APPENDIX III

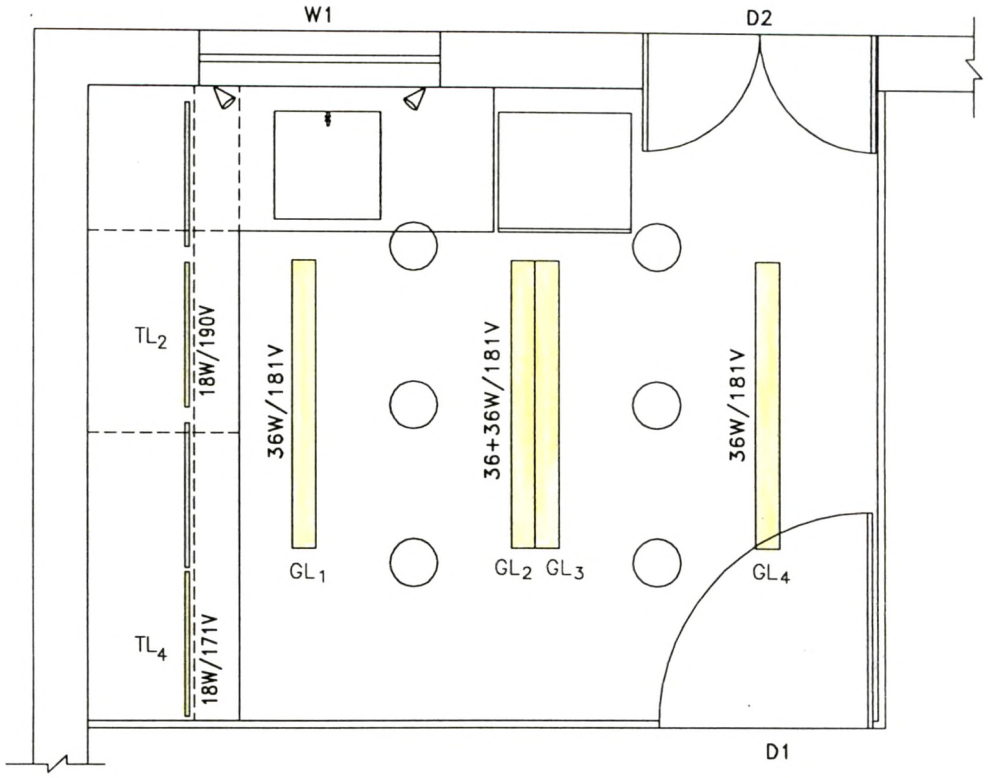
III.1 Reflectances of the various surfaces in the simulated kitchen

Surface	Colour	Reflectance
Side walls	White	0.73
Ceiling	White	0.76
Floor	Medium Grey	0.49
Work Surface	Medium Grey	0.52
Storage Cabinets	Medium Brown	0.41
Refrigerator	White (Old)	0.59
Door 1	Medium Brown	0.41
Door 2	Dark Brown	0.12
Window (sealed)	White	0.68

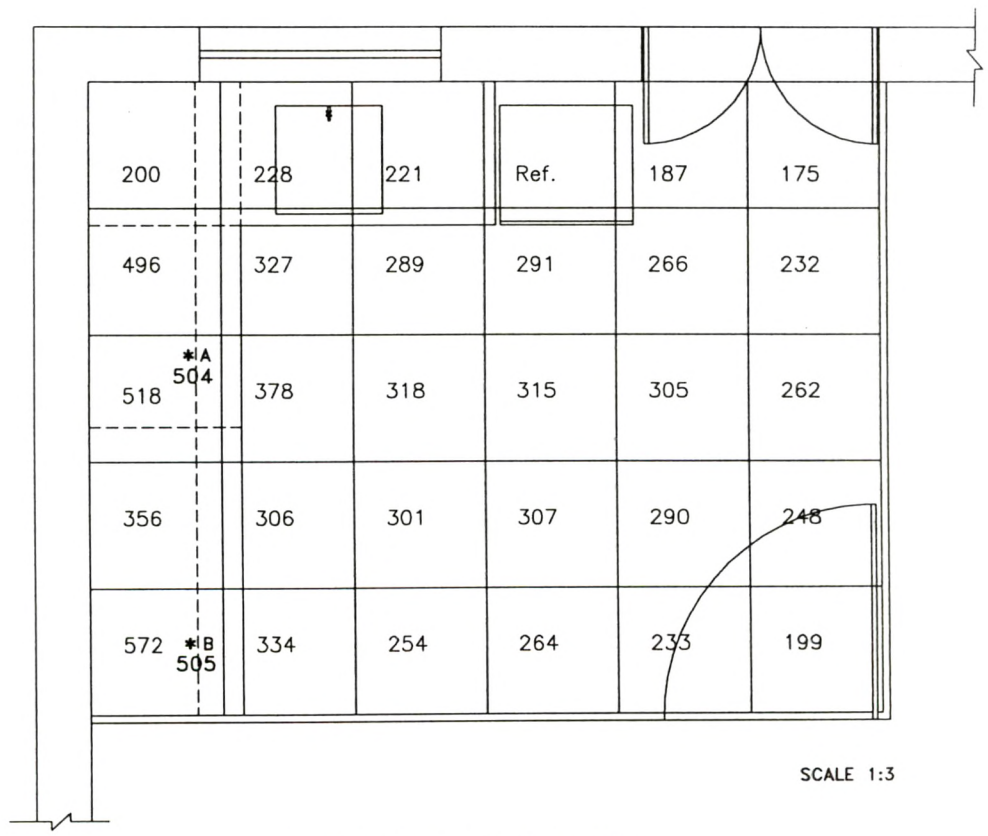
III.2 Description of luminaires and lamps installed in the simulated kitchen

