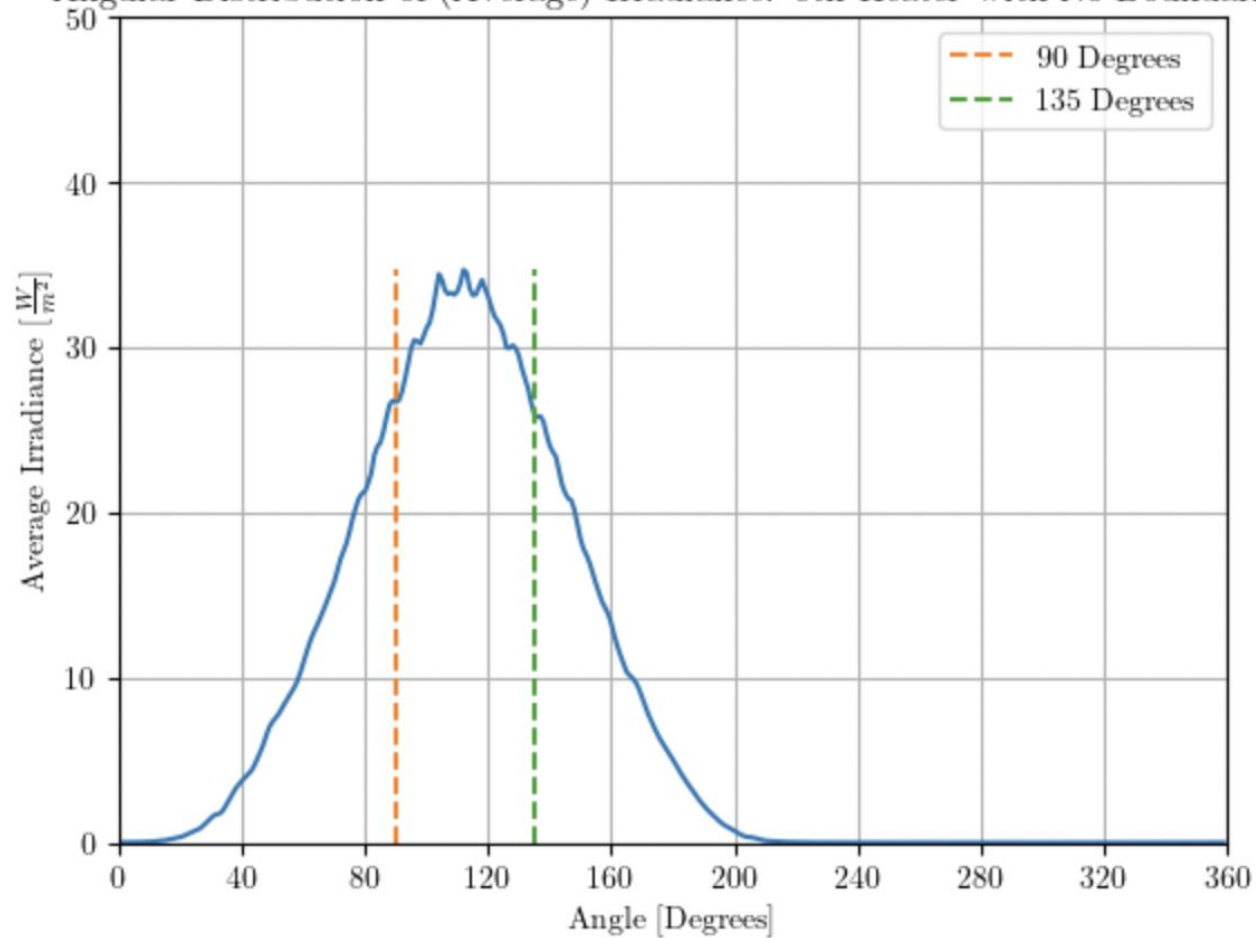


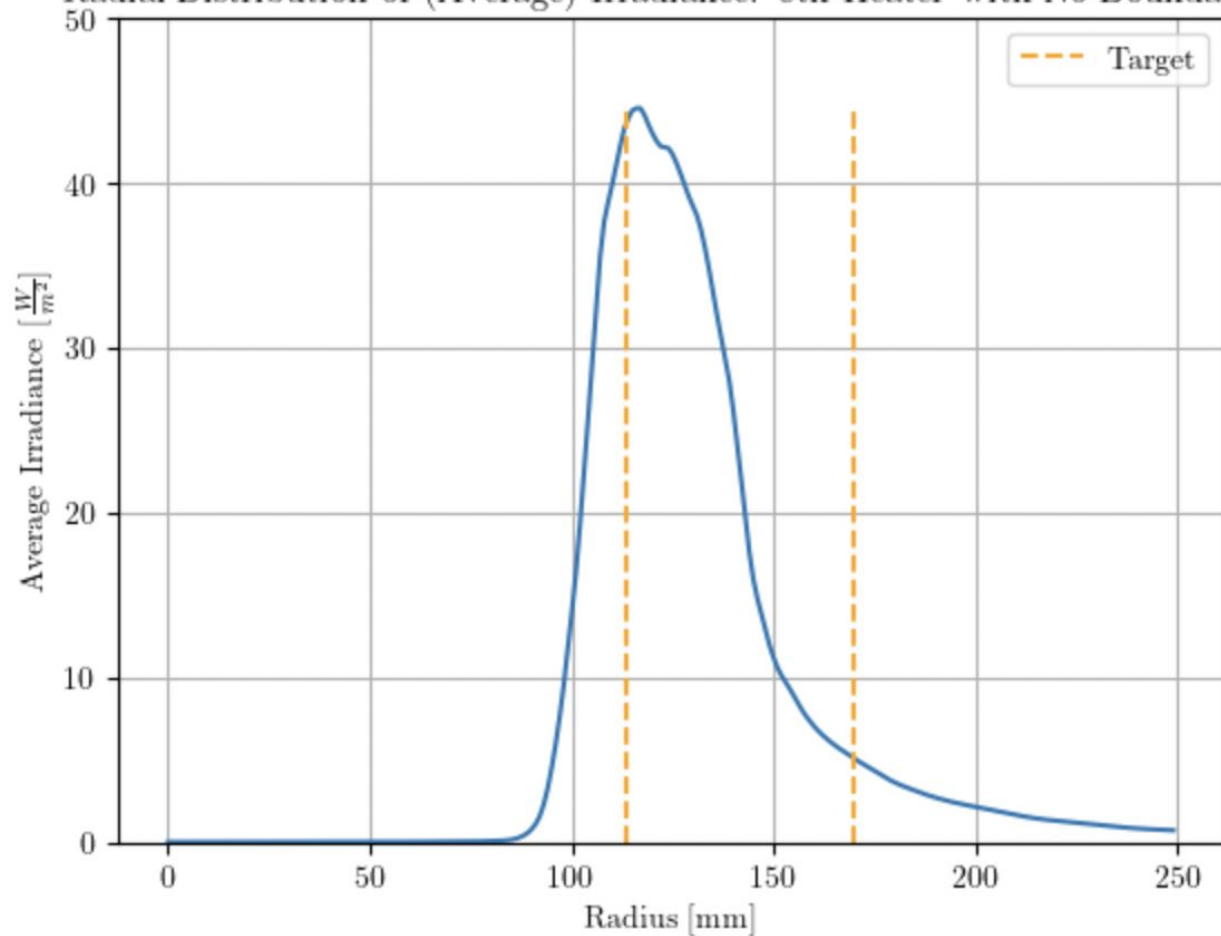
HOM RH Modification

Simulation Progress

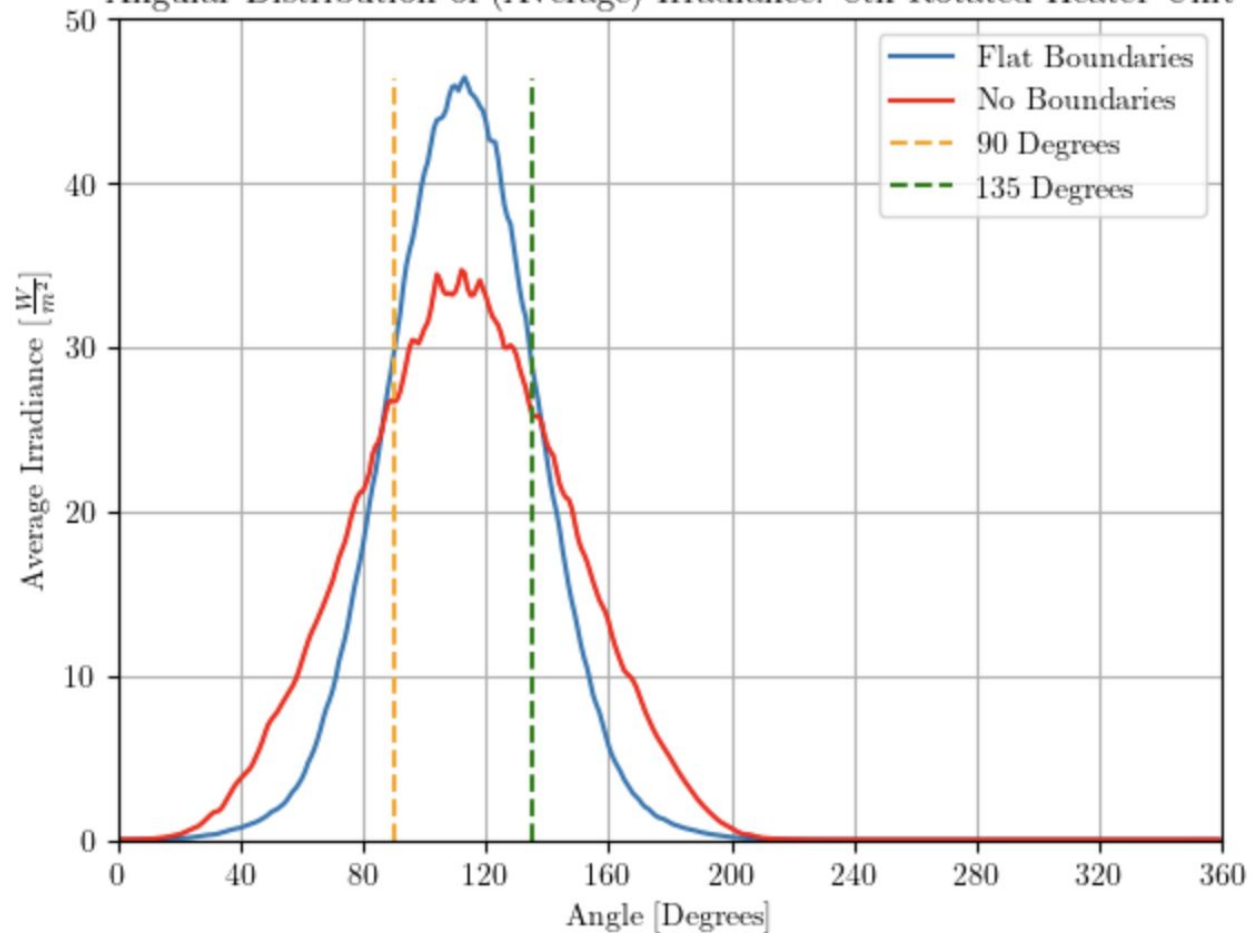
Angular Distribution of (Average) Irradiance: 8th Heater with No Boundaries



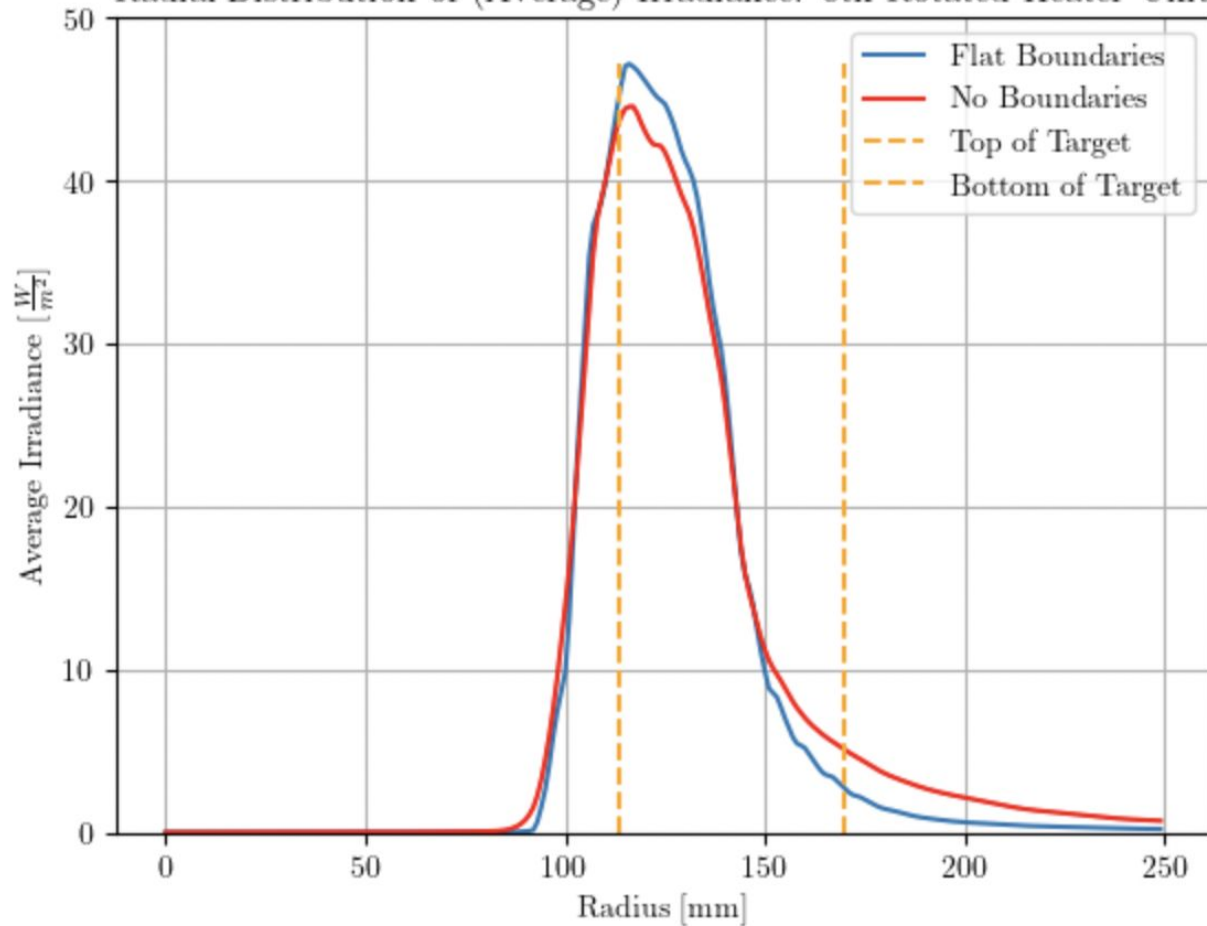
Radial Distribution of (Average) Irradiance: 8th Heater with No Boundaries



