

# APPENDIX V

Table 1 : Distribution of housewives by their value scores

| Range of Scores | Aesthetics |       | Comfort |       | Economy |       | Modernism |       | Safety |       | Work Efficient |       |
|-----------------|------------|-------|---------|-------|---------|-------|-----------|-------|--------|-------|----------------|-------|
|                 | N          | %     | N       | %     | N       | %     | N         | %     | N      | %     | N              | %     |
| 25 to Less      | 29         | 15.18 | -       | -     | 1       | 0.52  | 2         | 1.05  | 4      | 2.09  | -              | -     |
| 25.5 - 35       | 96         | 50.26 | 11      | 5.76  | 19      | 9.95  | 70        | 36.65 | 37     | 19.37 | 21             | 10.99 |
| 35.5 - 45       | 58         | 30.37 | 97      | 50.79 | 109     | 57.07 | 98        | 51.31 | 117    | 61.26 | 110            | 57.59 |
| 45.5 - 55       | 8          | 4.19  | 79      | 41.36 | 57      | 29.84 | 21        | 10.99 | 33     | 17.28 | 58             | 30.37 |
| 55.5 or more    | -          | -     | 4       | 2.09  | 5       | 2.62  | -         | -     | -      | -     | 2              | 1.05  |
| Total           | 191        | 100   | 191     | 100   | 191     | 100   | 191       | 100   | 191    | 100   | 191            | 100   |

Table 2 : Distribution of housewives and husbands by their scores on knowledge level

| Range of Scores | Housewives |       | Husbands |       |
|-----------------|------------|-------|----------|-------|
|                 | N          | %     | N        | %     |
| 30 or Less      | 12         | 6.28  | 4        | 2.17  |
| 31 – 35         | 44         | 23.04 | 29       | 15.76 |
| 36 – 40         | 82         | 42.93 | 85       | 46.20 |
| 41 – 45         | 49         | 25.65 | 59       | 32.07 |
| 46 or more      | 4          | 2.09  | 7        | 3.80  |
| N.A.            | -          | -     | 7        | 3.80  |
| Total           | 191        | 99.99 | 191      | 100   |

Table 3 : Frequency and percentage distribution of housewives by the discomfort experienced

| Discomfort Experienced                                                                                | N  | %    |
|-------------------------------------------------------------------------------------------------------|----|------|
| <b>Physical Discomfort</b>                                                                            |    |      |
| Experienced strain while working for a long stretch                                                   | 73 | 35.1 |
| Experienced strain in eyes when work for a long time                                                  | 68 | 32.7 |
| Experienced headaches                                                                                 | 46 | 22.1 |
| Got easily irritated                                                                                  | 45 | 21.6 |
| Felt tired all the time                                                                               | 43 | 20.7 |
| Experienced heaviness of the eyes                                                                     | 28 | 13.5 |
| Felt heaviness in the head                                                                            | 27 | 13.0 |
| Felt edgy while working                                                                               | 13 | 6.3  |
| <b>Functional Discomfort</b>                                                                          |    |      |
| Found difficult to locate various items stored within the storage cabinets                            | 54 | 26.0 |
| Found difficult to clear utensils in the sink especially one with intricate designs e.g. cut glass    | 50 | 24.0 |
| Found inconvenient to work due to shadow falling on the work place.                                   | 37 | 17.8 |
| Had to strain eyes to assess the food item for its crispness / consistency / doneness                 | 35 | 16.8 |
| Were unable to clearly read the labels on the bottles and jars.                                       | 31 | 14.9 |
| Experienced light falling directly into the eyes creating discomfort while working                    | 20 | 9.6  |
| Had to put extra effort to take the cooking pan outside the kitchen to assess the colour of the food. | 15 | 7.2  |
| Found difficult to clearly see the food items being cooked                                            | 10 | 4.8  |
| <b>Mental Discomfort</b>                                                                              |    |      |
| Did not find the kitchen environment to be aesthetically pleasing.                                    | 52 | 25.0 |
| Did not feel interested to cook in the kitchen                                                        | 38 | 18.3 |
| Did not feel like working in the kitchen                                                              | 36 | 17.3 |
| Found the kitchen environment very dull                                                               | 35 | 16.8 |
| Found the kitchen very dark and gloomy                                                                | 31 | 14.9 |
| Did not feel happy while working in the kitchen                                                       | 22 | 10.6 |
| Did not feel like doing anything in the kitchen                                                       | 21 | 10.1 |
| Was put off by the kitchen environment                                                                | 21 | 10.1 |