Type of Lighting	Description of luminaire / lamp	Data on the lamp used			Number of luminaire / lamp used	Placement of luminaire / lamp used	Direction of light
		Power (watt)	colour – temperature (^{0}K)	Nominal luminous flux (Lumen)			
General (GL_1–GL_4)	Ceiling mounted luminaire with opal acrylic diffuser, having fluorescent lamps (Trulite from Philips)	36	6500 (cool daylight)	3250	Single : 2 (GL_1 & GL_4) Twin : 1 (GL_5 & GL_3) (Total 4 lamps)	ceiling	diffused
General (GL_5–GL_{10})	Ceiling mounted luminaire with transluscent glass shade, having incandescent lamps (Clear bulbs from Philips)	100		1380	6	ceiling	diffused
Local (TL_1-TL_4)	Fluorescent lamps (Slimlite from Philips)	18	6500 (cool daylight)	1015	4	below the top cabinets	direct
Local (TL_5-TL_6)	Metallic shades specially designed for spot lighting, having incandescent lamps (Reflector lamps from Philips)	60		luminous intensity 960 cd. beam spread 30^0	2	above the sink, at lintel level	direct

PLATE 1 : CEILING LUMINAIRES IN THE SIMULATED KITCHEN

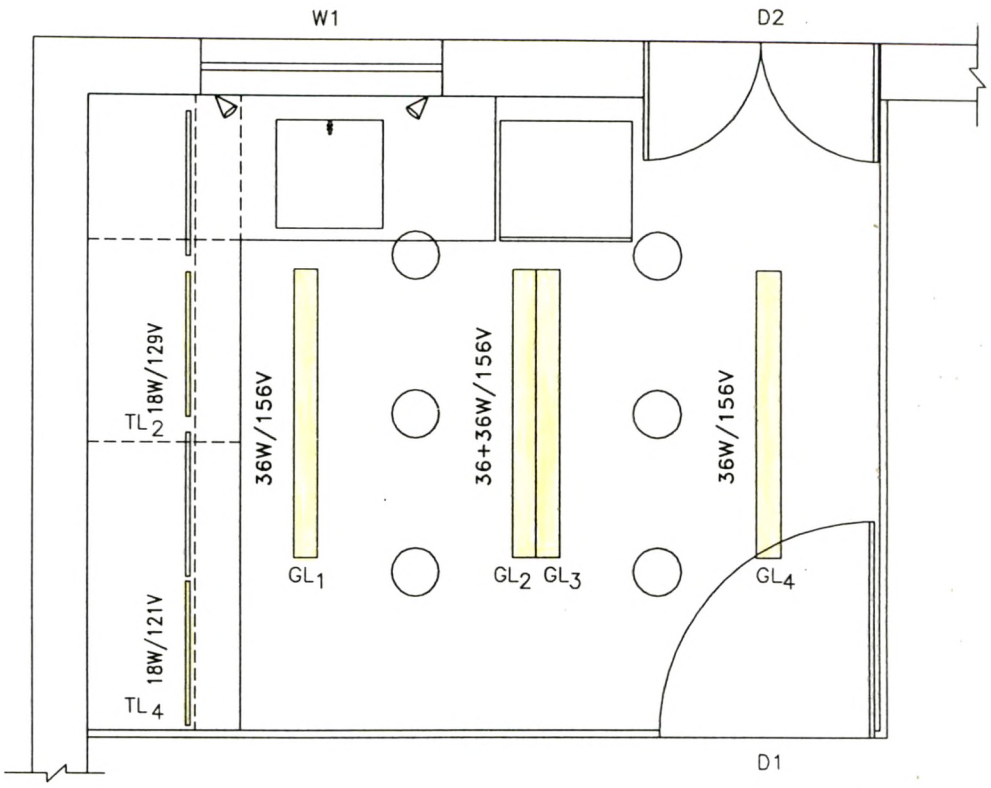


LIGHTING INSTALLATIONS IN OPERATION (COLOURED AREA)



