



## 1. PROJECT DATA

<b><u>Project:</u></b>	Fall Protection Test American Skylites Series Fall Protection Skylite
<b><u>Date of Testing:</u></b>	September 6, 2000
<b><u>Tested For:</u></b>	American Skylites 7451 Dogwood Park Fort Worth, TX 76118

<b><u>Witnessed By:</u></b>	(All or Partial Viewing)
David Thornton	American Skylites
Wesley A. Wilson	Construction Consulting Laboratory, <i>International</i>
Jeffrey W. Crump	Construction Consulting Laboratory, <i>International</i>



## 2. INTRODUCTION

This report presents the results of Fall Impact Tests conducted on September 6, 2000 at Construction Consulting Laboratory, *International* (CCLI). Testing was conducted for American Skylites on their Series Fall Protection Skylight.

## 3. SCOPE

CCLI was requested to perform fall impact tests on an American Skylites Series Fall Protection Skylight. Testing was performed in accordance with manufacturers requirement as follows, 200 lb load dropped into mid-span of dome will cause no glazing disengagement or breakage of glazing material at a minimal force of 775 ft/lbs. Further, the 200 lb load will be dropped from incremental heights until failure is achieved.


## 4. SUMMARY

American Skylites Series Fall Protection Skylight complied with manufactured specified concentrated load fall impact test with no glazing breakage or disengagement from frame members with a minimal impact force of 775 ft/lbs and a maximum impact force of 1200 ft/lbs. At an impact force of 1400 ft/lbs the aluminum-retaining angle had a corner weld failure. However, glazing material was not damaged and no disengagement from frame glazing leg was noted. Testing was discontinued after the 1400 ft/lb impact load.

## 5. TEST SPECIMEN

**PRODUCT TYPE:** Aluminum Thermally Broken Skylight, **Photograph 1, Appendix B, Product Drawings Appendix A**  
**SERIES/MODEL:** American Skylites Series Fall Protection Skylight  
**FRAME SIZE:** 4'-2 <sup>5</sup>/<sub>16</sub>" x 8'-4 <sup>5</sup>/<sub>16</sub>"  
**CONFIGURATION:** O

Refer to Mock-Up drawings in **Appendix A**, this report is not complete unless the laboratory symbol is stamped onto drawings.

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**Weather-stripping:** None.

**Hardware:** None.

**Glazing Material:** Interior and exterior 0.125" Clear Poly Carbonate Dome.

**Glazing:** Domes are exterior glazed, Interior dome sealed to aluminum frame with sealant tape full perimeter, exterior dome sealed to interior dome with sealant tape full perimeter. Aluminum retaining angle sealed to exterior dome with structural silicone. Aluminum retaining angle attached to frame with  $\frac{5}{16}$ " x  $\frac{3}{8}$ " screws 6" from each end and on 12" centers, **Fall Protection Skylight Section Detail, Appendix A.**

**Installation:** Skylight frame was installed to a 2" x 8" curb with  $\frac{5}{16}$ " x 1" wood screws, approximately 2" & 7" from each end and on 24" centers on length dimensions and 7" from each end and mid-span on width dimensions.

**Other Features:** Aluminum frame is thermally broken. Aluminum retaining angle and frame member corners are mitered and welded.

**Date testing started:** September 6, 2000

**Date testing completed:** September 6, 2000

**Testing performed at:** Construction Consulting Laboratory, *International*

## 6. PERFORMANCE RESULTS

### 6.1. Fall Impact Load Test

Load	Drop Height	FT/LBS	Measured	Photograph
200 lbs	1 Foot	200	No Damage	None
200 lbs	2 Feet	400	No Damage	None
200 lbs	3 Feet	600	No Damage	None
200 lbs	3.875 Feet	775	No damage	2
200 lbs	4 Feet	800	No Damage	None
200 lbs	5 Feet	1000	No Damage	3
200 lbs	6 Feet	1200	No Damage	None
200 lbs	7 Feet	1400	Corner Weld Broke	4, 5, & 6

6.2. At the conclusion of the 1400 ft/lbs fall test, it was noted that the aluminum retaining angle corner weld was broken, **Photograph 6, Appendix B.**



Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and were compared to the test sample submitted. These records will be retained at CCLI for a period of four years.

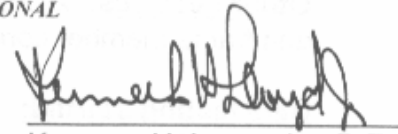
## 7. CONCLUSION

The test specimen met the manufacturer minimum impact force of 775 ft/lbs test requirements for fall protection. At the completion of the 1000 ft/lbs fall test it was noted the aluminum retaining angle showed permanent deformation, however there was no glazing breakage or disengagement from the aluminum frame. At an impact force of 1400 ft/lbs the aluminum-retaining angle had a corner weld failure. Testing was discontinued after the 1400 ft/lb impact load.

Respectfully submitted,

CONSTRUCTION CONSULTING LABORATORY, *INTERNATIONAL*

  
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