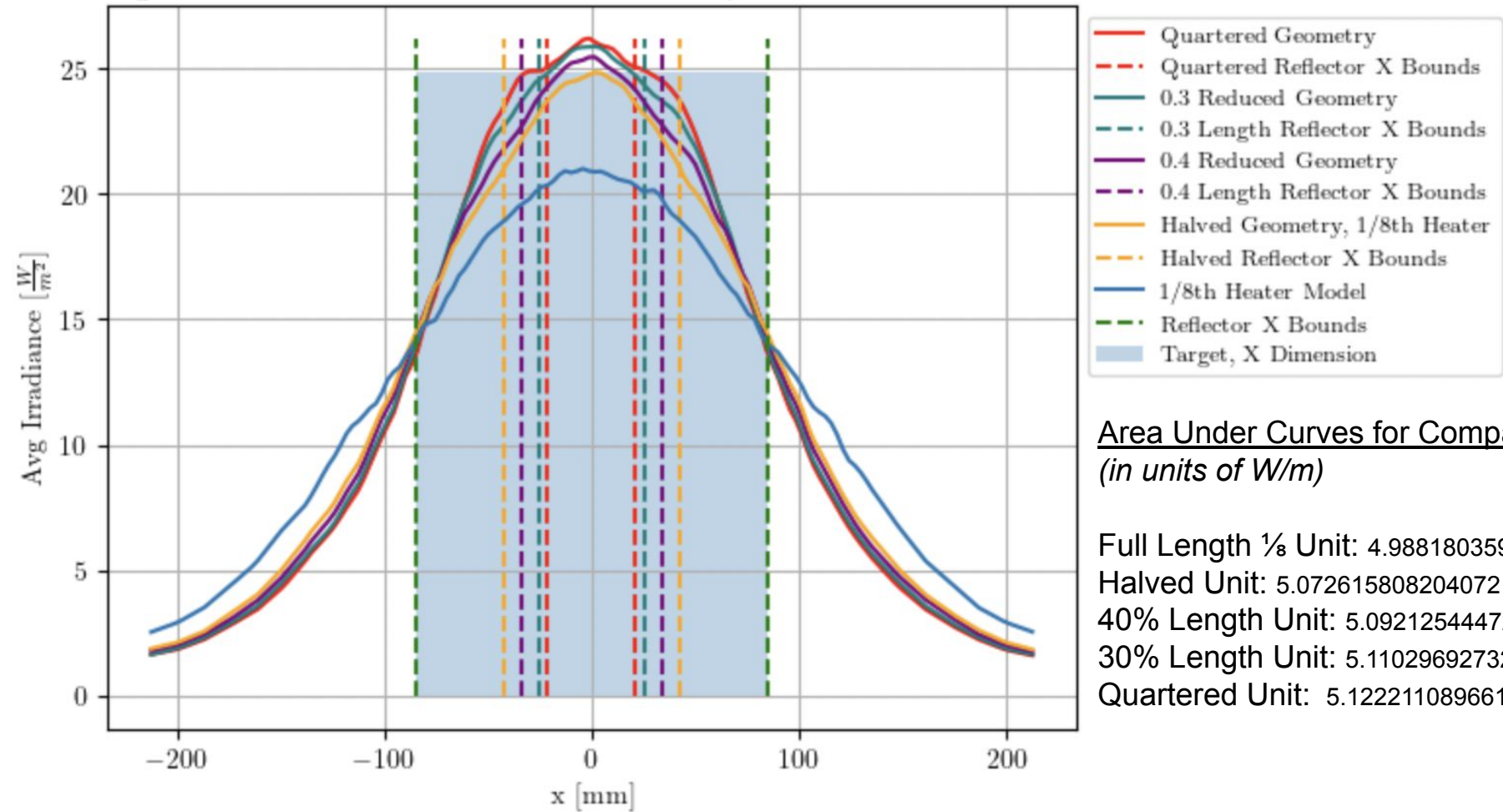
Angular Distribution of (Average) Irradiance: 8th Rotated Heater Unit



Radial Distribution of (Average) Irradiance: 8th Rotated Heater Unit



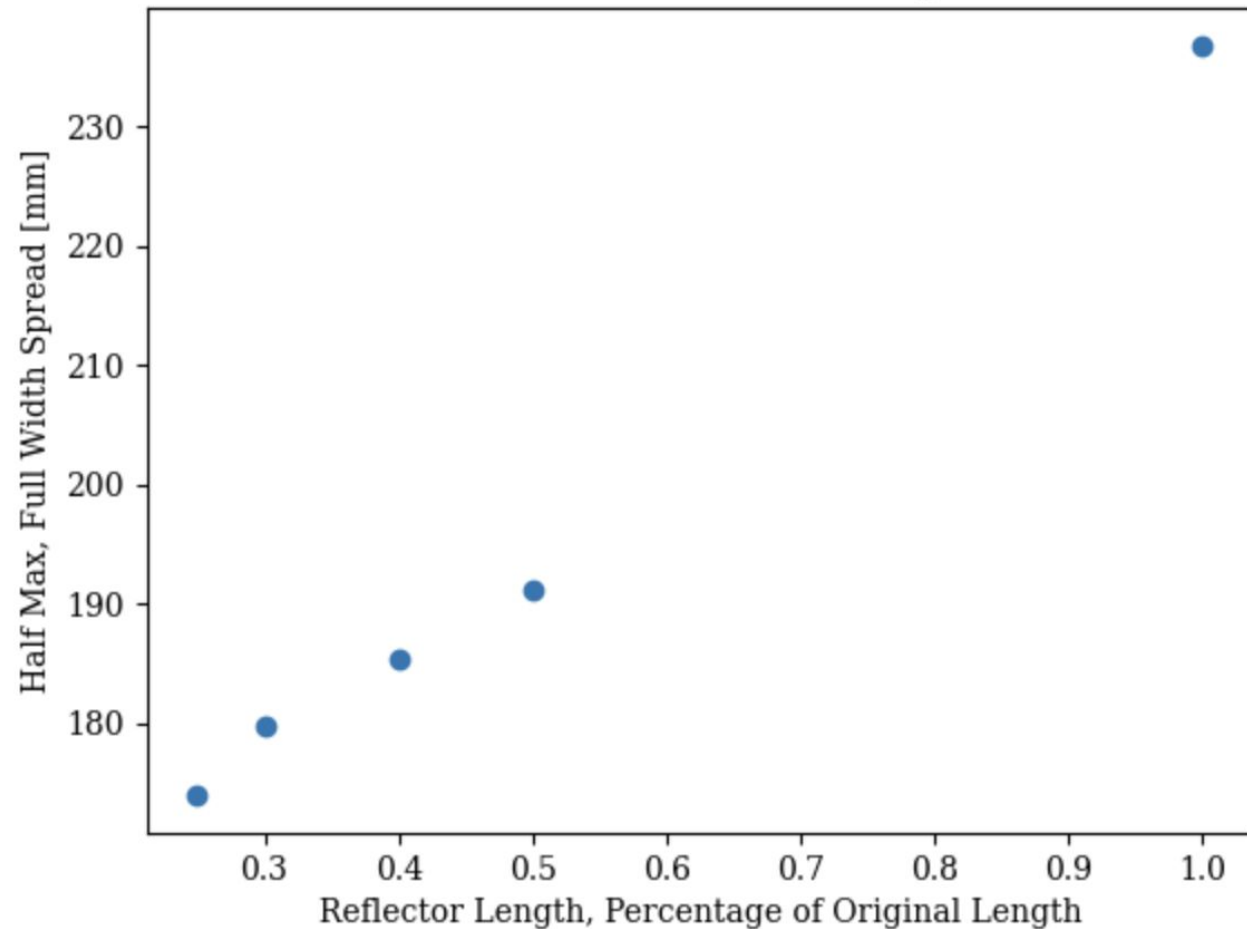
Average Horizontal Distribution of Irradiance: 1/8th Heater Extruded Model



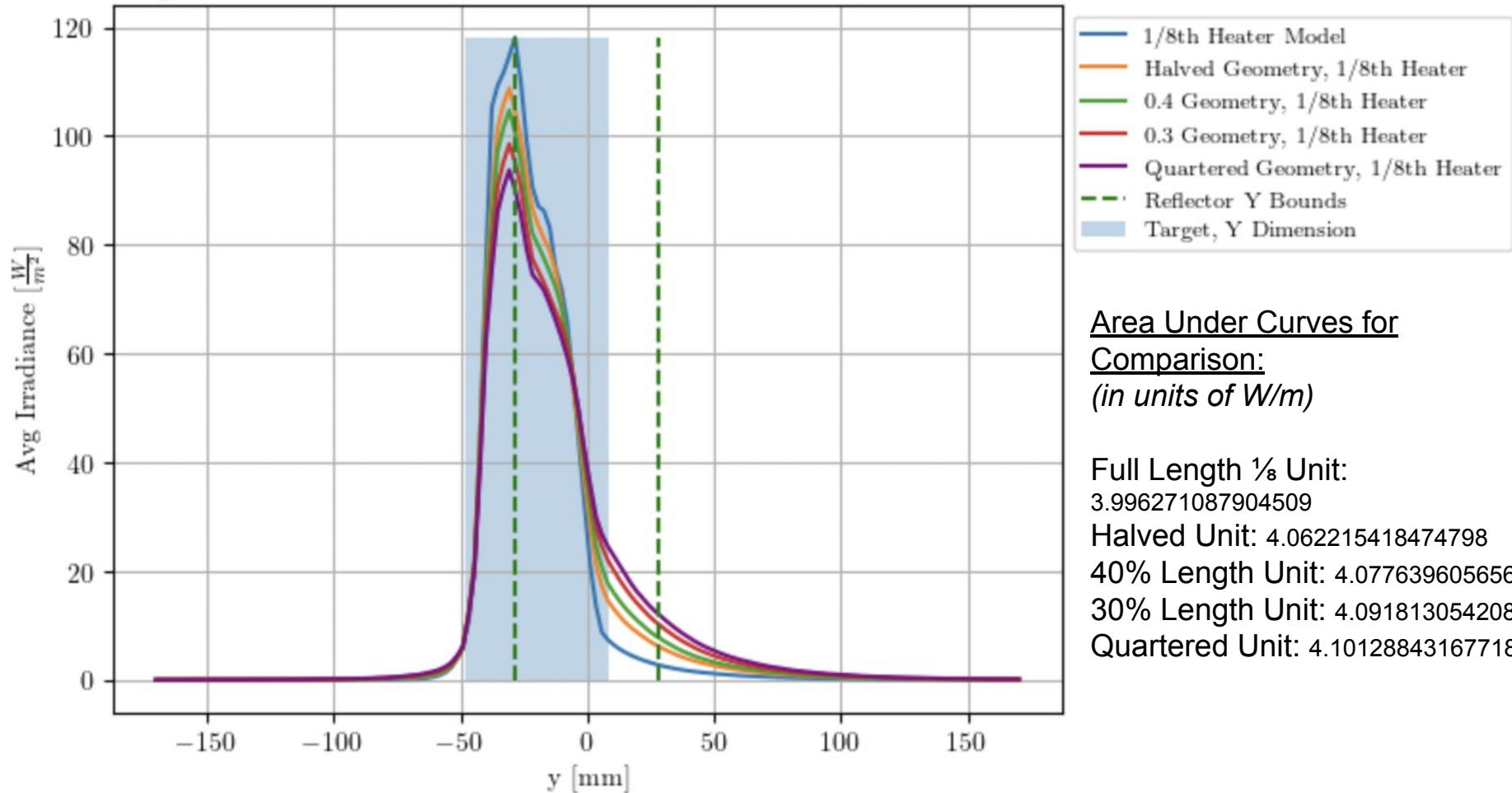
Area Under Curves for Comparison:
(in units of W/m)

Full Length $\frac{1}{8}$ Unit: 4.988180359828554
Halved Unit: 5.072615808204072
40% Length Unit: 5.092125444722964
30% Length Unit: 5.110296927327112
Quartered Unit: 5.122211089661336

Half Max, Full Width vs. Reflector Length: No Bounds



Average Vertical Distribution of Irradiance: 1/8th Heater Extruded Model



Area Under Curves for Comparison:
(in units of W/m)

Full Length $\frac{1}{8}$ Unit:

3.996271087904509

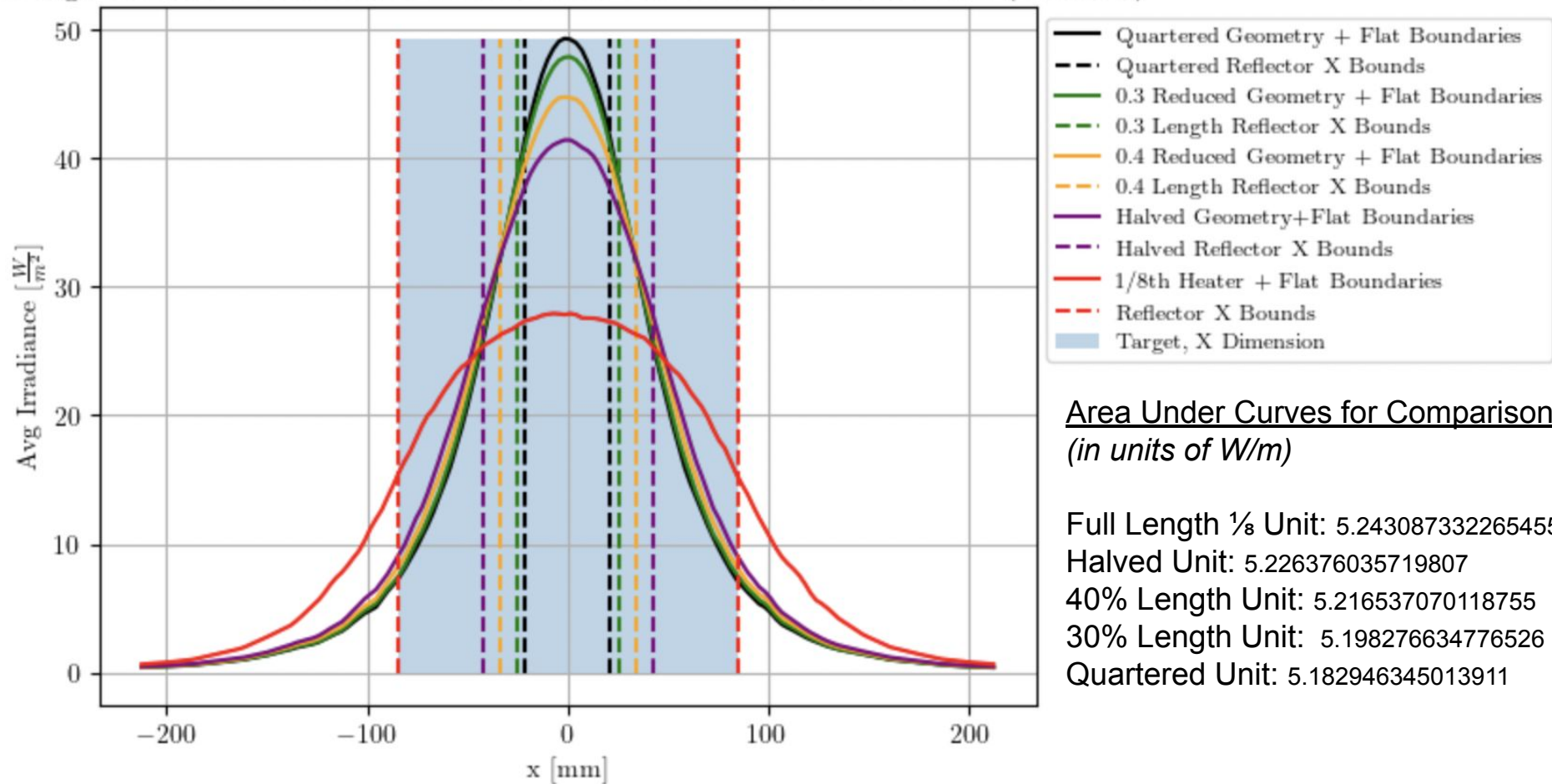
Halved Unit: 4.062215418474798

40% Length Unit: 4.077639605656323

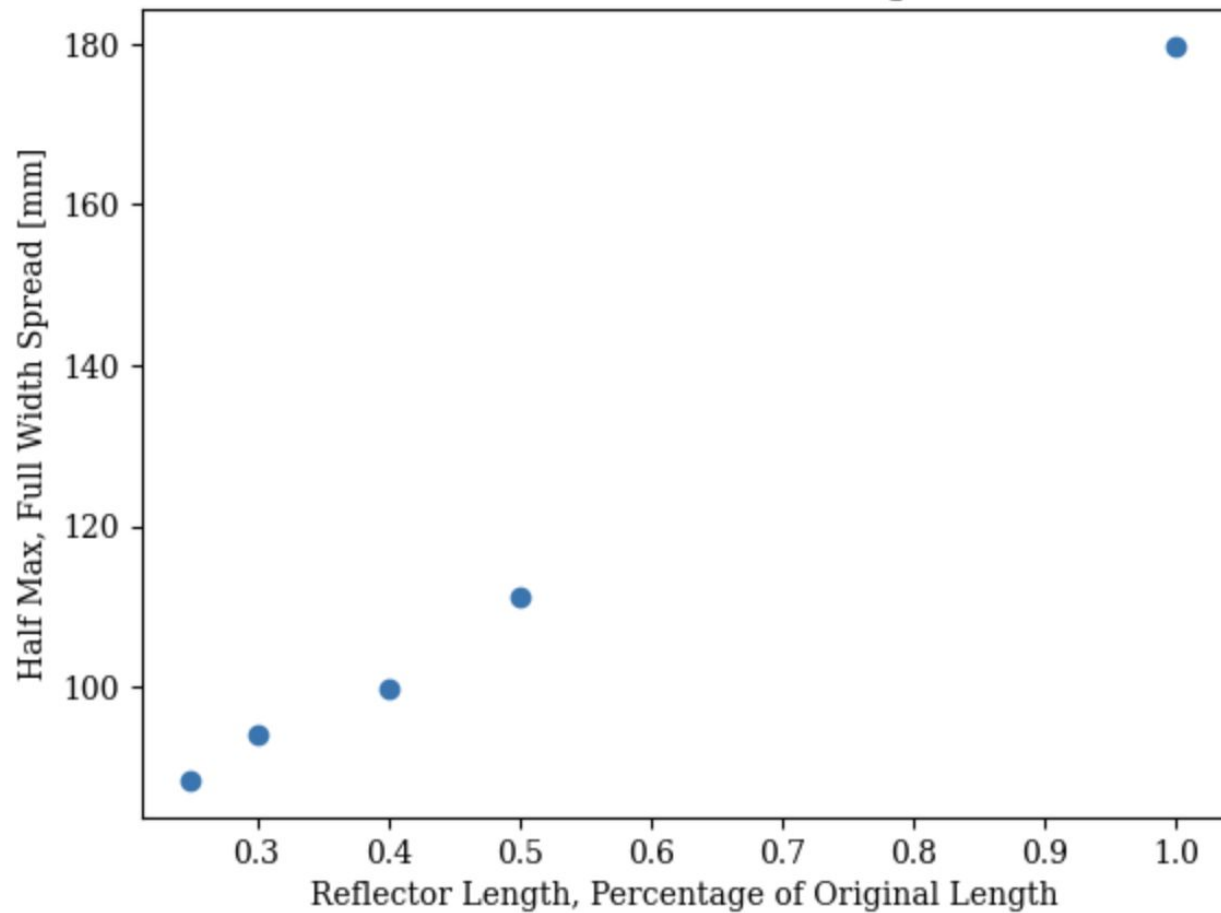
30% Length Unit: 4.091813054208512

Quartered Unit: 4.1012884316771805

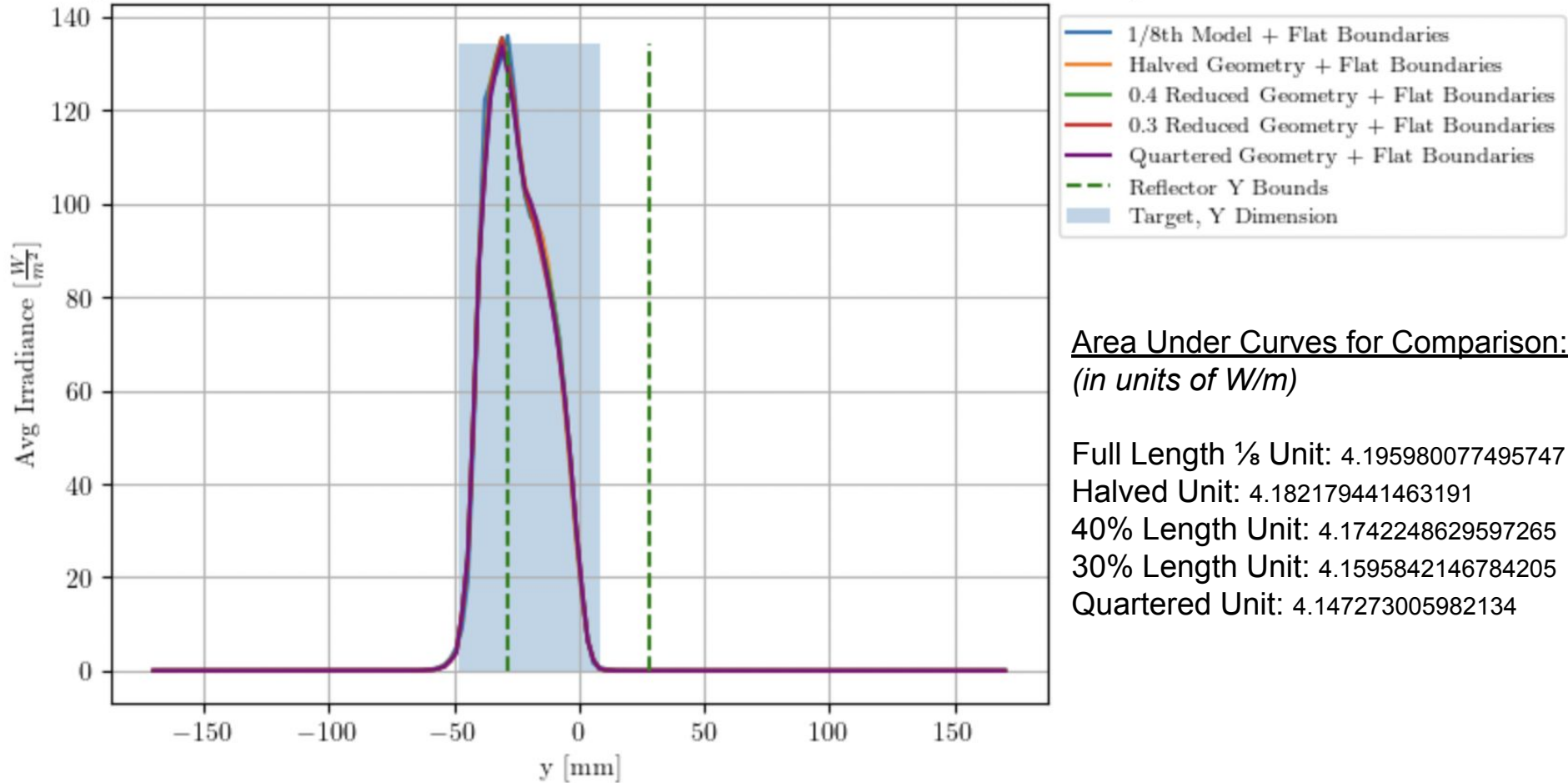
Average Horizontal Distribution of Irradiance: 8th Heater Extruded Model (Bounded)



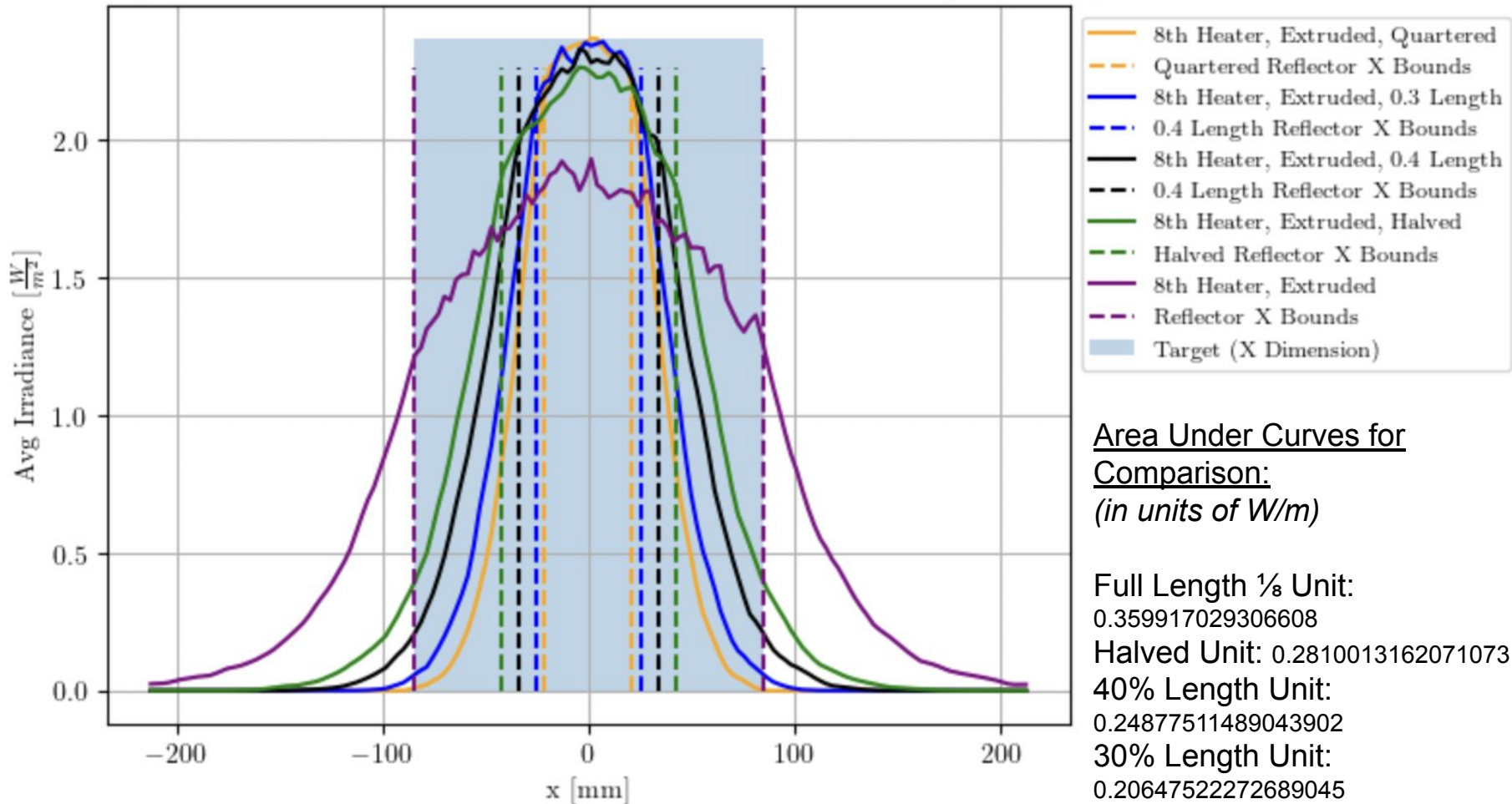
Half Max, Full Width vs. Reflector Length: Flat Bounds



Average Vertical Distribution of Irradiance: 8th Heater Extruded Model (Bounded)



Average Horizontal Distribution of Irradiance: Direct Bottom Aperture Rays



Area Under Curves for Comparison:
(in units of W/m)

Full Length $\frac{1}{8}$ Unit:

0.359917029306608

Halved Unit: 0.2810013162071073

40% Length Unit:

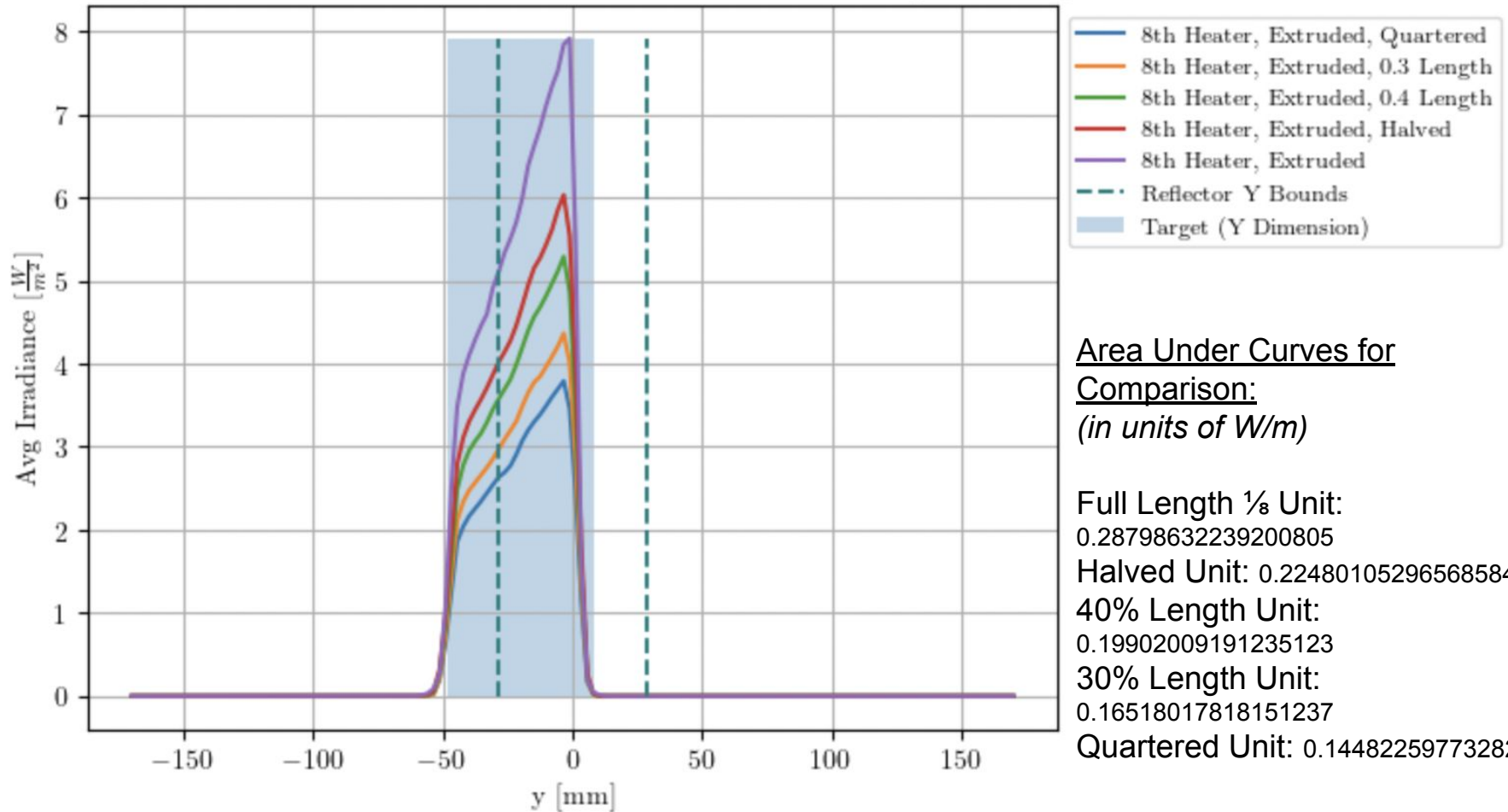
0.24877511489043902

30% Length Unit:

0.20647522272689045

Quartered Unit: 0.18102824716603522

Average Vertical Distribution of Irradiance: Direct Bottom Aperture Rays



Area Under Curves for Comparison:
(in units of W/m)

Full Length 1/8 Unit:

0.28798632239200805

Halved Unit: 0.22480105296568584

40% Length Unit:

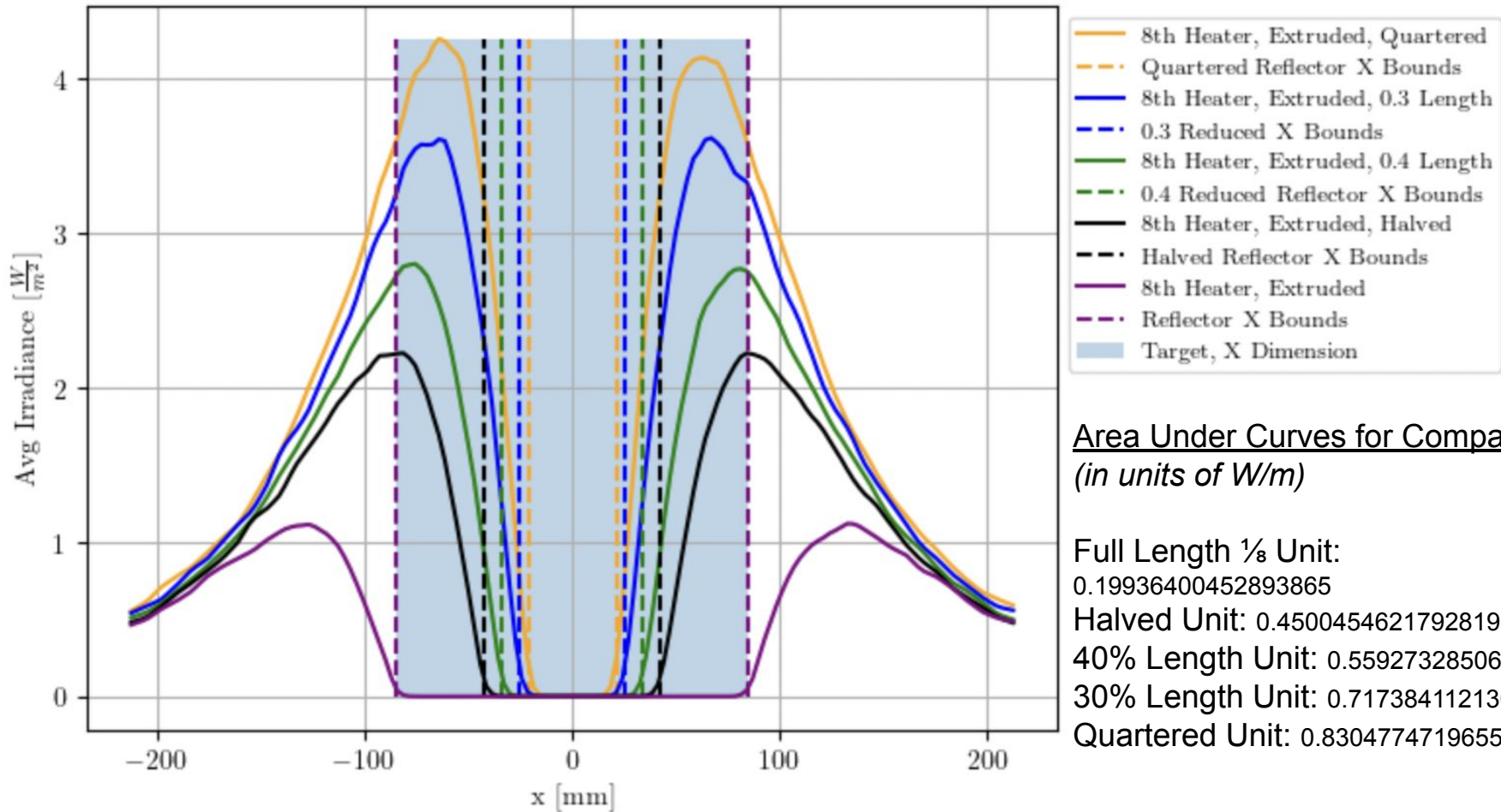
0.19902009191235123

30% Length Unit:

0.16518017818151237

Quartered Unit: 0.14482259773282818

Average Horizontal Distribution of Irradiance: Direct Edge Aperture Rays



Area Under Curves for Comparison:
(in units of W/m)

Full Length $\frac{1}{8}$ Unit:

0.19936400452893865

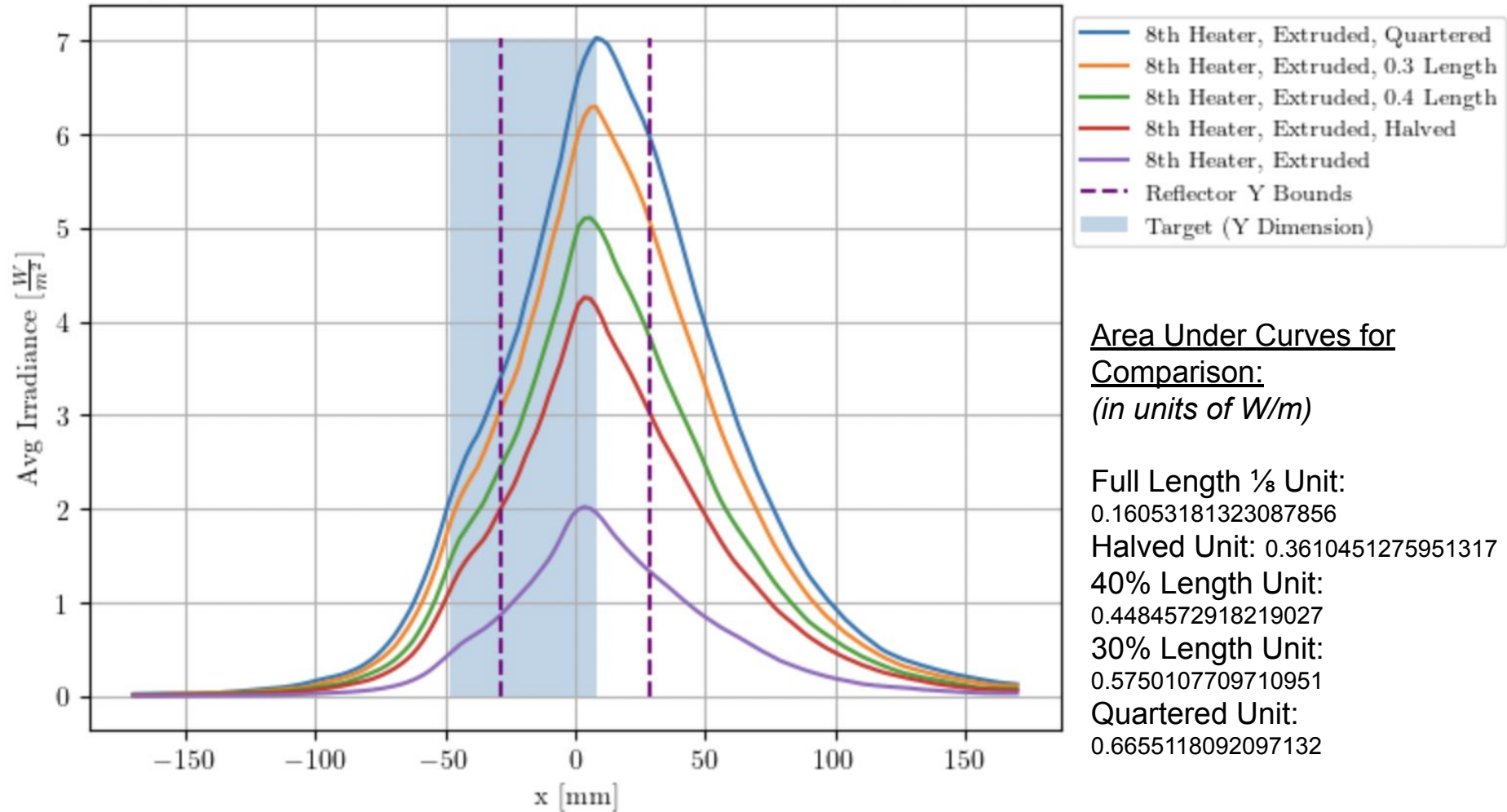
Halved Unit: 0.45004546217928193

40% Length Unit: 0.559273285065193

30% Length Unit: 0.7173841121300857

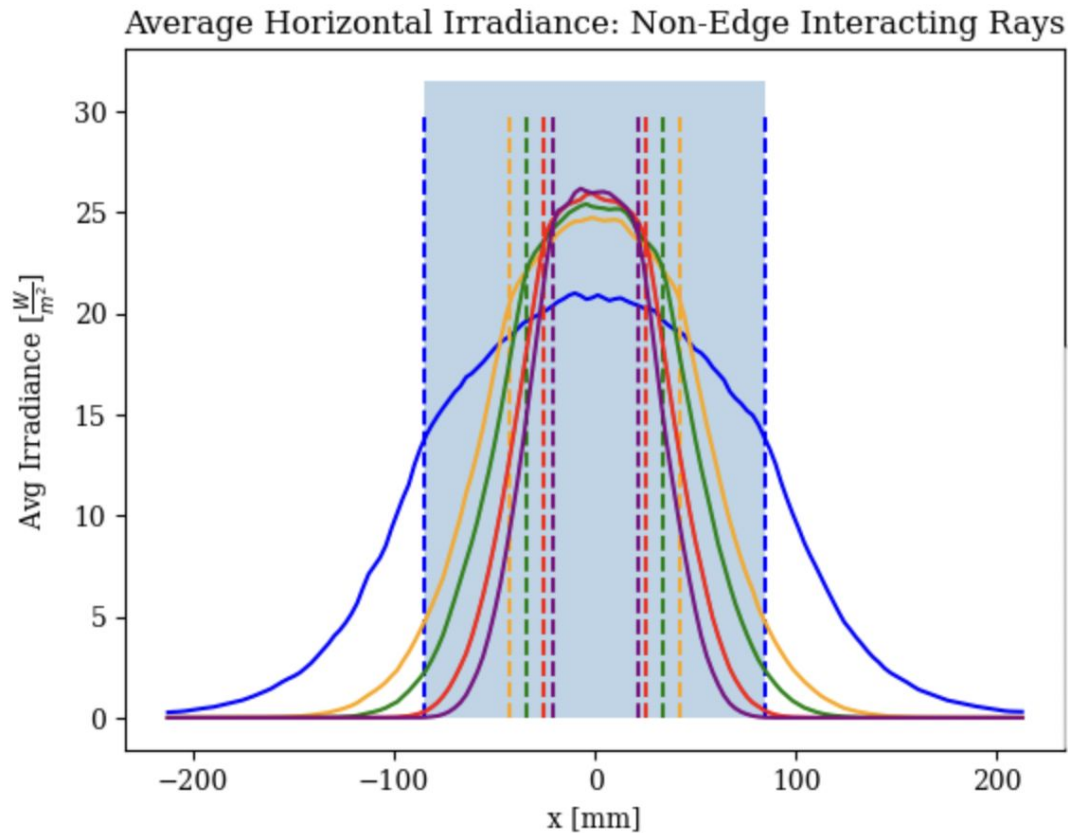
Quartered Unit: 0.8304774719655866

Average Vertical Distribution of Irradiance: Direct Edge Aperture Rays



Area Under Curves for Comparison:
(in units of W/m)