DISTRIBUTION OF LUMINOUS FLUX

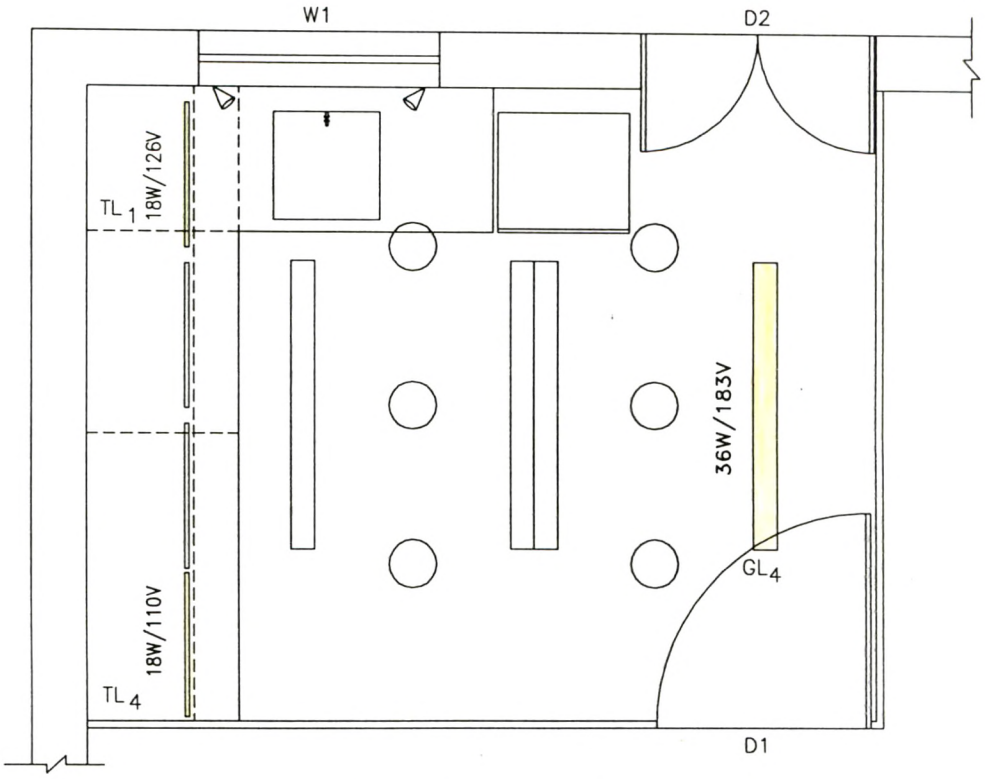
PLATE 2 : SIMULATED KITCHEN LAYOUT WITH 500 lx AND 300 lx FOR FUNCTIONAL AND GENERAL LIGHTING



