



**BSR/ASHRAE Addendum b
to ANSI/ASHRAE Standard 55-2023**

First Public Review Draft

Proposed Addendum b to Standard 55-2023, Thermal Environmental Conditions for Human Occupancy

**First Public Review (June 2026)
(Draft shows Proposed Changes to Current Standard)**

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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

Surveys are one method used to assess thermal comfort in existing buildings. In this context, questions are asked to a defined target population, for example all occupants of a building, a single floor, or a specific occupancy type. In practice, it is often not feasible to survey everyone in the target group, nor to obtain responses from all those contacted. It is therefore necessary to define the minimum number of responses required to obtain a sample that is representative of the target population.

This proposed addendum replaces a response-rate based rule with a statistically grounded requirement for the minimum sample size needed to evaluate thermal comfort in existing buildings. The previous approach relied on a rule of thumb and, in buildings with large occupant populations, often required an unnecessarily large number of responses. The revised text defines the minimum number of responses using a standard sample size formula, providing a clear and well established statistical basis for determining the required number of survey responses.

Note: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striking through~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.

Addendum b to Standard 55-2023

Modify Section 7 as follows. The remainder of Section 7 remains unchanged.

7. EVALUATION OF COMFORT IN EXISTING BUILDINGS

[...]

7.3 Measurement Methods

7.3.1 Surveys of Occupant Responses to Environment. Surveys shall be solicited from the target population. The minimum number of occupants answering the survey (n) is calculated from the following equation or obtained from Table 7-1, where P is the target population. ~~entire occupancy or a representative sample thereof. If more than 45 occupants are solicited, the response rate must exceed 35%. If solicited occupants number between 20 and 45, at least 15 must respond. For under 20 solicited occupants, 80% must respond.~~

$$n = \frac{96}{1 + \frac{95}{P}}$$

Table 7-1 Minimum Number of Occupants Answering the Survey

<u>Target Population (P)</u>	<u>Minimum Number of Occupants Answering the Survey (n)</u>
<u>20</u>	<u>17</u>
<u>40</u>	<u>29</u>
<u>60</u>	<u>38</u>
<u>80</u>	<u>44</u>
<u>100</u>	<u>50</u>
<u>150</u>	<u>59</u>
<u>200</u>	<u>66</u>
<u>250</u>	<u>70</u>
<u>300</u>	<u>73</u>

Table 7-1 Minimum Number of Occupants Answering the Survey

Target Population (<i>P</i>)	Minimum Number of Occupants Answering the Survey (<i>n</i>)
400	78
500	81
750	85
1000	88
2500	92
5000	94
>7500	95

Informative Note: *n* was calculated using the standard sample size formula with 95% confidence, ±10% margin of error.

[...]

Table 7-27-4 Instrumentation Measurement Range and Accuracy

[...]

7.3.4 Physical Measurement Device Criteria. The measuring instrumentation used shall meet the requirements for measurement range and accuracy given in Table 7-27-4. Air temperature sensors shall be shielded from radiation exchange with the surroundings.

[...]

Modify Informative Appendix M as follows. The remainder of Informative Appendix M remains unchanged.

(This appendix is not part of the standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

INFORMATIVE APPENDIX M—INFORMATIVE REFERENCES AND BIBLIOGRAPHY

[...]

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