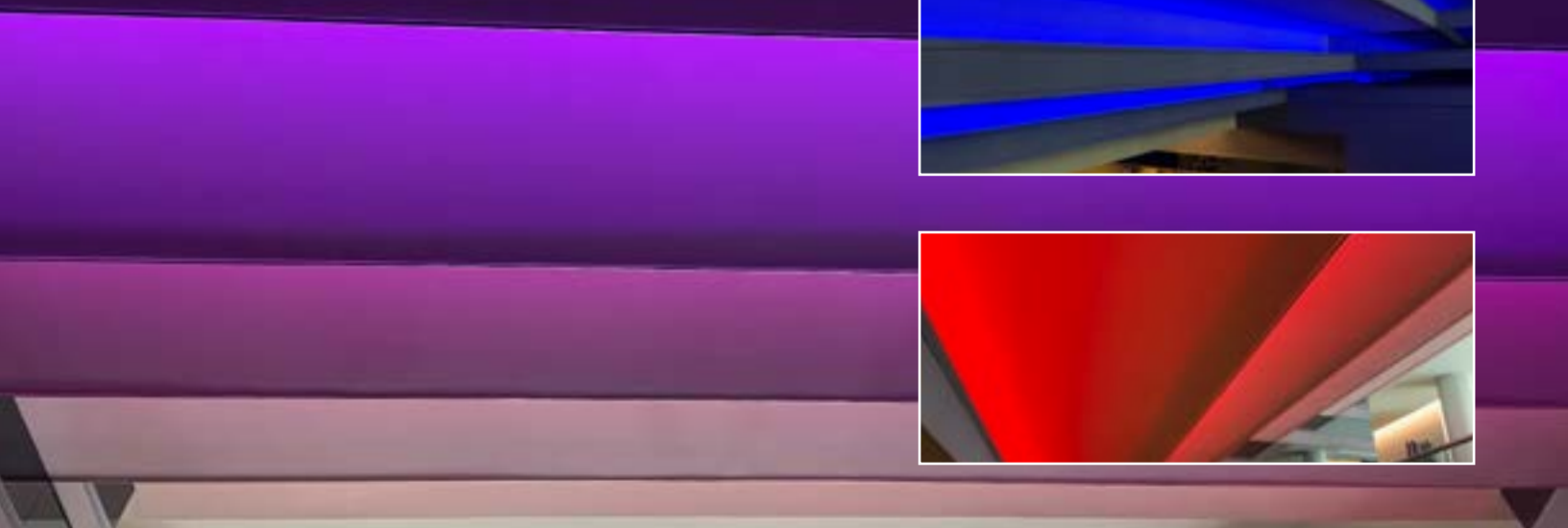


Post-Installation of QolorFLEX 5-in-1 LED Tape

“The addition of the [QolorFLEX 5-in-1 LED Tape](#) RGBWWCW in our lobby coves will allow us to change colors for special events, holidays, or other special needs when we want to make it more festive.”

- Jeff Segal, Director of Production, The Joyce Theater Foundation, Inc.

Post-Installation of QolorFLEX 5-in-1 LED Tape, showing LED color change options





Loge Fascia, post-installation of QolorFLEX LED Tape, Warm White

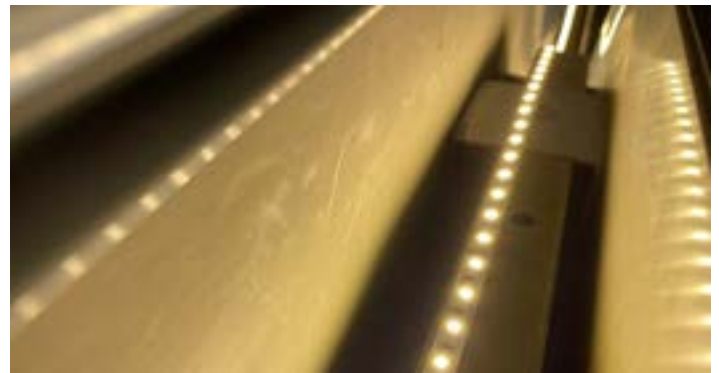
SOLUTION - LOGE

The team found the installation of QolorFLEX LED Tape, Dimmers, and Accessory products in the lobby areas to be relatively easy; citing the ability to repeat the same successful installation steps from one location to another.

Once the team moved their installation into the auditorium, they switched from using both QolorFLEX 5-in-1 LED Tape and QolorFLEX Warm White LED Tape, which provided the color flexibility they were looking for in their lobby, to solely using QolorFLEX Warm White LED Tape (24V), which would provide an even, beautifully warm tone for the performance space. The 14 reels of warm white LED tape in the theater are controlled wirelessly by 10 QolorFLEX 5x2.5A 900MHz/2.4GHz Dimmers.