Table 4 : Distribution of housewives by satisfaction expressed regarding existing artificial lighting conditions in kitchen

| Satisfaction expressed | N   | %      |
|------------------------|-----|--------|
| Satisfied              | 180 | 86.54  |
| Neutral                | 16  | 7.69   |
| Dissatisfied           | 12  | 5.77   |
| Total                  | 208 | 100.00 |

Table 5 : Distribution of kitchens by colour of work platform

| Colour                         | N   | %      |
|--------------------------------|-----|--------|
| Grey                           | 87  | 41.83  |
| Black                          | 42  | 20.19  |
| White                          | 41  | 19.71  |
| Brown                          | 11  | 5.29   |
| Red                            | 9   | 4.33   |
| Green                          | 7   | 3.37   |
| Yellow                         | 5   | 2.40   |
| Others                         |     |        |
| (in insignificant frequencies) | 6   | 2.88   |
| Total                          | 208 | 100.00 |

Table 6 : Distribution of kitchens by existing colour schemes

| Colour schemes (walls - ceiling - floor)                    | N   | %     |
|-------------------------------------------------------------|-----|-------|
| <b>Neutral colour schemes</b>                               |     |       |
| White – white – grey                                        | 31  | 14.90 |
| White – white- white                                        | 20  | 9.62  |
| Grey – white - white                                        | 4   | 1.92  |
| Grey - white - grey                                         | 5   | 2.40  |
| <b>Monochromatic colour schemes</b>                         |     |       |
| <b>Hue : yellow</b>                                         |     |       |
| Yellow - white - grey                                       | 21  | 10.1  |
| Yellow - white - yellow                                     | 6   | 2.88  |
| Yellow-white-white                                          | 4   | 1.92  |
| White - white - yellow                                      | 4   | 1.92  |
| Yellow - yellow - grey                                      | 3   | 1.44  |
| Other combinations of yellow and neutral hues               | 5   | 2.40  |
| <b>Hue : red</b>                                            |     |       |
| Red - white - grey                                          | 14  | 6.73  |
| Red-white-white                                             | 4   | 1.92  |
| Other combinations of red and neutral hues                  | 3   | 1.44  |
| <b>Hue : blue</b>                                           |     |       |
| Blue - white - grey                                         | 10  | 4.81  |
| Blue-white-white                                            | 3   | 1.44  |
| Other combinations of blue and neutral hues                 | 3   | 1.44  |
| <b>Hue : Orange</b>                                         |     |       |
| Orange - white - grey                                       | 11  | 5.29  |
| Orange -white-white                                         | 6   | 2.88  |
| Orange - white - brown                                      | 4   | 1.92  |
| Other combinations of orange and neutral hues               | 7   | 3.37  |
| <b>Hue : green</b>                                          |     |       |
| Green - white - grey                                        | 17  | 8.17  |
| Green - white - brown                                       | 3   | 1.44  |
| Other combinations of green and neutral hues                | 6   | 2.88  |
| <b>Hue : Violet</b>                                         | 1   | 0.48  |
| <b>Analogous colour schemes<br/>(with neutral hues)</b>     | 6   | 2.88  |
| <b>Complementary colour schemes<br/>(with neutral hues)</b> | 2   | 0.96  |
| <b>Unidentified colour schemes</b>                          | 5   | 2.40  |
| <b>Total</b>                                                | 208 | 99.99 |

