UL 4041

Outline of Investigation for Outdoor Furniture

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Summary of Topics

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Parts of the text and figures (Stability disk construction details, Stability tests – Rear and Front, Backrest Strength test – Static – Type I, II and III, Drop test – Dynamic, Swivel Test – Cyclic, Seating Durability tests, Arm Strength test – Vertical – Static, Arm Strength test – Horizontal- Static, Backrest Durability Test – Cyclic – Type I, II and III, Caster/chair base Durability test, Leg Strength Test – Front and Side Application, Footrest Static Load Test – Vertical, Footrest Durability Test – Vertical - Cyclic have been adapted by UL from BIFMA X5.1, Office Seating, and BIFMA X5.4, Lounge and Public Seating, with permission from the Business and Institutional Furniture Manufacturers Association (BIFMA).

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INTRODUCTION

1 Scope

1.1 This outline of investigation provides requirements for construction and testing of outdoor patio furniture such as tables, tables with umbrellas, chairs, multi-seat products, loveseats, benches, hanging chairs or swings and chaise lounge chair. Decorative accent tables are included in Appendix B. Indoor furniture or outdoor furniture with electrical components should reference Household and Commercial Furnishings, UL 962.

2 General

2.1 Units of measurement

2.1.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

2.2 Undated references

2.2.1 Any undated reference to a code or standard appearing in the requirements of this Outline of Investigation shall be interpreted as referring to the latest edition of that code or standard.

2.2.2 The following publications are referenced in this Outline:

ANSI Z97.1, *Standard Performance Specifications and Methods of Test for Safety Glazing Material Used in Buildings*

ASTM A653/A653M, *Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process*

ASTM B117, *Standard Practice for Operating Salt Spray (Fog) Apparatus*

ASTM B555, *Standard Guide for Measurement of Electrodeposited Metallic Coating Thicknesses*

BIFMA X5.1, *General Purpose Office Chairs Tests*

UL 746C, *Polymeric Materials – Use in Electrical Equipment Evaluations*

UL 1439, *Tests for Sharpness of Edges on Equipment*

UL 969, *Marking and Labeling Systems*

2.3 Note on figures

2.3.1 Figures provided in this outline are intended as guidelines only and not representative of all possible test configurations.

2.4 Tolerance

2.4.1 Unless otherwise specified, tolerances shall be:

a) Test Weights, Forces, Velocities, Time, and Cycle requirements are minimums;

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