Multiverse wireless DMX was used in the auditorium to control the QolorFLEX LED Tape installed in the loge coves and fascia lighting because they are locations that did not allow for easy pulling of new DMX wiring. These areas are typically controlled using a standard Sensor rack and a 0-10v lighting controller, but the team hopes to move all of the theater's house lighting to be controlled via the console(s), and wireless DMX, in the future.

There is a single QolorFLEX 5x2.5A Multiverse Dimmer in each QolorFLEX LED Tape installation location within the auditorium, for a total of 10 units, which provide the team with wireless DMX control of the new QolorFLEX Warm White LED Tape from the main lighting console.



“Installing 24V [QolorFLEX LED Tape](#) was easy once we figured out the best way to place it. We experimented with a few different mounting techniques to achieve the effect we were looking for.”

- Jeff Segal, Director of Production, The Joyce Theater Foundation, Inc.

LOGE FASCIA LIGHTING



Pre-Installation



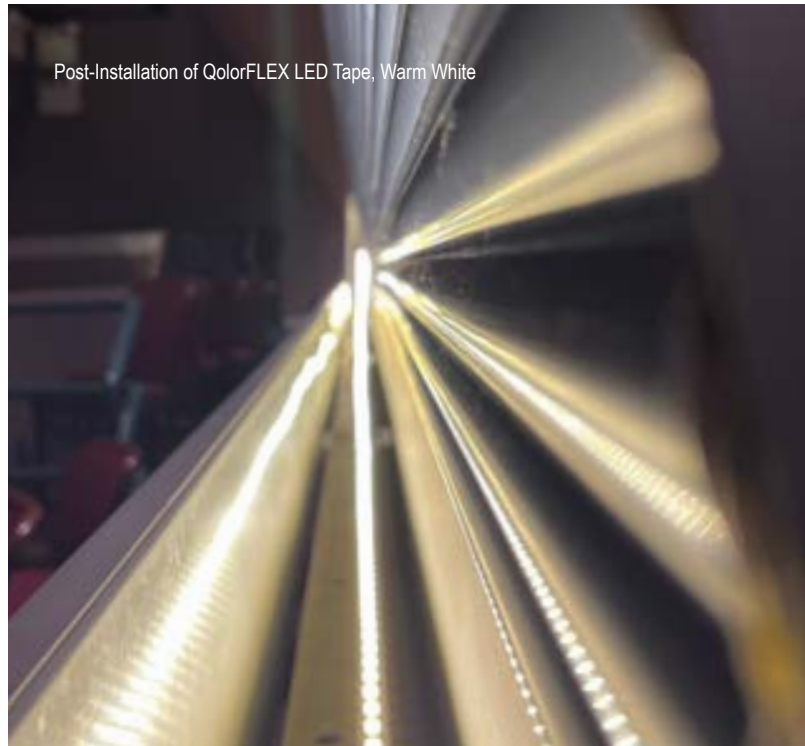
Post-Installation of QolorFLEX LED Tape, Warm White

“Multiverse wireless DMX is being used in the auditorium to control the QolorFLEX LED Tape in locations that we cannot pull new DMX wiring to, like the fascia/facing of our loge areas. There is a single [QolorFLEX 5x2.5A Multiverse Dimmer](#) in each location that allows us to control the new QolorFLEX Warm White LED Tape from our main lighting console.”