Table 7 : Distribution of kitchens by surface reflectance

| Reflectance of<br>kitchen surfaces<br>(Walls-ceiling-<br>floor) | N   | %     | Reflectance of<br>kitchen surfaces<br>(Walls-ceiling-<br>floor) | N | %    |
|-----------------------------------------------------------------|-----|-------|-----------------------------------------------------------------|---|------|
| W-W-M                                                           | 37  | 17.79 | L-L-D                                                           | 2 | 0.96 |
| W-W-L                                                           | 28  | 13.46 | M-W-D                                                           | 2 | 0.96 |
| L-W-M                                                           | 23  | 11.06 | M-L-M                                                           | 2 | 0.96 |
| W-W-W                                                           | 21  | 10.10 | M-M-W                                                           | 2 | 0.96 |
| M-W-M                                                           | 18  | 8.65  | W-L-W                                                           | 1 | 0.48 |
| L-W-L                                                           | 15  | 7.21  | W-L-L                                                           | 1 | 0.48 |
| L-W-W                                                           | 11  | 5.29  | W-D-M                                                           | 1 | 0.48 |
| W-W-D                                                           | 10  | 4.81  | L-L-M                                                           | 1 | 0.48 |
| L-W-D                                                           | 8   | 3.85  | M-L-D                                                           | 1 | 0.48 |
| L-L-L                                                           | 7   | 3.37  | D-W-M                                                           | 1 | 0.48 |
| L-L-M                                                           | 6   | 2.83  | D-W-D                                                           | 1 | 0.48 |
| M-W-W                                                           | 5   | 2.40  |                                                                 |   |      |
| M-W-L                                                           | 4   | 1.92  |                                                                 |   |      |
| Total                                                           | 208 | 100   |                                                                 |   |      |

W : white / very light colour (high value)  
M : medium colour (medium value)

L : light colour (light value)  
D : dark colour with (low value)

Table 8 : Frequency and percentage distribution of kitchens by mounting of primary source of light

| Mounting height (m) | N   | %     |
|---------------------|-----|-------|
| 1.00 or less        | 12  | 5.77  |
| 1.01 – 1.50         | 54  | 25.96 |
| 1.51 – 2.00         | 125 | 60.10 |
| 2.01 – 2.50         | 15  | 7.21  |
| 2.51 or more        | 2   | 0.96  |
| Total               | 208 | 100   |
| Mean                |     | 1.61  |
| S.D.                |     | 0.35  |



Table 10 : Distribution of kitchens by position of primary light source in relation to the worker at cooking, pre-preparation and sink area

| Position of light source in relation to the worker | Cooking area |       | Pre-preparation area |       | Sink area |       |
|----------------------------------------------------|--------------|-------|----------------------|-------|-----------|-------|
|                                                    | N            | %     | N                    | %     | N         | %     |
| Front                                              | 39           | 18.75 | 38                   | 18.27 | 57        | 27.40 |
| Behind                                             | 36           | 17.31 | 35                   | 16.83 | 36        | 17.31 |
| Left- hand side                                    | 50           | 24.04 | 55                   | 26.44 | 35        | 16.83 |
| Right-hand side                                    | 58           | 27.88 | 55                   | 26.44 | 54        | 25.96 |
| Above                                              | 19           | 9.13  | 19                   | 9.13  | 18        | 8.65  |
| Front & Right hand side*                           | 2            | 0.96  | 1                    | 0.48  | -         | -     |
| Front *                                            | 1            | 0.48  | 1                    | 0.48  | -         | -     |
| Light-hand side & Right hand side*                 | 1            | 0.48  | 1                    | 0.48  | -         | -     |
| Right-hand side & Above *                          | 1            | 0.48  | 1                    | 0.48  | 1         | 0.48  |
| Left-hand side & Front *                           | -            | -     | -                    | -     | 1         | 0.48  |
| Right-hand side *                                  | -            | -     | -                    | -     | 1         | 0.48  |
| Front & Behind *                                   | -            | -     | -                    | -     | 1         | 0.48  |
| Behind & Left-hand side *                          | -            | -     | 1                    | -     | 1         | 0.48  |
| Total**                                            | 207          | 99.52 | 207                  | 99.52 | 207       | 99.52 |

\* Kitchens with two light sources

\*\* On kitchen with three light sources : One lamp providing general lighting was mounted at the right-hand side of the worker when positioned at the cooking or pre-preparation area and the light struck the sink area from the front of the worker. Two lamps were installed below the cabinets over the cooking and pre-preparation area.