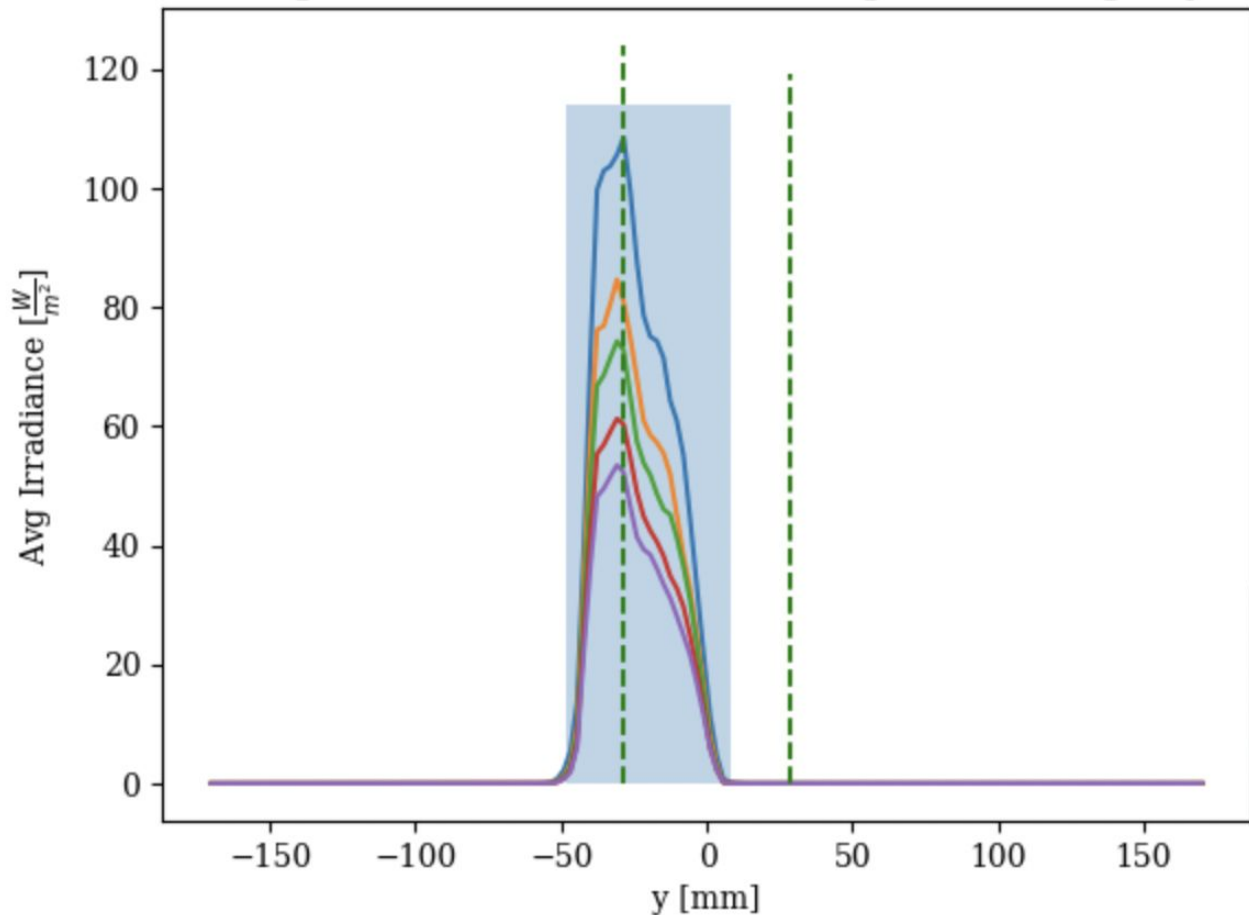
Full Length $\frac{1}{8}$ Unit:
0.16053181323087856
Halved Unit: 0.3610451275951317
40% Length Unit:
0.4484572918219027
30% Length Unit:
0.5750107709710951
Quartered Unit:
0.6655118092097132



- All radiation that does not interact with edges
- ◆ flat edge boundaries absorb rays
 - ◆ Elliptical surfaces are reflectors
 - ◆ Bottom aperture unblocked

- 8th Heater, 100% Length
- - - 8th Heater, 100% Length Reflector X Bounds
- 8th Heater, 50% Length
- - - 8th Heater, 50% Length Reflector X Bounds
- 8th Heater, 40% Length
- - - 8th Heater, 40% Length Reflector X Bounds
- 8th Heater, 30% Length
- - - 8th Heater, 30% Length Reflector X Bounds
- 8th Heater, 25% Length
- - - 8th Heater, 25% Length Reflector X Bounds

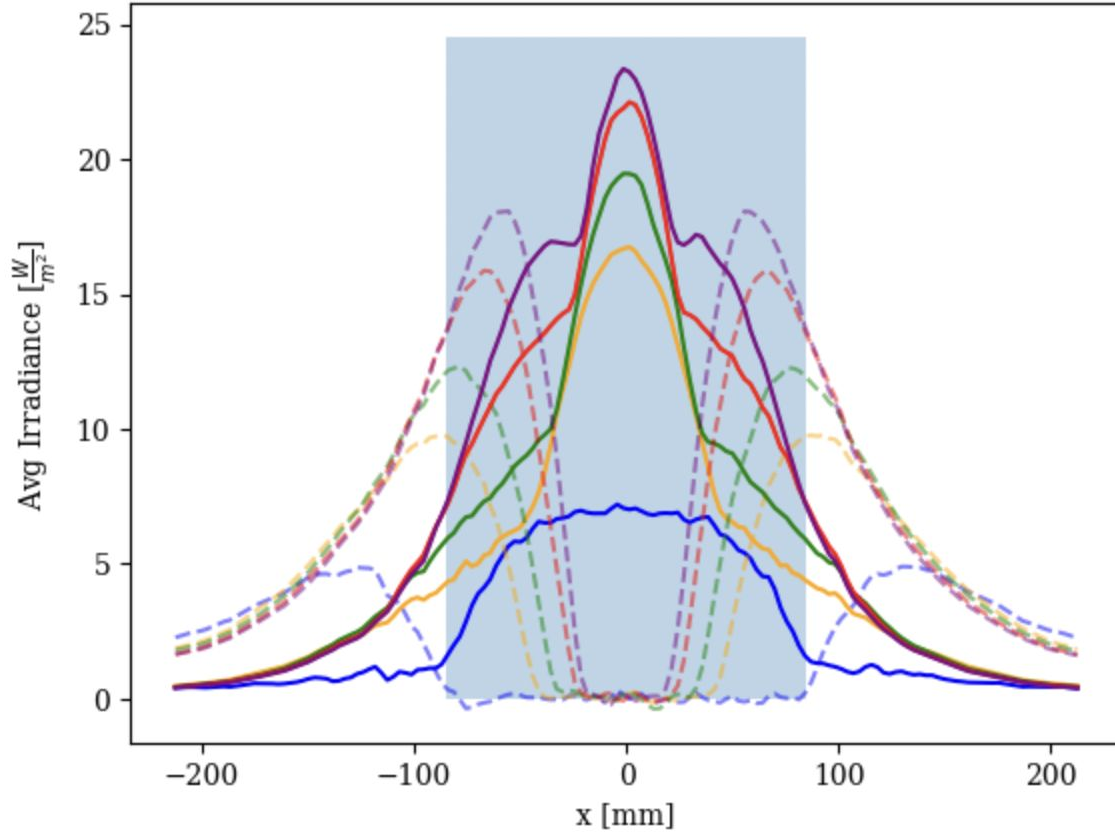
Average Vertical Irradiance: Non-Edge Interacting Rays



- All radiation that does not interact with edges
- ◆ flat edge boundaries absorb rays
 - ◆ Elliptical surfaces are reflectors
 - ◆ Bottom aperture unblocked

- 8th Heater, 100% Length
- 8th Heater, 50% Length
- 8th Heater, 40% Length
- 8th Heater, 30% Length
- 8th Heater, 25% Length

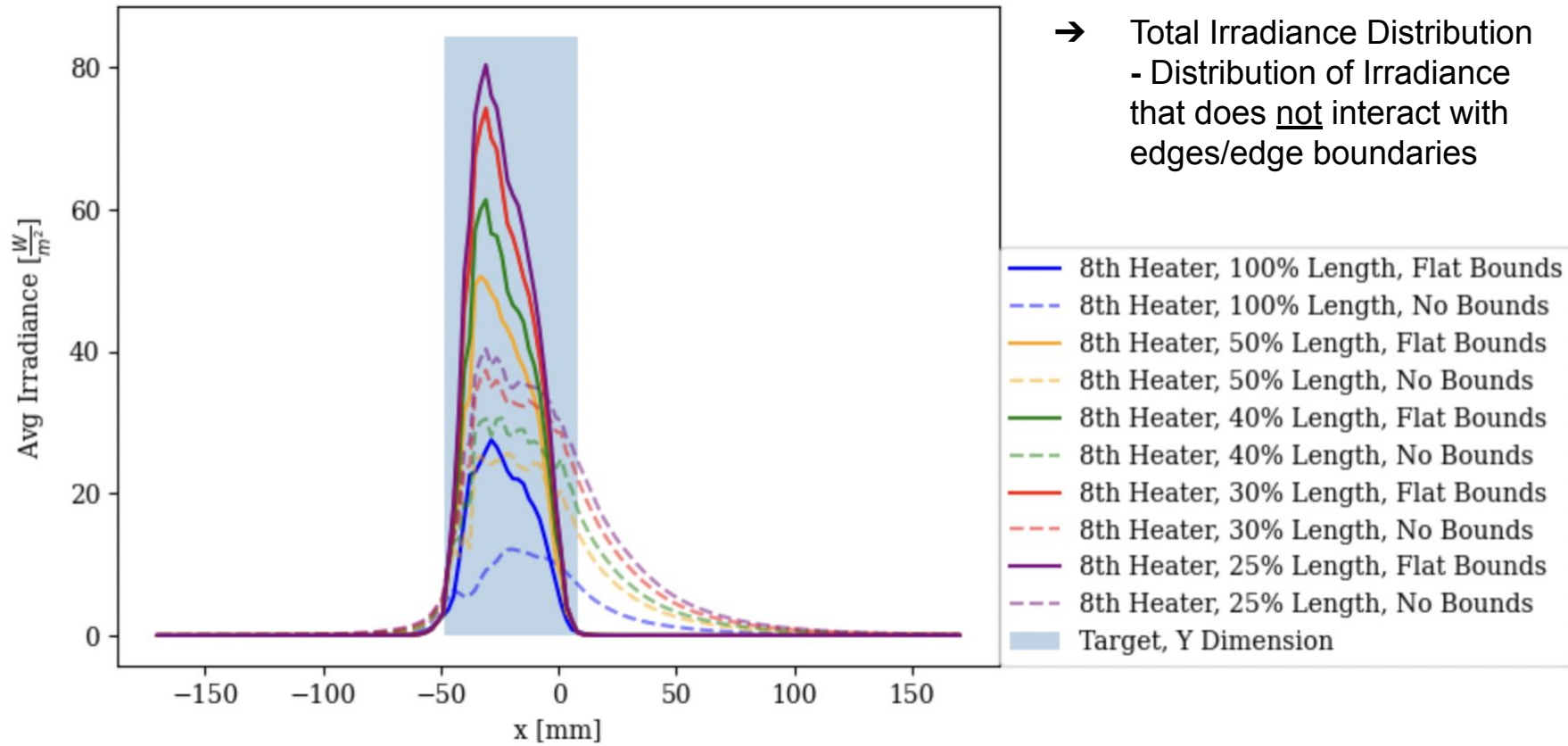
Average Horizontal Irradiance Distribution: Edge Radiation



→ Total Irradiance Distribution
- Distribution of Irradiance
that does not interact with
edges/edge boundaries

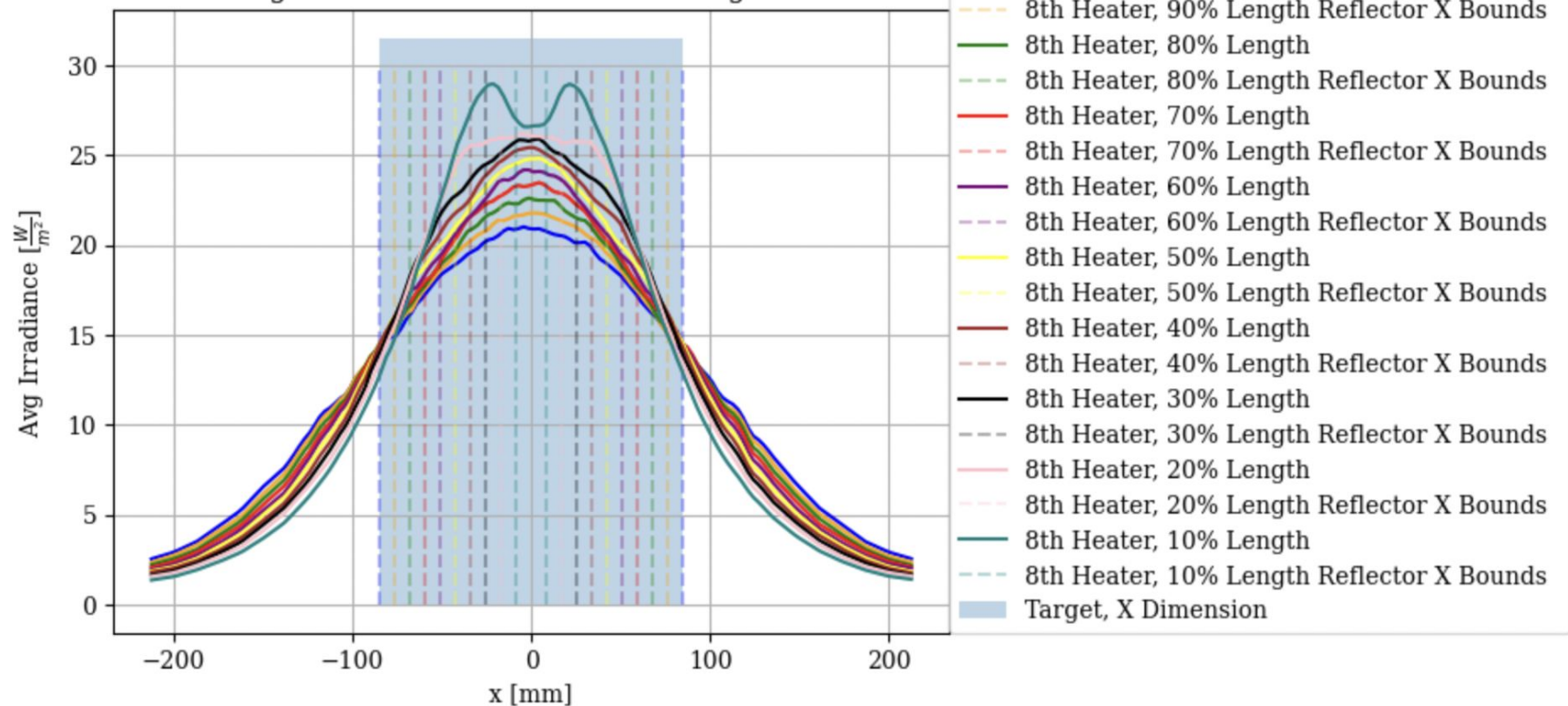
- 8th Heater, 100% Length, Flat Bounds
- 8th Heater, 100% Length, No Bounds
- 8th Heater, 50% Length, Flat Bounds
- 8th Heater, 50% Length, No Bounds
- 8th Heater, 40% Length, Flat Bounds
- 8th Heater, 40% Length, No Bounds
- 8th Heater, 30% Length, Flat Bounds
- 8th Heater, 30% Length, No Bounds
- 8th Heater, 25% Length, Flat Bounds
- 8th Heater, 25% Length, No Bounds
- Target, X Dimension

