

January 2015

BAY BRIDGE LIGHTS

Presentation prepared by Zoon Engineering



Presentation Outline

Lighting of the New East Span of the Bay Bridge

- Brief Over view
- Lighting Facts
- Unique Challenges
- Testing & Aiming

Overview











SAS Lights (Looking Southeast)



New East Span Lighting

Some Facts

- 273 Light Poles
- Over 1,500 Outdoor IP66 Rated Fixtures
- Over 48,000 Individual LEDs
- LED Comparison to Traditional Lighting
 - Up To 65% More Efficient
 - Typical 7-fixture Pole: 600W vs 1600W
 - 10 To 15 Years Life Span vs 2 to 3 Years
 - Musco Warranty: 10 Years Parts & Labor



New East Span Lighting Unique Challenges

- Light Poles Restricted To One Side Of Roadway
- Pole Coverage: Up to 12,000 Square Feet
- Tight Uniformity Requirements
- Directional Light Fixtures
- Strict Light Diffusion Criteria
 - Glare control
 - Light pollution to the Bay
 - Opposing traffic
- Difficult Installation
 - Light fixtures on the main and suspender cables
 - Main Cable Fixtures up to 300 feet above the deck







Roadway Lighting Test at MUSCO



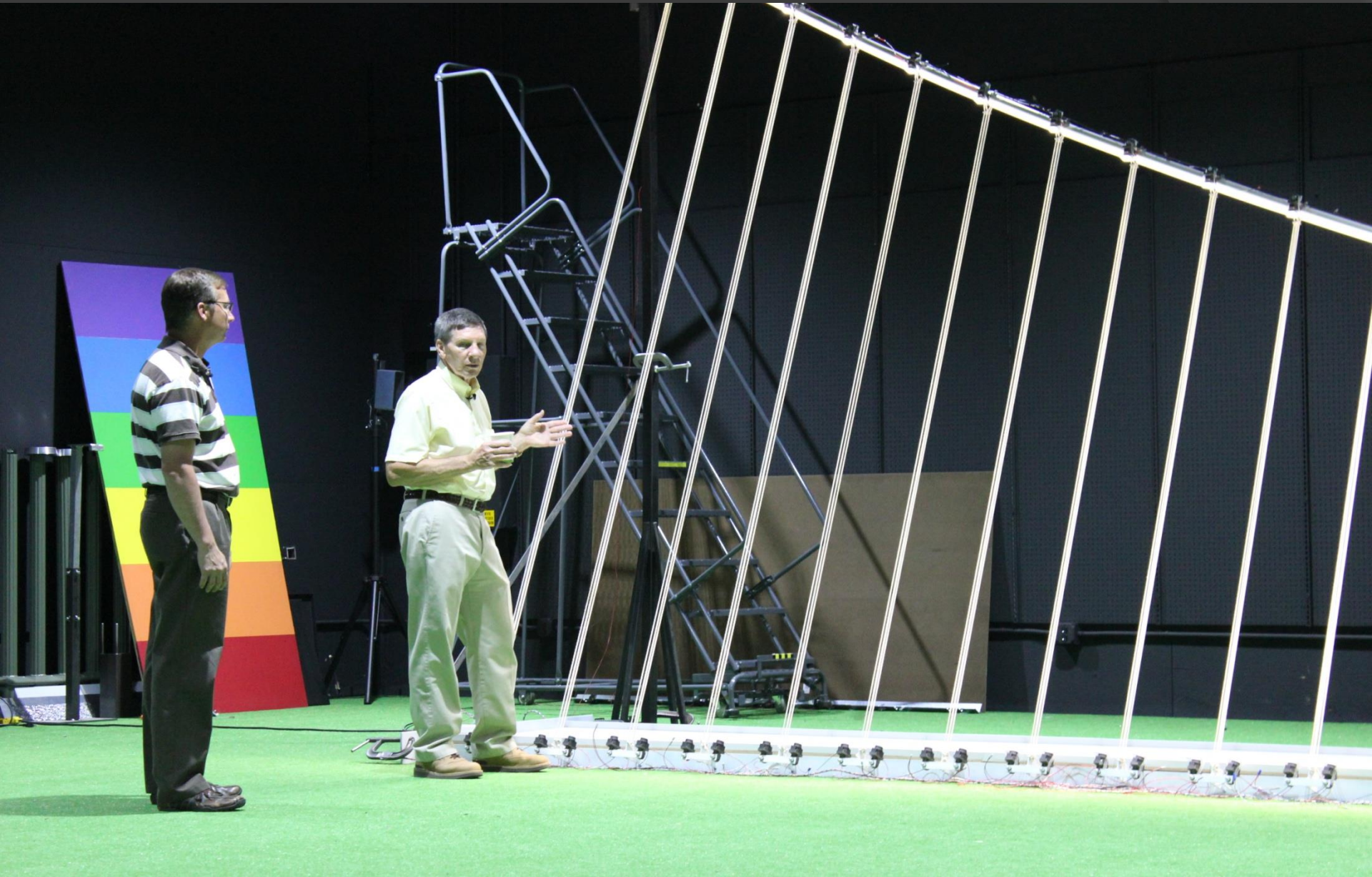


No light spill from
WB to EB

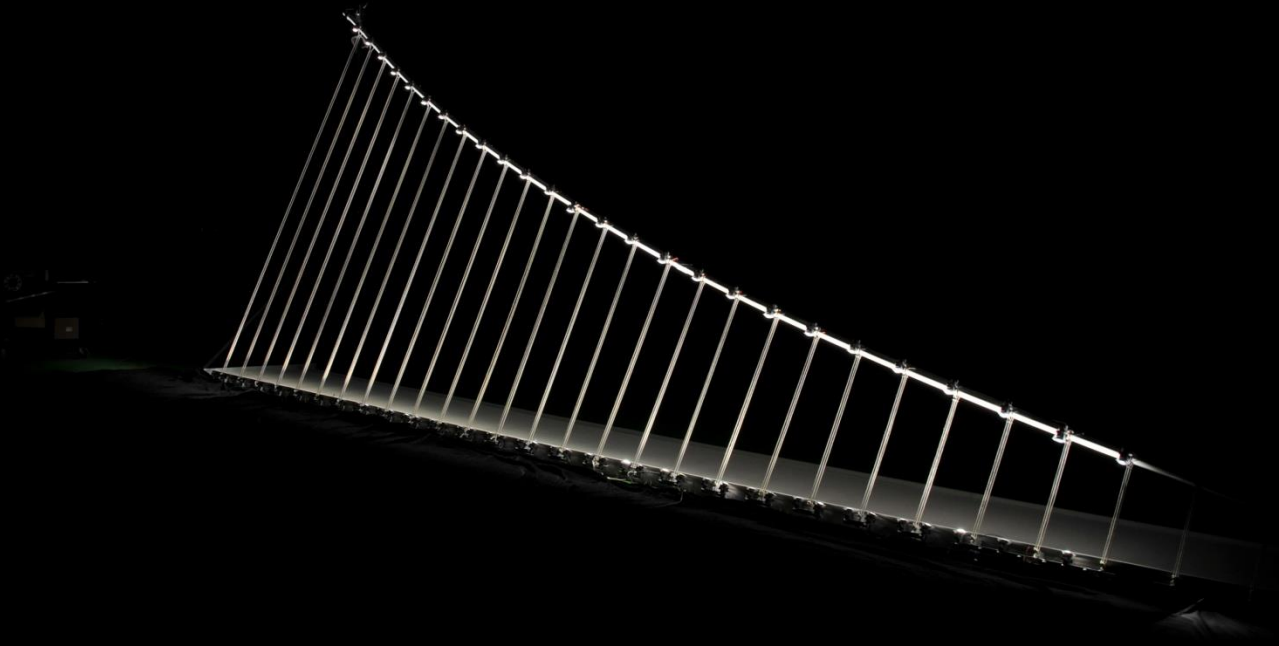


Scaled Model of SAS at MUSCO

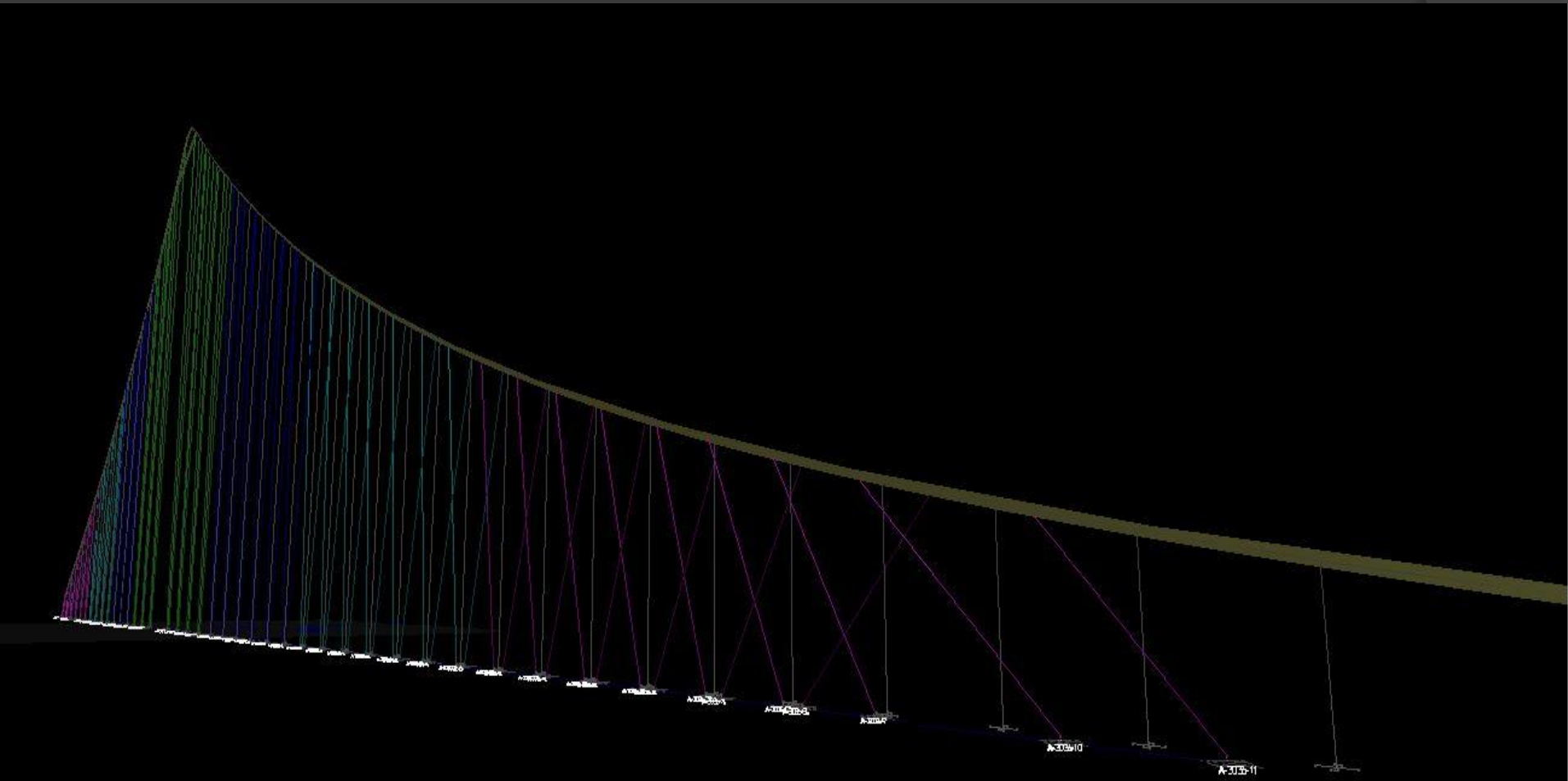