Table 11 : Frequency and percentage distribution of kitchens by maintenance condition of lighting fixtures.

| Maintenance Condition | N   | %     |
|-----------------------|-----|-------|
| Clean                 | 30  | 14.42 |
| Moderately dirty      | 142 | 68.27 |
| Decidedly dirty       | 36  | 17.31 |
| Total                 | 208 | 100   |

Table 12 : Distribution of kitchens by room index

| Room Index | N   | %    |
|------------|-----|------|
| Low        | 5   | 2.4  |
| Medium     | 189 | 90.9 |
| High       | 14  | 6.7  |
| Total      | 208 | 100  |

Table 13 : Distribution of kitchens by effective ceiling and floor cavity reflectance

| Effective cavity reflectance (%) | Ceiling |      | Floor |      |
|----------------------------------|---------|------|-------|------|
|                                  | N       | %    | N     | %    |
| Low                              | 39      | 18.8 | 41    | 19.7 |
| Medium                           | 142     | 68.3 | 133   | 63.9 |
| High                             | 27      | 13.3 | 34    | 16.3 |
| Total                            | 208     | 100  | 208   | 100  |

Table 14 : Distribution of kitchens by the maintenance factor

| Maintenance factor | N    | %      |
|--------------------|------|--------|
| Low                | 30   | 15.9   |
| Medium             | 129  | 68.3   |
| High               | 30   | 15.9   |
| Total              | 189* | 100.00 |
| Mean               |      | 0.83   |
| S.D.               |      | 0.08   |

\* LLMF and LSF for 2 cases with CFL installed was not known.

Table 15 : Distribution of kitchens by utilisation factor

| Utilisation factor | N    | %      |
|--------------------|------|--------|
| Low                | 20   | 9.6    |
| Medium             | 160  | 76.9   |
| High               | 28   | 13.5   |
| Total              | 189* | 100.00 |

Table 16 : Distribution of kitchens by ambient illuminance and illuminance at selected task areas

| Illuminance (lx) | Ambient |      | Cooking area |      | Pre- preparation area |      | Sink area |      |
|------------------|---------|------|--------------|------|-----------------------|------|-----------|------|
|                  | N       | %    | N            | %    | N                     | %    | N         | %    |
| Low              | 33      | 15.9 | 19           | 9.1  | 25                    | 12.0 | 26        | 12.5 |
| Medium           | 141     | 67.8 | 161          | 77.4 | 152                   | 73.1 | 150       | 72.1 |
| High             | 34      | 16.3 | 28           | 13.5 | 31                    | 14.9 | 32        | 15.4 |
| Total            | 208     | 100  | 208          | 100  | 208                   | 100  | 208       | 100  |

Table 17 : Distribution of kitchens by illuminance uniformity

| Illuminance uniformity | IU for entire room |        | IU for platform area |        | IU for area surrounding the platform* |        |
|------------------------|--------------------|--------|----------------------|--------|---------------------------------------|--------|
|                        | N                  | %      | N                    | %      | N                                     | %      |
| Low                    | 36                 | 17.31  | 32                   | 15.38  | 36                                    | 17.31  |
| Medium                 | 141                | 67.79  | 138                  | 66.35  | 138                                   | 66.35  |
| High                   | 31                 | 14.90  | 38                   | 18.27  | 34                                    | 16.35  |
| Total                  | 208                | 100.00 | 208                  | 100.00 | 208                                   | 100.00 |

Table 18 : Distribution of kitchens by area of aperture in exterior wall(s)

| Area of aperture (m <sup>2</sup> ) | N   | %     |
|------------------------------------|-----|-------|
| Low                                | 20  | 13.5  |
| Medium                             | 110 | 74.3  |
| High                               | 18  | 12.2  |
| Total                              | 148 | 100.0 |

Table 19 : Distribution of kitchens by aperture – floor ratio

| Aperture – floor ratio | N   | %     |
|------------------------|-----|-------|
| Low                    | 24  | 16.2  |
| Medium                 | 107 | 72.3  |
| High                   | 17  | 11.5  |
| Total                  | 148 | 100.0 |

