

# CONTENTS

<b>1 Preface and Acknowledgments</b>	<b>1</b>
<b>2 Terms and Definitions</b>	<b>2</b>
<b>3 Symbols and Units</b>	<b>3</b>
<b>4 Abbreviations</b>	<b>4</b>
<b>5 Introduction</b>	<b>6</b>
<b>6 Comfort</b>	<b>13</b>
<b>7 Passive Beams</b>	<b>15</b>
<b>8 Active Beams</b>	<b>23</b>
<b>9 Primary Airflow Calculation Methodology</b>	<b>32</b>
<b>10 Controls</b>	<b>40</b>
<b>11 Installation and Commissioning</b>	<b>49</b>
<b>12 System Operation</b>	<b>52</b>
<b>13 Energy and Total Cost of Ownership</b>	<b>53</b>
<b>14 References and Bibliography</b>	<b>55</b>
<b>Appendix A: Examples for SI Applications</b>	<b>58</b>
<b>Appendix B: Examples for I-P Applications</b>	<b>84</b>

Excel files for beam calculations  
provided online at [ashrae.org/beamcalc](http://ashrae.org/beamcalc).