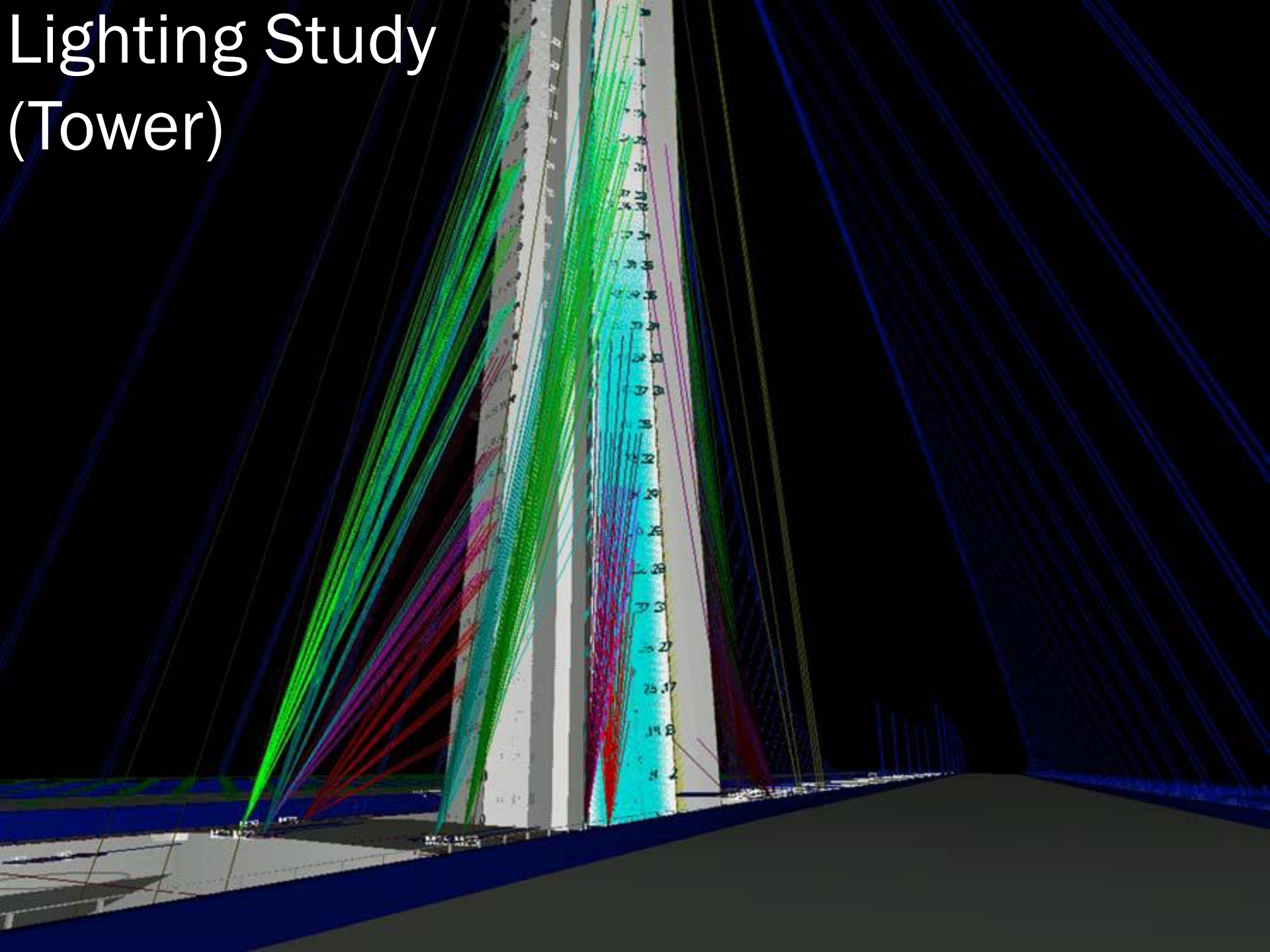
Light test of the cable lights on scaled SAS model at MUSCO



Computerized Lighting Study (Cables)



Lighting Study (Tower)



All fixtures are pre aimed at MUSCO



AIMING STATION 1
UP TEST SYSTEM TARGET VALUES

FIXTURE 1 HORIZONTAL:	36.54 - 38.54
FIXTURE 1 VERTICAL:	41.08 - 43.08
FIXTURE 2 HORIZONTAL:	7.85 - 9.85
FIXTURE 2 VERTICAL:	35.41 - 37.41

Questions