Table 20 : Distribution of kitchens by orientation of window(s) and door(s) on the exterior wall(s)

| Orientation              | N  | %   | Orientation                 | N   | %     |
|--------------------------|----|-----|-----------------------------|-----|-------|
| Working with one window  |    |     | N N                         | 1   | 0.7   |
| E                        | 6  | 4.1 | N W                         | 4   | 2.7   |
| NE                       | 3  | 2.0 | N NW                        | 1   | 0.7   |
| N                        | 12 | 8.1 | NW NW                       | 1   | 0.7   |
| NW                       | 1  | 0.7 | N S                         | 3   | 2.0   |
| S                        | 3  | 2.0 | SE SE                       | 1   | 0.7   |
| W                        | 6  | 4.1 | S W                         | 1   | 0.7   |
| Kitchens with one door   |    |     | W W                         | 2   | 1.4   |
| s                        | 1  | 0.7 | Kitchens with to windows    |     |       |
| se                       | 1  |     | and one door                |     |       |
| Kitchens with one window |    |     | E E e                       | 1   | 0.7   |
| and one door             |    |     | S E e                       | 3   | 2.0   |
| E e                      | 10 | 6.8 | S E s                       | 2   | 1.4   |
| NE ne                    | 1  | 0.7 | SE E e                      | 1   | 0.7   |
| N e                      | 3  | 2.0 | N E e                       | 2   | 1.4   |
| NE se                    | 1  | 0.7 | N N e                       | 1   | 0.7   |
| S e                      | 3  | 2.0 | N NE n                      | 1   | 0.7   |
| SE ne                    | 1  | 0.7 | N NE ne                     | 1   | 0.7   |
| N n                      | 12 | 8.1 | S S e                       | 1   | 0.7   |
| N s                      | 1  | 0.7 | N W n                       | 1   | 0.7   |
| N w                      | 1  | 0.7 | N W w                       | 3   | 2.0   |
| NW nw                    | 1  | 0.7 | S W w                       | 2   | 1.4   |
| S s                      | 10 | 6.8 | N W n                       | 3   | 2.0   |
| S w                      | 2  | 1.4 | S W s                       | 2   | 1.4   |
| SE se                    | 3  | 2.0 | W W w                       | 1   | 0.7   |
| SE sw                    | 2  | 1.4 | Kitchens with three windows |     |       |
| SW nw                    | 1  | 0.7 | S W E                       | 1   | 0.7   |
| W n                      | 4  | 2.7 | N E E                       | 1   | 0.7   |
| W w                      | 9  | 6.1 | S S S                       | 1   | 0.7   |
| Kitchens with two window |    |     | Total                       | 148 | 100.0 |
| E E                      | 2  | 1.4 |                             |     |       |
| N E                      | 3  | 2.0 |                             |     |       |
| S E                      | 1  | 0.7 |                             |     |       |
| E W                      | 2  | 1.4 |                             |     |       |

Table 21 : Distribution of kitchens by average day light factor

| Daylight Factor | N   | %      |
|-----------------|-----|--------|
| Medium          | 136 | 19.89  |
| High            | 12  | 8.11   |
| Total           | 148 | 100.00 |

Table 22 : Distribution of kitchens by IuNL and illuminance at work areas

| Illuminance (lx) | Illuminance ambient general |        | Illuminance cooking area |        | Illuminance pre-preparation area |        | Illuminance sink area |        |
|------------------|-----------------------------|--------|--------------------------|--------|----------------------------------|--------|-----------------------|--------|
|                  | N                           | %      | N                        | %      | N                                | %      | N                     | %      |
| Medium           | 136                         | 91.9   | 133                      | 89.9   | 135                              | 91.2   | 131                   | 88.5   |
| High             | 12                          | 8.1    | 15                       | 10.1   | 13                               | 8.8    | 17                    | 11.5   |
| Total            | 148                         | 100.00 | 148                      | 100.00 | 148                              | 100.00 | 148                   | 100.00 |

Table 23 : Distribution of kitchens by illuminance uniformity

| Illuminance uniformity | N   | %      |
|------------------------|-----|--------|
| Low                    | 24  | 16.22  |
| Medium                 | 100 | 67.57  |
| High                   | 24  | 16.22  |
| Total                  | 148 | 100.00 |

Table 24 : Distribution of housewives by satisfaction expressed regarding existing natural lighting conditions in kitchen

| Satisfaction expressed | N   | %      |
|------------------------|-----|--------|
| Satisfied              | 102 | 68.92  |
| Neutral                | 10  | 6.76   |
| Dissatisfied           | 36  | 24.30  |
| Total                  | 148 | 100.00 |