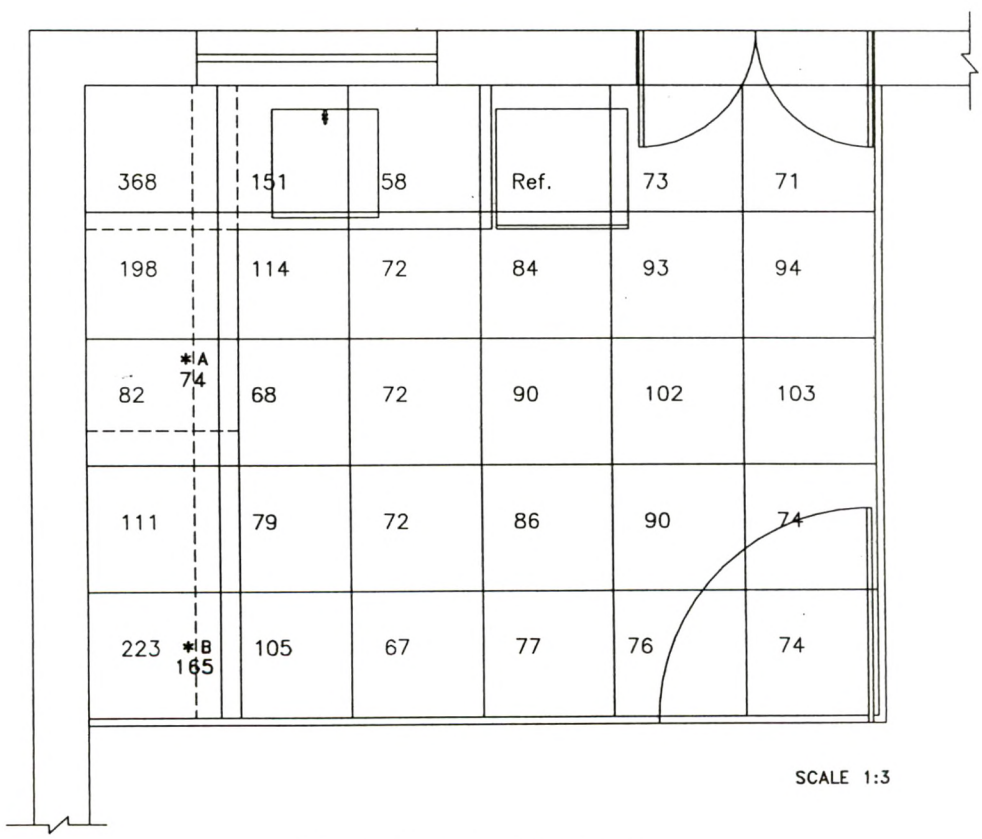
LIGHTING INSTALLATIONS IN OPERATION (COLOURED AREA)

DISTRIBUTION OF LUMINOUS FLUX

PLATE 3 : SIMULATED KITCHEN LAYOUT WITH 300 lx AND 180 lx FOR FUNCTIONAL AND GENERAL LIGHTING

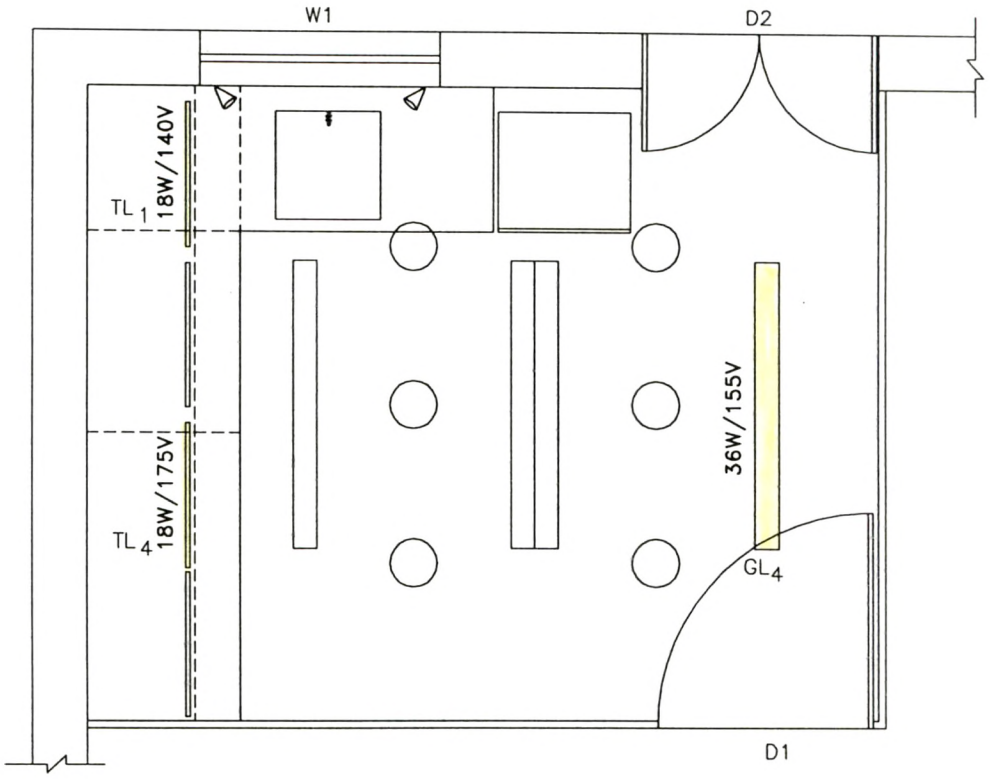


LIGHTING INSTALLATIONS IN OPERATION (COLOURED AREA)

