CLAIMS:

1. A system for evaluation of an augmented reality (AR) experience provided to a user, the system comprising:

a backdrop;

a physical light configured to project light onto the backdrop;

a display system configured to display a virtual feature to enable the user to view the virtual feature as being overlaid onto the backdrop; and

a controller communicatively coupled to the display system and the physical light, wherein the controller is configured to:

render the virtual feature within a virtual space;

receive feedback indicative of an operational parameter of the physical light;

receive additional feedback indicative of a state of a virtual light, wherein the state of the virtual light defines an appearance of the virtual feature;

render a virtual stage in the virtual space, wherein the virtual stage corresponds to a physical stage having the backdrop, wherein the state of the virtual light includes a position of the virtual light relative to the virtual stage, an orientation of the virtual light relative to the virtual stage, a hue of virtual light rendered by the virtual light, or an intensity of virtual light rendered by the virtual light; and

adjust the state of the virtual light based on the feedback indicative of the one or more operational parameters of the physical light, adjust the one or more operational parameters of the physical light based on the additional feedback indicative of the state of the virtual light, or both such that state of the virtual light matches a corresponding operational parameter of the physical light.

2. The system of claim 1, comprising a physical light sensor configured to provide the controller with the feedback indicative of the operational parameter of the physical light, wherein the operational parameter includes a position of the physical light relative to the backdrop, an orientation of the physical light relative to the backdrop, a hue of the light projected onto the backdrop, an intensity of the light projected onto the backdrop, or a combination thereof.

3. The system of claim 1, comprising an actuator coupled to the physical light and configured to adjust the operational parameter of the physical light, wherein the controller is configured to instruct the actuator to adjust the operational parameter of the physical light in response to receiving the additional feedback indicative of the state of the virtual light.

4. The system of claim 3, wherein the operational parameter includes a position of the physical light relative to the backdrop, an orientation of the physical light relative to the backdrop, or both.

5. The system of claim 1, comprising a user input device communicatively coupled to the controller and configured to enable the user to provide the additional feedback indicative of the state of the virtual light to the controller.

6. The system of claim 1, wherein the display system comprises a head mounted display configured to be worn by the user and to overlay the virtual feature onto the backdrop via a transparent screen of the head mounted display.

7. The system of claim 1, wherein the display system comprises one or more projectors configured to project the virtual feature into eyes of the user to overlay the virtual feature onto the backdrop.

8. The system of claim 1, wherein the controller is configured to:

receive, from an ambient lighting sensor, ambient lighting feedback indicative of ambient lighting conditions surrounding the backdrop; and

adjust the appearance of the virtual feature to the updated appearance based on the ambient lighting feedback.

9. A method for evaluation of an augmented reality (AR) experience provided to a user, the method comprising:

overlaying, via a display system, a virtual feature onto a backdrop to enable the user to view the virtual feature overlaid onto the backdrop;

receiving, from a sensor, feedback indicative of an operational parameter of a physical light configured to illuminate the backdrop;

receiving, at a controller, additional feedback indicative of a state of a virtual light, wherein the state of the virtual light defines an appearance of the virtual feature, wherein the state of the virtual light includes a position of the virtual light relative to a virtual stage, an orientation of the virtual

light relative to the virtual stage, a hue of virtual light rendered by the virtual light, or an intensity of virtual light rendered by the virtual light;

adjusting, via the controller, the state of the virtual light based on the feedback indicative of the operational parameter of the physical light, or

adjusting the operational parameter of the physical light based on the additional feedback indicative of the state of the virtual light, such that state of the virtual light matches a corresponding operational parameter of the physical light.

10. The method of claim 9, comprising adjusting, via an actuator coupled to the physical light, the operational parameter of the physical light in response to receiving the additional feedback indicative of the state of the virtual light.

11. The method of claim 10, wherein the operational parameter comprises a position of the physical light relative to the backdrop, an orientation of the physical light relative to the backdrop, or both.

12. The method of claim 9, comprising rendering the virtual feature in a virtual stage of a virtual space, wherein the virtual stage corresponds to a physical stage having the backdrop and is dimensionally proportional to the physical stage.

13. The method of claim 9, comprising receiving the additional feedback indicative of the state of the virtual light from a user interface communicatively coupled to the controller.

14. The method of claim 9, comprising:

associating the physical light with an identifier unique to the physical light, wherein the physical light is a first physical light of a plurality of physical lights configured to illuminate the backdrop and associated with respective identifiers;

detecting an occurrence of a fault condition in the first physical light; and

displaying, via the display system, the identifier associated with the first physical light in response to detecting the occurrence.

15. An augmented reality (AR) system, comprising:

a display system configured to overlay a virtual feature onto an environment viewable by a user;

a physical light configured to illuminate the environment; and

a controller communicatively coupled to the display system and the physical light, wherein the controller is configured to:

render the virtual feature within a virtual space having a virtual light, wherein a state of the virtual light defines an appearance of the virtual feature, wherein the virtual space corresponds to a physical stage having the backdrop, and wherein the state of the virtual light includes a position of the virtual light relative to the virtual space, an orientation of the virtual light relative to the virtual space, a hue of virtual light rendered by the virtual light, or an intensity of virtual light rendered by the virtual light; and

adjust the state of the virtual light based on feedback indicative of an operational parameter of the physical light; or

adjust the operational parameter of the physical light based on additional feedback indicative of the state of the virtual light.

16. The AR system of claim 15, comprising a sensor configured to monitor the operational parameter, wherein the operational parameter comprises a position of the physical light in the environment, an orientation of the physical light in the environment, a hue of light output by the physical light, an intensity of the light output by the physical light, or a combination thereof.

17. The AR system of claim 15, comprising a user interface configured to generate the additional feedback indicative of the state of the virtual light in response to user input at the user interface.

18. The AR system of claim 15, wherein the display system comprises a head mounted display configured to be worn by the user.

19. The AR system of claim 15, wherein the state of the virtual light defines shading, coloring, hue, and/or highlighting of the virtual feature.