6 Pgs
Attn: D.F.

2. INTRODUCTION

This report presents the results of Fall Impact Tests conducted on January 6, 2004 at Construction Consulting Laboratory, *International* (**CCLI**). Testing was conducted for Birdview Skylights on their Series FS-CM Skylight.

3. SCOPE

CCLI was requested to perform fall impact tests on a Birdview Skylights Series FS-CM 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

Birdview Skylights Series FS-CM 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. At an impact force of 1000 ft/lbs the aluminum-retaining angle corner weld began to tear on the retaining angle. However, glazing material was not damaged and no disengagement from frame glazing leg was noted. Testing was discontinued after the 1000 ft/lb impact load.

5. TEST SPECIMEN

PRODUCT TYPE:	Aluminum Skylight, **Photograph 1, Appendix B, Product Drawings Appendix A**
SERIES/MODEL:	Birdview Skylights Series Fall Protection Skylight
FRAME SIZE:	6'-0" x 8'-0"
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: Continuous 101.64 santoprene rubber gasket at the center leg of curb frame, full perimeter.

Hardware: None

Glazing Material: Inner dome constructed from 0.100" thickness polycarbonate (GE Lexan 9034) and outer dome constructed from 0.118" polycarbonate (GE Lexan XL10).

Glazing: Domes are exterior glazed, inner dome sealed to rubber gasket at center leg of curb frame with silicone sealant applied at exterior face of inner dome retaining flange, between inner and outer domes full perimeter. Silicone sealant is applied to the exterior face of outer dome full perimeter and aluminum retaining angle secured to domes with #10 x 1" HWHSD and neoprene washers spaced 4" from each end and on 10" centers. Domes and retaining angles fastened to curb frame with #10 x 3/8" stainless steel HWHSMS screws spaced 4" from each end and on 10" centers. Curb frame applied to nominal 2" x 8" wood curb with #14 x 1" lag screws spaced 4" from each end and on 10" centers, **Fastener Layout Detail, Appendix A**.

Installation: Skylight frame was installed to a 2" x 8" curb with #14" x 1" lag screws, approximately 4" from each end and on 10" centers.

Other Features: Aluminum retaining angle and frame member corners are mitered and welded.

Date testing started: January 6, 2004
Date testing completed: January 6, 2004
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	Dead Load		No Damage	2
200 lbs	2 Feet	400	No Damage	Digital Video
200 lbs	3 Feet	600	No Damage	Digital Video
200 lbs	3.875 Feet	775	No damage	Digital Video
200 lbs	4 Feet	800	No Damage	Digital Video
200 lbs	5 Feet	1000	Corner weld tear	3

6.2. At the conclusion of the 1000 ft/lbs fall test, it was noted that the aluminum retaining angle corner weld tore during impact, **Photograph 3, 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 tore during impact, however there was no glazing breakage or disengagement from the aluminum frame. Testing was discontinued at the 1000 ft/lb impact load.

Respectfully submitted,

CONSTRUCTION CONSULTING LABORATORY, ***INTERNATIONAL***

WESLEY A. WILSON
LABORATORY MANAGER

JOHN PERRY
TEST TECHNICIAN