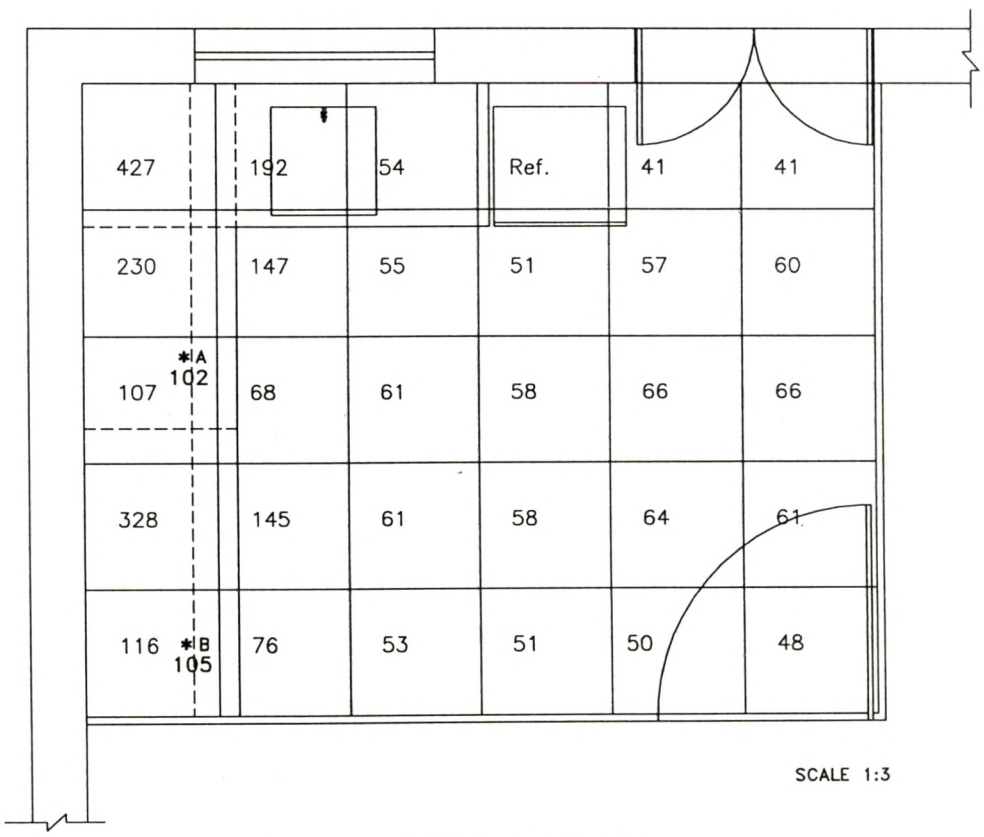


DISTRIBUTION OF LUMINOUS FLUX

PLATE 4 : SIMULATED KITCHEN LAYOUT WITH 166 lx AND 72 lx FOR FUNCTIONAL LIGHTING AND 102 lx FOR GENERAL LIGHTING

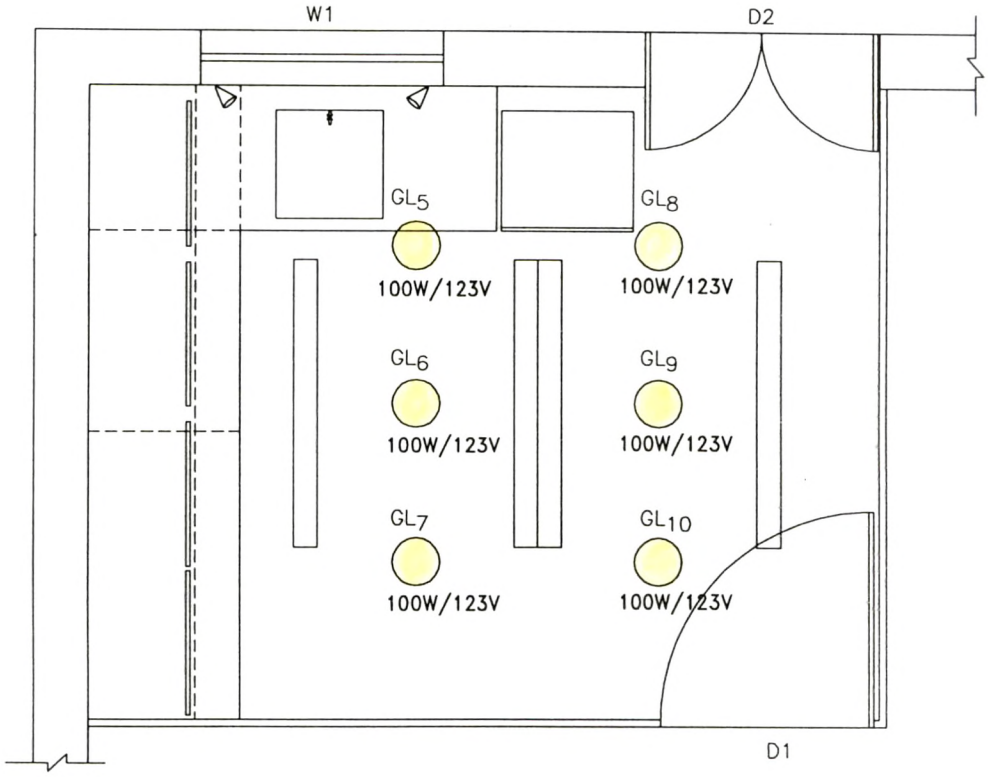