Average Vertical Irradiance Distribution: Edge Radiation

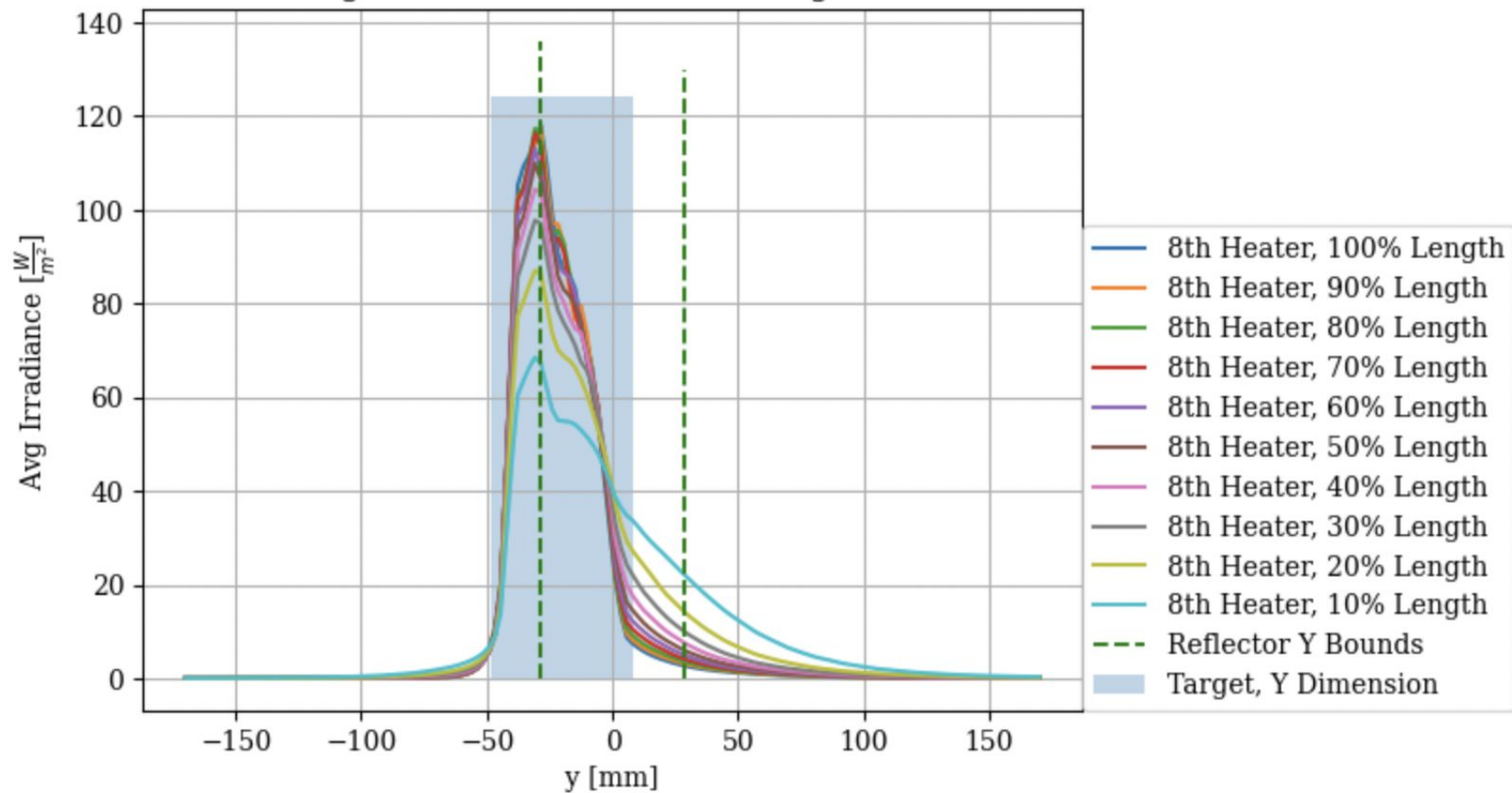


**Parameter Sweep
(0.1 Original Length-100% Original Length)**

Average Horizontal Irradiance: No Edge Bounds

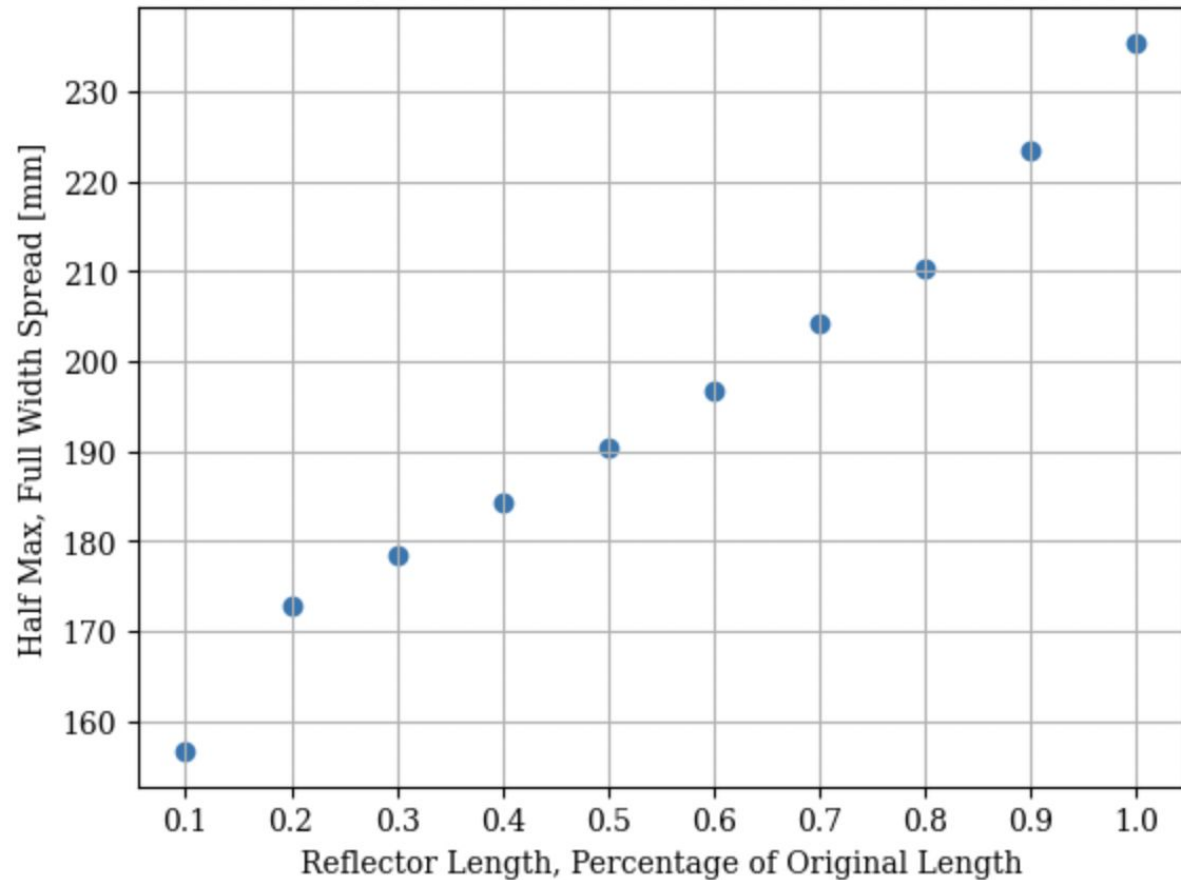


Average Vertical Irradiance: No Edge Bounds

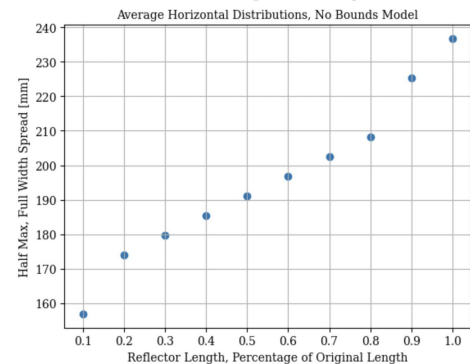


Half Max, Full Width vs. Reflector Length: Interpolated Irradiance Distrib.

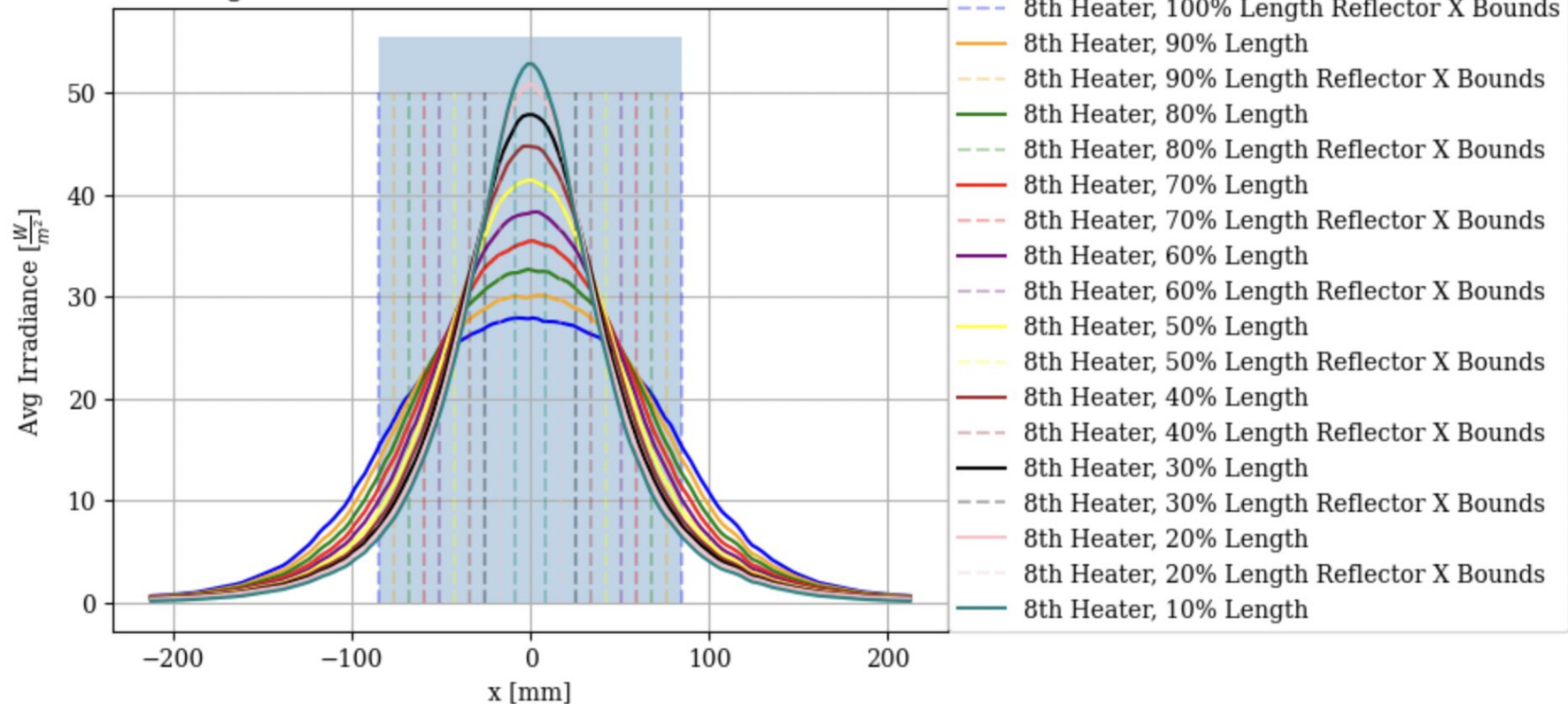
Average Horizontal Distributions, No Bounds Model



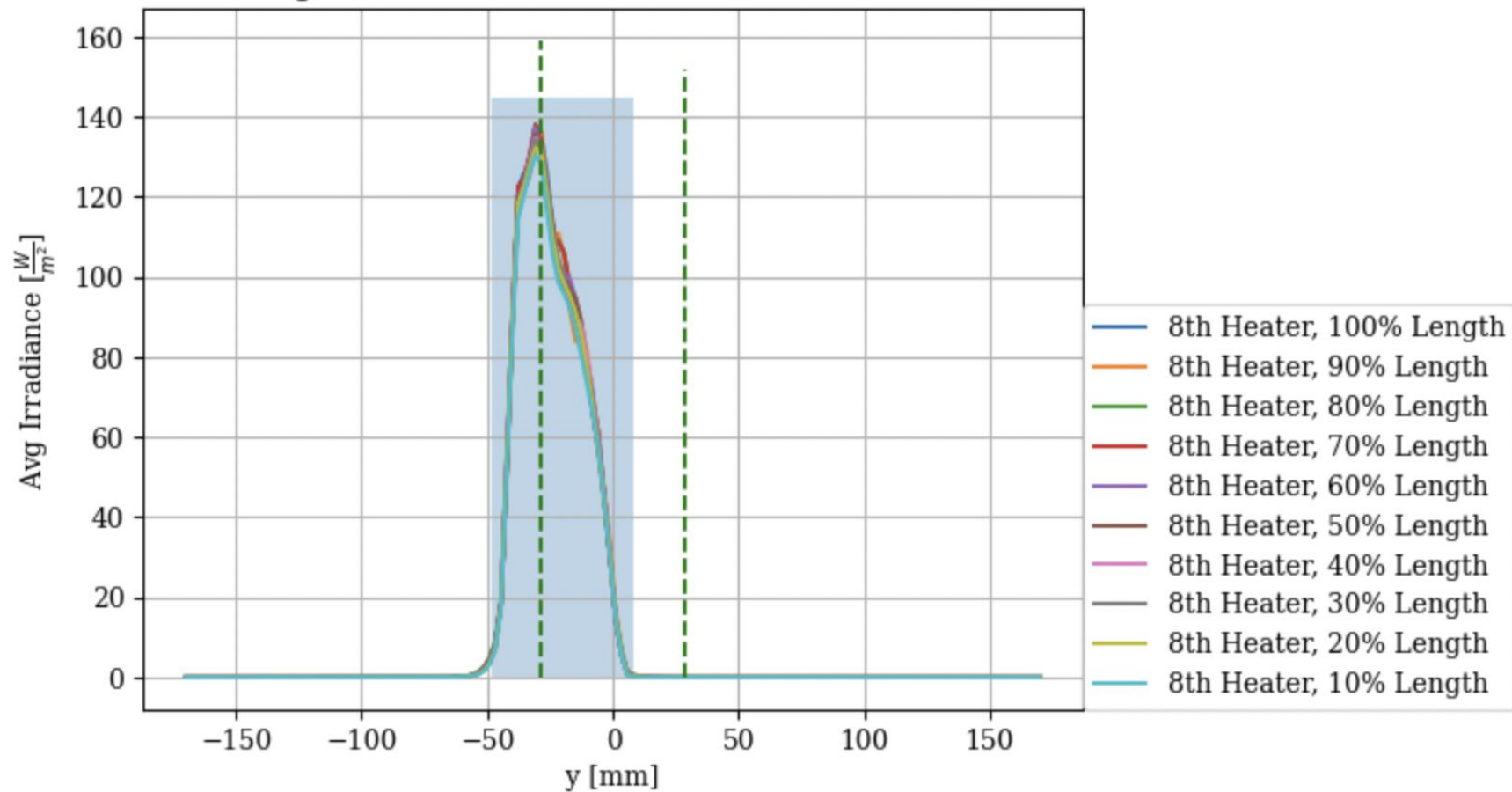
Half Max, Full Width vs. Reflector Length: Non-Interpolated Irradiance Distrib.