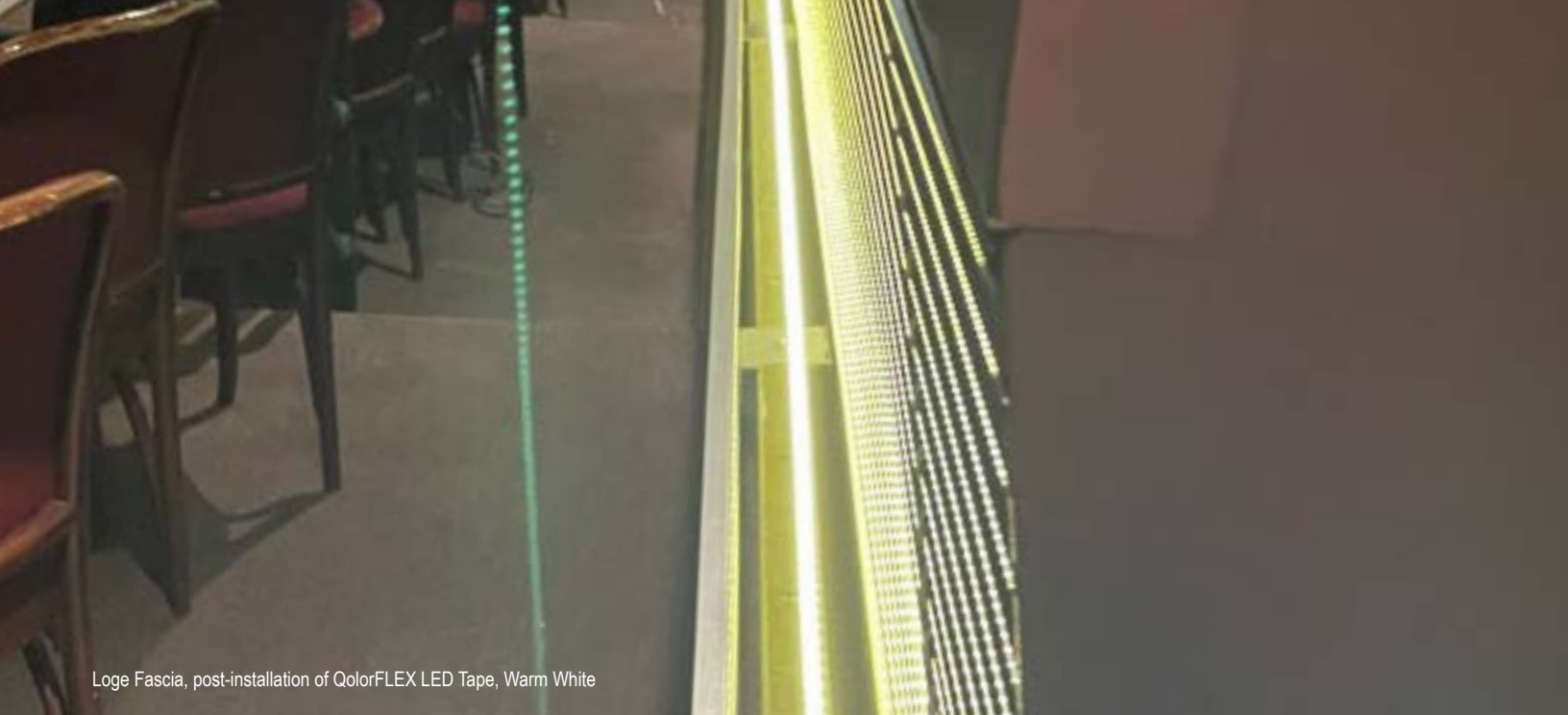
- Jeff Segal, Director of Production, The Joyce Theater Foundation, Inc.



Pre-Installation



Post-Installation of QolorFLEX LED Tape, Warm White



Loge Fascia, post-installation of QolorFLEX LED Tape, Warm White

SOLUTION - WIRELESS DMX

The Multiverse Transmitter (P/N 5910) unit being used by the team at The Joyce allows for wireless DMX broadcasting from the 2.4GHz or 900MHz band (900MHz is licensed for use in North America only). Often, the 900MHz band is selected for use in more crowded areas, where larger amounts of WiFi, Bluetooth, and all the other technologies may operate in the band, or its ability to deliver better range than the 2.4GHz band.

At The Joyce, the team decided to use Multiverse wireless DMX/RDM on the 900MHz band due to the large amount of steel beams and other obstructions between the main Multiverse Transmitter and the QolorFLEX 5x2.5A Multiverse Dimmers.

The team tested the locations of the Multiverse Transmitter and the 10 QolorFLEX 5x2.5A Multiverse Dimmers near each QolorFLEX LED Tape installation site to find the best mounting positions. They also used a RadioScan Spectrum Analyzer to discover the ideal frequency range to broadcast within, and were able to optimize their broadcast.

“We wound up using Multiverse wireless DMX on the 900MHz band in our space since we are working with a large amount of steel beams and other obstructions between the main [Multiverse Transmitter](#) and QolorFLEX 5x2.5A Multiverse Dimmers.”

- Jeff Segal, Director of Production, The Joyce Theater Foundation, Inc.



Under loge coves, post-installation of QolorFLEX LED Tape, Warm White

UNDER LOGE COVES



Pre-Installation



Post-Installation

“We considered a few different options, and in the end decided that the [QolorFLEX](#) and [Multiverse](#) products would allow us the flexibility and controllability that we were looking for.”

- Jeff Segal, Director of Production, The Joyce Theater Foundation, Inc.



Pre-Installation



Post-Installation