LIGHTING INSTALLATIONS IN OPERATION (COLOURED AREA)

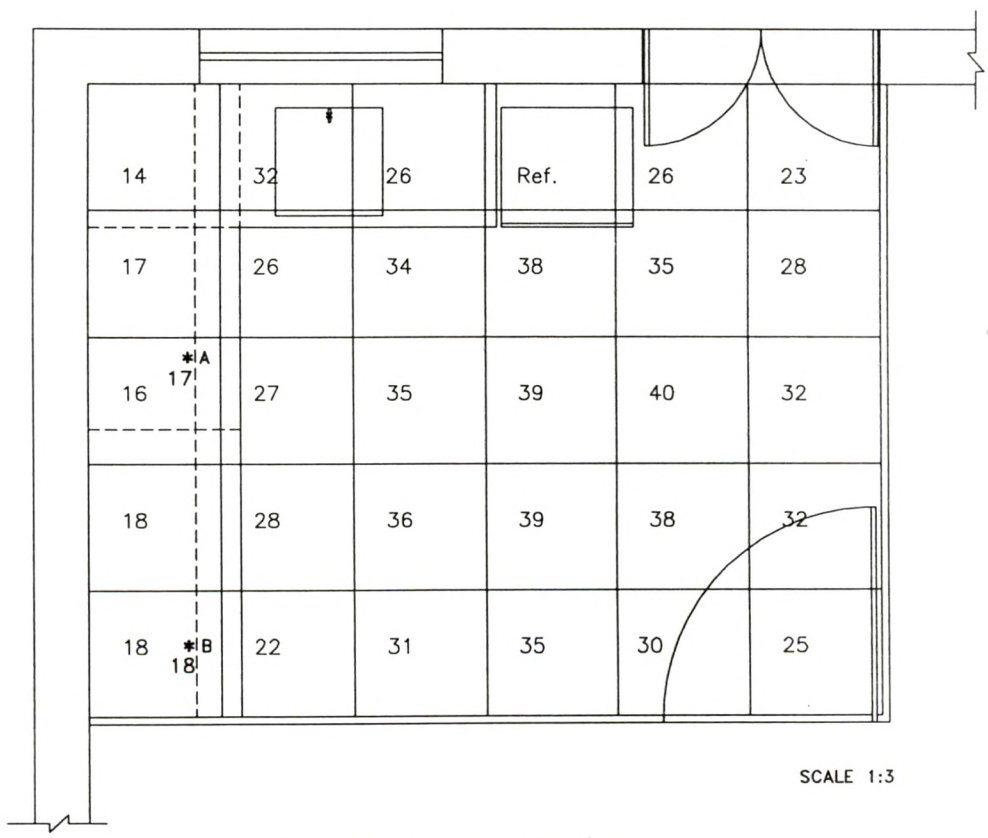


DISTRIBUTION OF LUMINOUS FLUX

PLATE 5 : SIMULATED KITCHEN LAYOUT WITH 100 lx AND 60 lx FOR FUNCTIONAL AND GENERAL LIGHTING



LIGHTING INSTALLATIONS IN OPERATION (COLOURED AREA)