Average Horizontal Irradiance: Flat Reflective Bounds

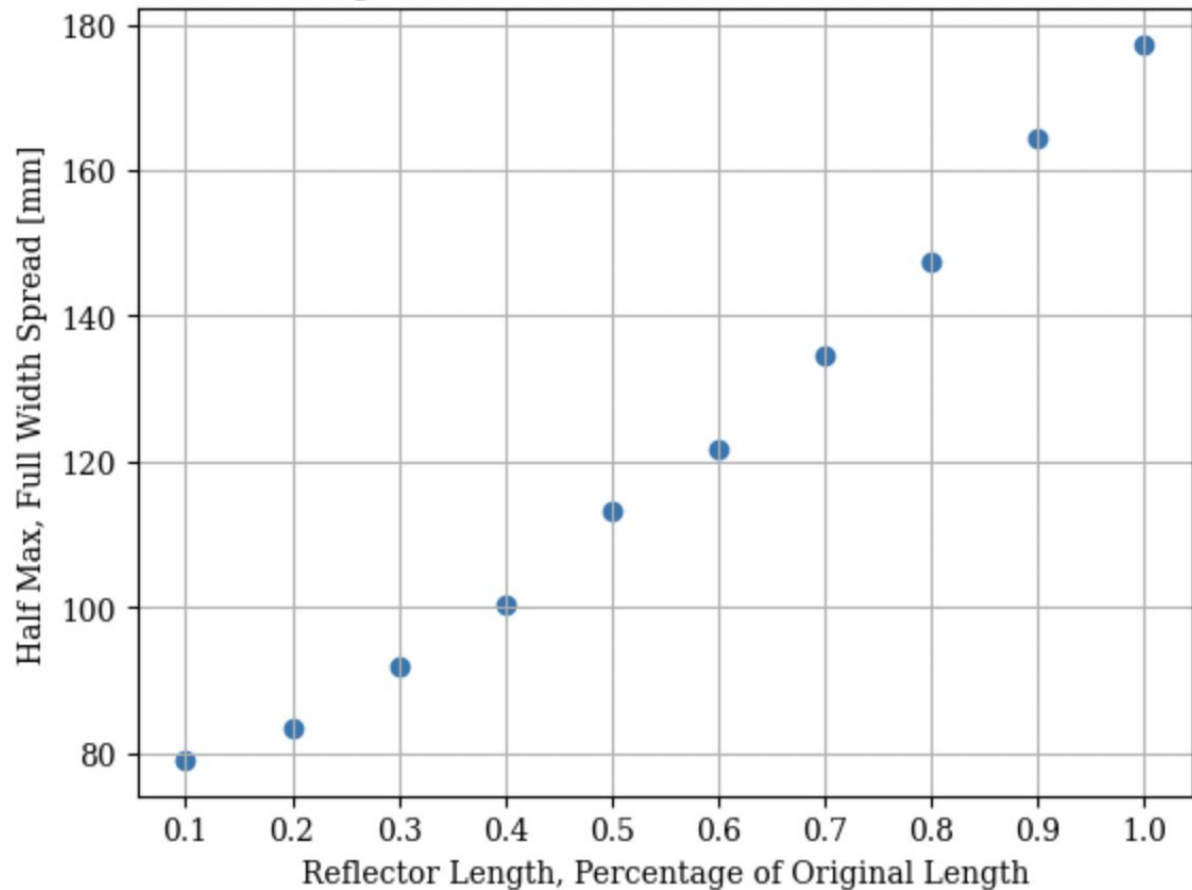


Average Vertical Irradiance: Flat Reflective Bounds



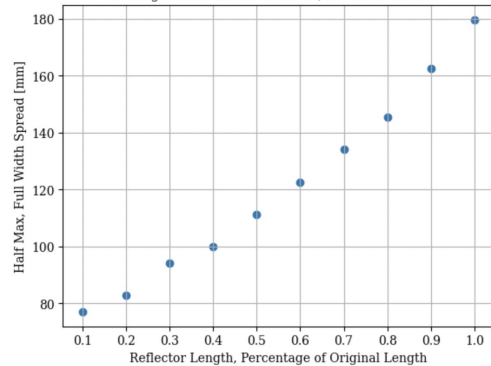
Half Max, Full Width vs. Reflector Length: Interpolated Irradiance Distrib.

Average Horizontal Distributions, Flat Bounds Model

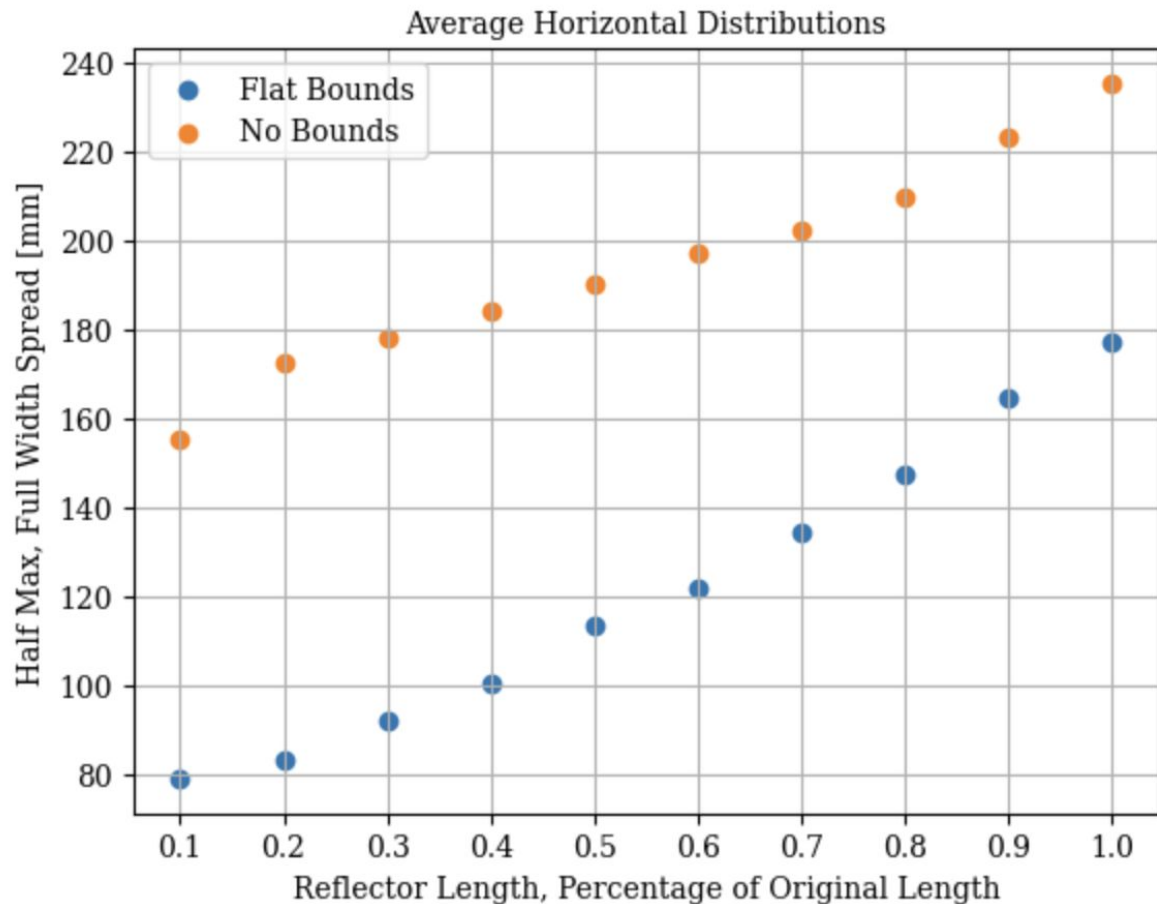


Half Max, Full Width vs. Reflector Length: Non-Interpolated Irradiance Distrib.

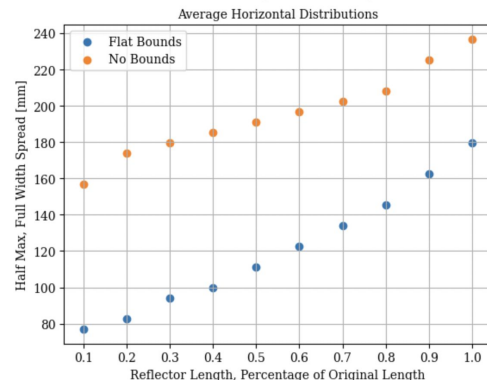
Average Horizontal Distributions, Flat Bounds Model



Half Max, Full Width vs. Reflector Length: Interpolated Irradiance Distrib.

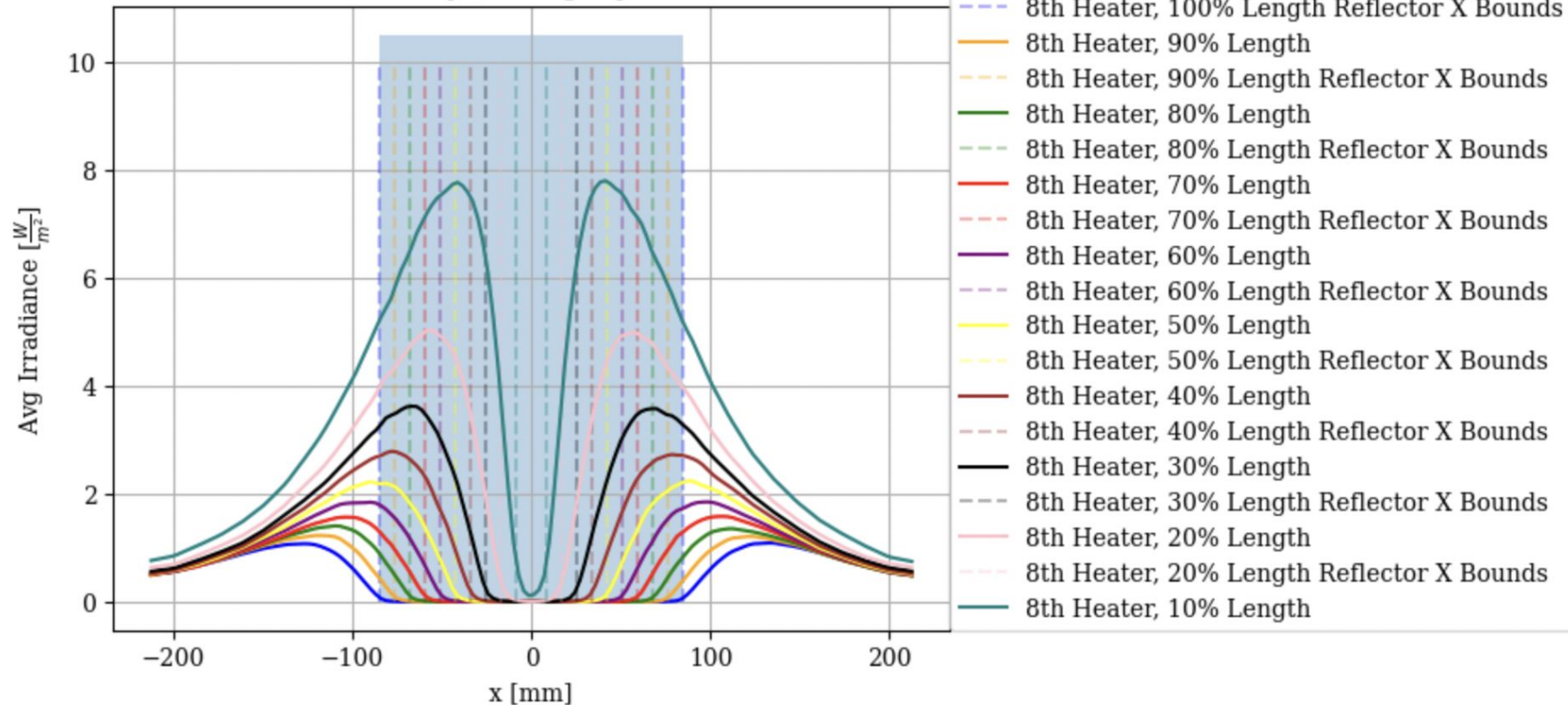


Half Max, Full Width vs. Reflector Length: Non-Interpolated Irradiance Distrib.