DISTRIBUTION OF LUMINOUS FLUX

PLATE 6 : SIMULATED KITCHEN LAYOUT WITH 17 lx AND 28 lx FOR FUNCTIONAL AND GENERAL LIGHTING

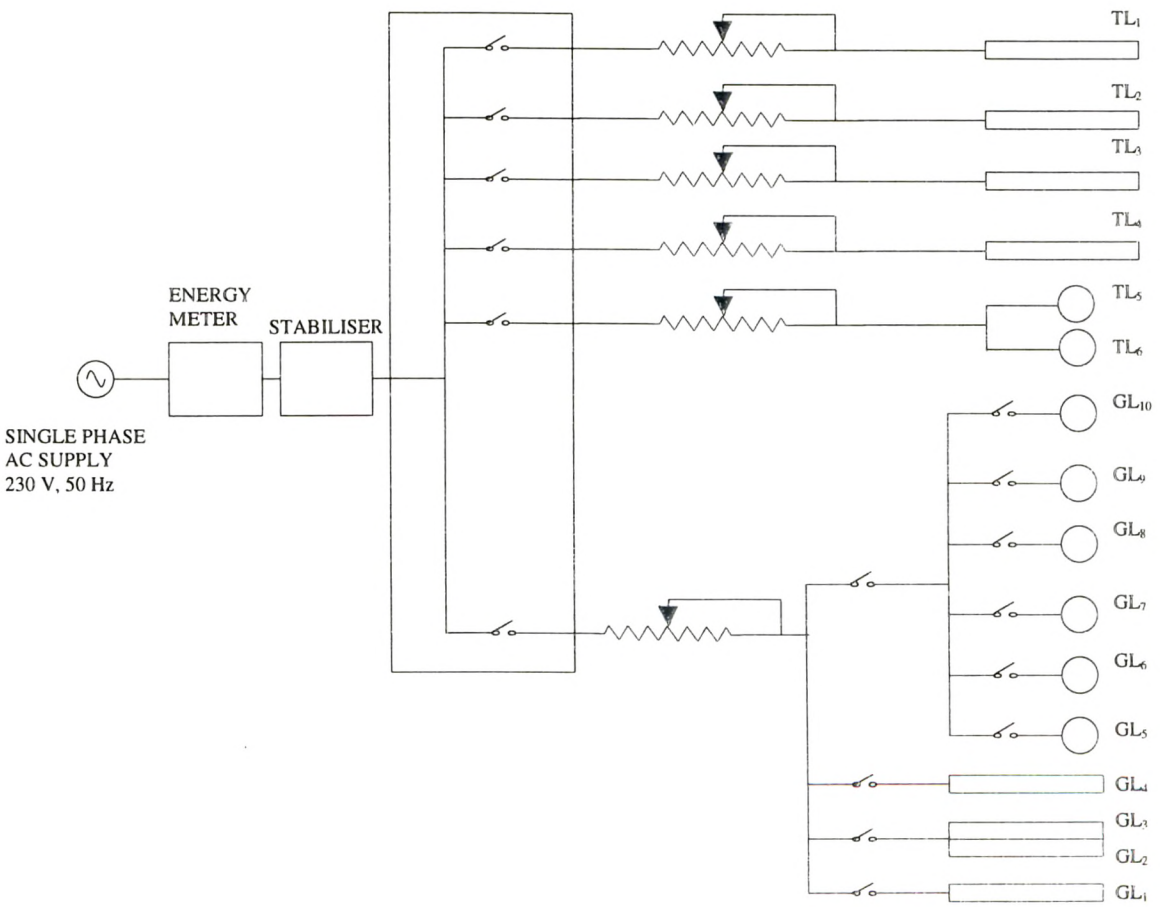


PLATE : SINGLE LINE DIAGRAM FOR LIGHTING INSTALLATIONS IN THE SIMULATED KITCHEN

III. 3 EXPERIMENTAL SCHEDULE

	Time	Day 1		Day 2		Day 3		Day 4	Day 5		Day 6		Day 7	
		21-30 years		31-40 years		41-50 years			21-30 years		31-40 years		41-50 years	
MORNING	9.00-10.00 am	L_1 $S_1 S_2$	L_2 $S_1 S_2$	L_1 $S_{14} S_{15}$	L_2 $S_{14} S_{15}$	L_1 $S_{27} S_{28}$	L_2 $S_{27} S_{28}$		$L_3 L_4$ $S_9 S_{10}$	$L_3 L_4$ $S_{10} S_9$	$L_3 L_4$ $S_{22} S_{23}$	$L_3 L_4$ $S_{23} S_{22}$	$L_3 L_4$ $S_{35} S_{36}$	$L_3 L_4$ $S_{36} S_{35}$
	10.30-11.30 am	L_2 $S_3 S_4$	L_1 $S_3 S_4$	L_2 $S_{16} S_{17}$	L_1 $S_{16} S_{17}$	L_2 $S_{29} S_{30}$	L_1 $S_{29} S_{30}$		$L_3 L_4$ $S_{11} S_{12}$	$L_3 L_4$ $S_{12} S_{11}$	$L_3 L_4$ $S_{24} S^*_{25}$	$L_3 L_4$ $S^*_{25} S_{24}$	$L_3 L_4$ $S_{37} S_{38}$	$L_3 L_4$ $S_{38} S_{37}$
AFTER-NOON	12.30-1.30 pm	L_1 $S_5 S_6$	L_2 $S_5 S_6$	L_1 $S_{18} S_{19}$	L_2 $S_{18} S_{19}$	L_1 $S_{31} S_{32}$	L_2 $S_{31} S_{32}$		$L_3 L_4$ $S_1 S_2$	$L_3 L_4$ $S_2 S_1$	$L_3 L_4$ $S_{14} S_{15}$	$L_3 L_4$ $S_{15} S_{14}$	$L_3 L_4$ $S^*_{27} S_{28}$	$L_3 L_4$ $S_{28} S^*_{27}$
	2.00-3.00 pm	L_2 $S_7 S_8$	L_1 $S_7 S_8$	L_2 $S_{20} S_{21}$	L_1 $S_{20} S_{21}$	L_2 $S^*_{33} S_{34}$	L_1 $S^*_{33} S_{34}$		$L_3 L_4$ $S_3 S_4$	$L_3 L_4$ $S_4 S_3$	$L_3 L_4$ $S_{16} S_{17}$	$L_3 L_4$ $S_{17} S_{16}$	$L_3 L_4$ $S_{29} S_{30}$	$L_3 L_4$ $S_{30} S_{29}$
EVENING	4.00-5.00 pm	L_1 $S_9 S_{10}$	L_2 $S_9 S_{10}$	L_1 $S_{22} S^*_{23}$	L_2 $S_{22} S^*_{23}$	L_1 $S_{35} S_{36}$	L_2 $S_{35} S_{36}$		$L_3 L_4$ $S^*_5 S_6$	$L_3 L_4$ $S_6 S^*_5$	$L_3 L_4$ $S_{18} S_{19}$	$L_3 L_4$ $S_{19} S_{18}$	$L_3 L_4$ $S_{31} S_{32}$	$L_3 L_4$ $S_{32} S_{31}$
	5.30-6.30 pm	L_2 $S_{11} S_{12}$	L_1 $S_{11} S_{12}$	L_2 $S_{24} S_{25}$	L_1 $S_{24} S_{25}$	L_2 $S_{37} S^*_{38}$	L_1 $S_{37} S^*_{38}$		$L_3 L_4$ $S_7 S_8$	$L_3 L_4$ $S_8 S_7$	$L_3 L_4$ $S_{20} S_{21}$	$L_3 L_4$ $S_{21} S_{20}$	$L_3 L_4$ $S_{33} S_{34}$	$L_3 L_4$ $S_{34} S_{33}$

L_1, L_2 .... L_6 : Illuminances of 500, 300, 166, 100, 72 and 17 lx respectively.

S_1, S_2 ..... S_{12} *and* S_{13} : Subjects in age group 21-30 years

S_{14}, S_{15} ..... S_{25} *and* S_{26} : Subjects in age group 31-40 years

S_{27}, S_{28} ..... S_{38} *and* S_{39} : Subjects in age group 41-50 years

III.4 List of instruments used for experimental data measurements

SR. NO.	NAME OF INSTRUMENT	MODEL/TYPE	MANUFACTURER	TECHNICAL DETAILS
1	Dimmer Stat (Variac)	Continuously variable Auto Transformer	Automatic Electric Limited, Bombay	Input: 240 V, 50/60 Hz, Output: 0 – 270V, 2 Amp.
2	Dimmer Stat (Variac)	Continuously variable Auto Transformer	Automatic Electric Limited, Bombay	Input: 230 V, 50/60 Hz, Output: 0 – 270V, 8 Amp.
3	Dimmer	Continuously variable Auto Transformer	Anchor Ltd, Bombay	Input: 240 V, 50/60 Hz, Output: 0 – 270V, 2 Amp.
4	Stabiliser	Electronic Servo Controlled Stabiliser	Thymus Electronics Pvt. Ltd., Baroda	2 KVA, 8.8 Amp, 50 Hz, Input: 175 – 270 V Output: 230 V $\pm$ 1%
5	Multimeter	P-3	Sanwa India	0 – 1000 V_{ac}
6	Ammeter(AC/DC)	MTW	Industrial Meters Pvt. Ltd., Bombay	Range: 5/10 Amp
7	MilliAmeter (AC/DC)	S.O.65	Yokins Instruments	Range: 0 – 500mA
8	MilliAmeter (AC/DC)	S.O.65	Yokins Instruments	Range: 0 – 100mA
9	Electronic Blood Pressure Measurement Instrument	9 – 1 Glass Van	Nath Brothers, New Delhi. (Agency)	0 - 300 mm of Hg
10	Digital Clinical Thermometer	KD – 204A, Buzzer type	Made in Taiwan	Cell: 1.55V Power: 0.2 mW