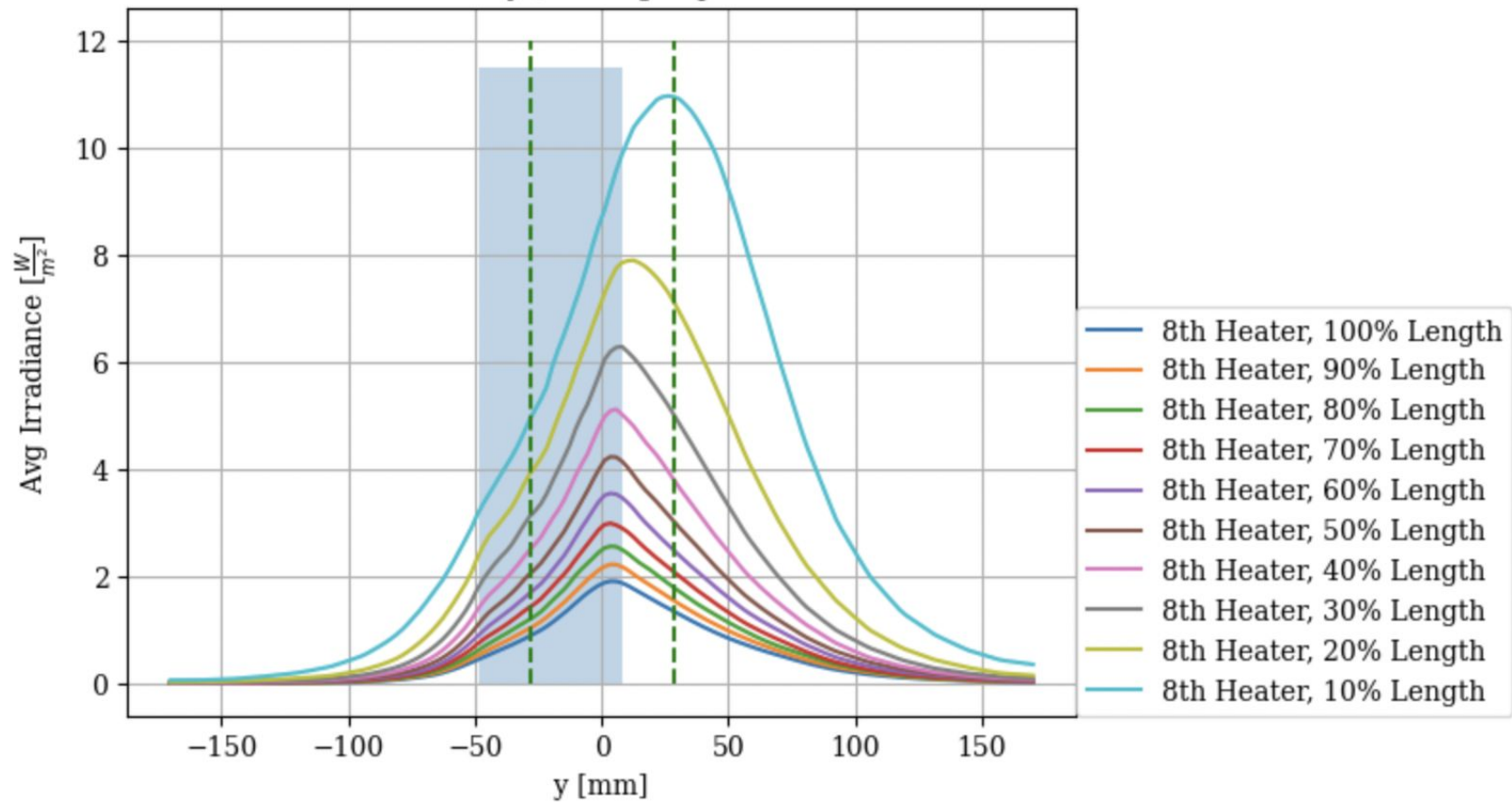
Average Horizontal Irradiance

Skew Rays, via Edge Apertures



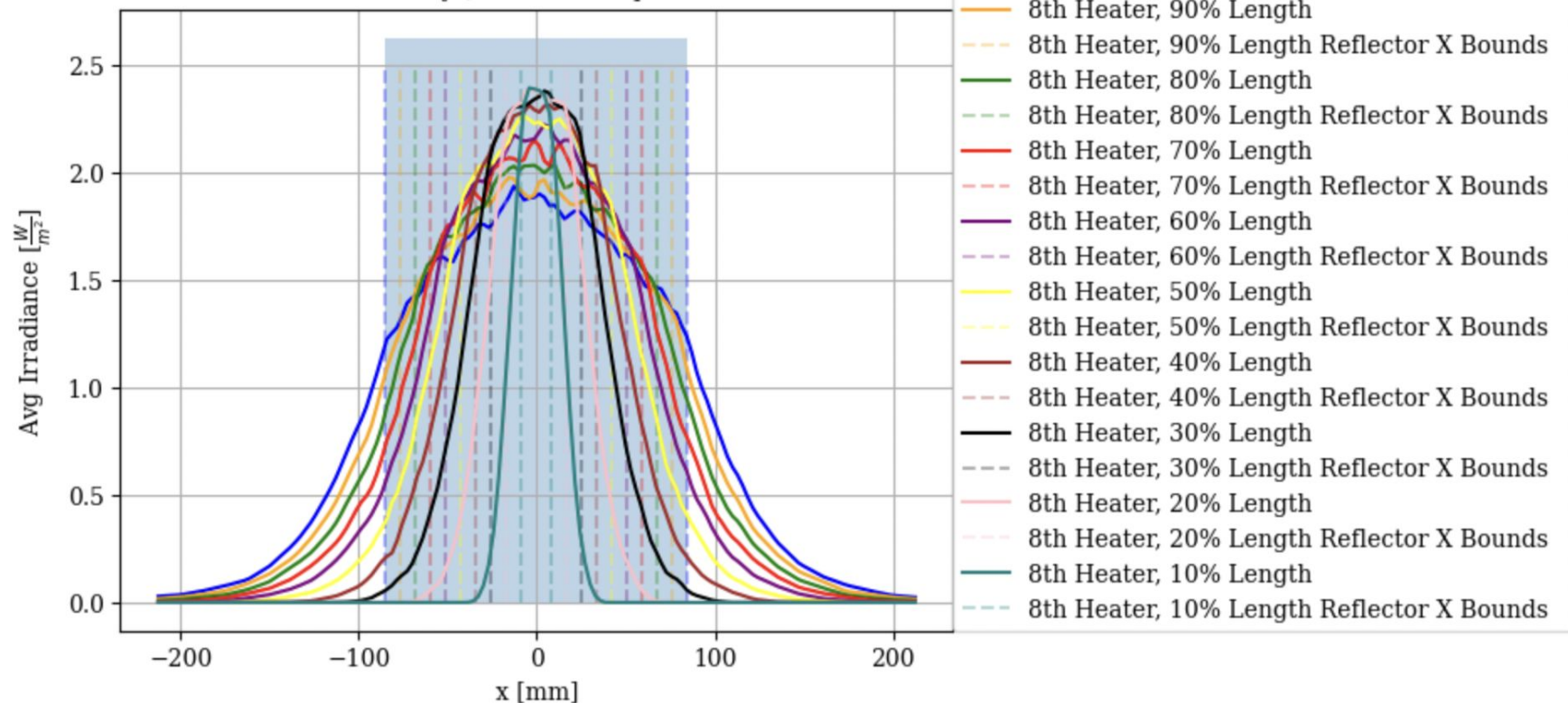
Average Vertical Irradiance

Skew Rays, via Edge Apertures

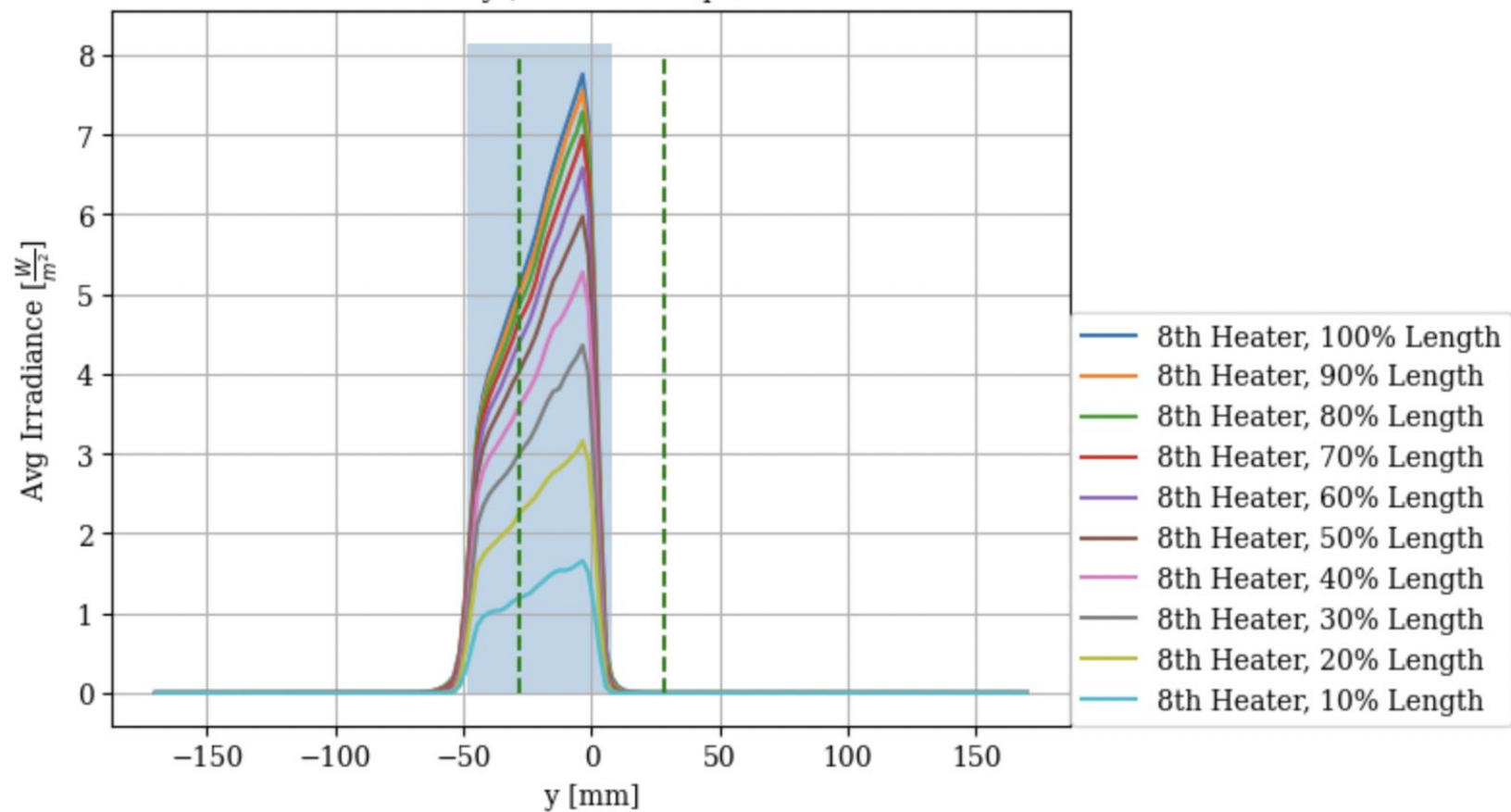


No FWHM Plot for Skew Rays/Edge Apertures currently-working on rewriting associated code for FWHM due to double peaks/non-symmetric distribution.

Average Horizontal Irradiance
Skew Rays, via Bottom Apertures

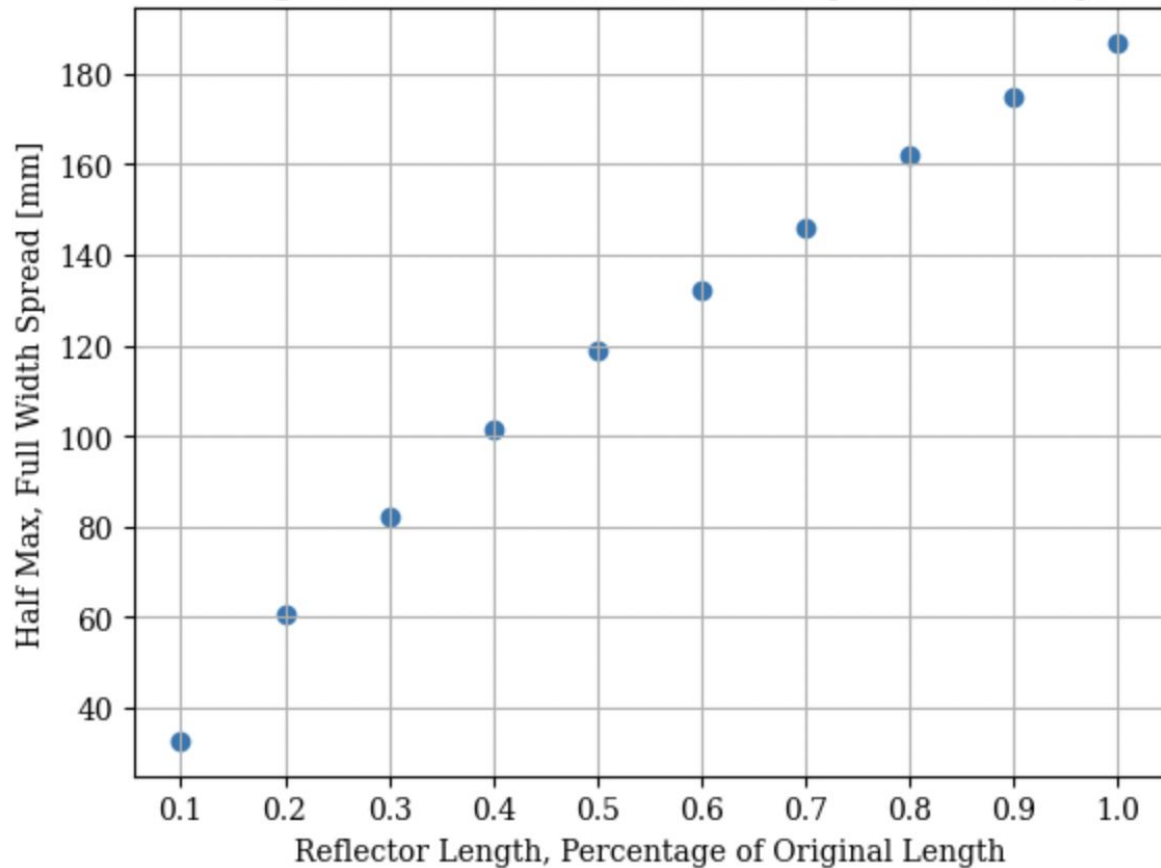


Average Vertical Irradiance
Skew Rays, via Bottom Apertures



Half Max, Full Width vs. Reflector Length: Interpolated Irradiance Distrib.

Average Horizontal Distributions, Bottom Aperture Skew Rays



Half Max, Full Width vs. Reflector Length: Non-Interpolated Irradiance Distrib.

Average Horizontal Distributions, Bottom Aperture Skew Rays

