

APPENDIX VI

Table 25 : Distribution of subjects by age

	Age group (21-30 years)	Age group (31-40 years)	Age group (41-50 years)
N	13	13	13
Mean	24.62	35.46	45.62
S.D.	2.79	2.73	3.40
Minimum	21.00	31.00	41.00
Maximum	30.00	40.00	50.00

Table 26 : Distribution of subjects by their eyesight

	Distant vision		Near vision	
	Right	Left	Right	Left
S ₂₇	6/6	6/6	N6 C + .75	N6 C + .75
S ₂₈	6/9	6/9	N6 C + .75	N6 C + .75
S ₂₉	6/6	6/6	N6 C + .20	N6 C + .20
S ₃₀	6/6	6/6	N6 C + 1.0	N6 C + 1.0
S ₃₁	6/6	6/6	N6 C + 1.5	N6 C + 1.5
S ₃₂	6/6 C 1.0	6/6 C.75	N6 C + .75	N6 C + 1.0
S ₃₃	6/6	6/6	N6 C + 1.0	N6 C + 1.0
S ₃₄	6/6 C+.5	6/6 C+1.0	N6 C + 1.5	N6 C + 1.0
S ₃₅	6/6	6/6	N6 C + .75	N6 C + 1.0
S ₃₆	6/6	6/6	N6 C + 1.0	N6 C + 1.0
S ₃₇	6/6 C+1.0	6/6 C+.75	N6 C + 1.5	N6 C + 1.5
S ₃₈	6/6 C+.5	6/6 C+.75	N6 C + 1.0	N6 C + 1.5
S ₃₉	6/6 C+1.0	6/6 C.75	N6 C + 1.0	N6 C + 1.0

Subjects in young and middle age group had normal eye sight

All the subjects were found to have normal colour vision which was examined with the aid of Ishiara series of colour plates.

Table 27 : Distribution of subjects by oral temperature, blood pressure and pulse rate during the conduct of experiments

	Oral Temperature			Diaslotic BP, Systolic BP						Pulse Rate		
	Visit I	Visit II	Visit III	Visit I	Visit I	Visit II	Visit II	Visit III	Visit III	Visit I	Visit II	Visit III
<u>Young age group</u> <u>21-30 years</u>												
N	13	13	13	13	13	13	13	11	11	13	13	11
Mean	98.55	98.42	98.30	116.1	81.54	111.0	76.31	111.5	73.91	86.38	81.31	76.36
S.D.	0.45	0.25	0.62	6.92	4.67	7.79	6.42	6.40	6.27	8.15	7.30	8.00
Min.	97.80	97.90	97.10	102.0	72.00	98.00	68.00	100.0	65.00	70.00	65.00	65.00
Max.	99.40	98.90	99.20	128.0	90.00	121.0	88.00	118.0	82.00	98.00	89.00	88.00
<u>Middle age group</u> <u>31-40 years</u>												
N	13	13	13	12	13	13	13	12	132	13	13	12
Mean	98.37	98.41	98.37	120.0	79.67	114.8	77.54	112.3	76.92	77.69	72.69	75.08
S.D.	0.35	0.30	0.59	10.12	7.27	7.66	6.44	5.84	5.21	5.71	5.69	5.23
Min	97.60	97.90	97.00	102.0	68.00	104.0	70.00	102.0	70.00	71.00	63.00	65.00
Max.	98.90	98.90	99.50	138.0	90.00	130.0	90.00	120.0	85.00	90.00	85.00	85.00
<u>Old age group</u> <u>41-50 years</u>												
N	13	13	13	13	13	10	10	10	10	13	13	11
Mean	98.13	98.05	98.08	121.2	82.23	117.2	81.60	115.0	83.80	84.77	72.23	73.55
S.D.	0.54	0.41	0.49	5.45	2.86	10.22	3.89	8.00	4.78	8.96	15.38	4.95
Min.	97.30	97.30	97.20	113.0	76.00	102.0	75.00	104.0	78.00	70.00	26.00	67.00
Max.	99.20	98.60	98.90	135.0	86.00	135.0	88.00	126.0	90.00	98.00	86.00	81.00

Table 28 : Room temperature and humidity in the simulated kitchen during the conduct of experiments

	Room temperature (°C)			Humidity (%)		
	Visit I	Visit II	Visit III	Visit I	Visit II	Visit III
N	39	39	39	39	39	39
Mean	34.21	33.87	31.97	38.59	39.00	40.60
S.D.	1.08	1.61	2.40	2.33	3.02	1.95
Minimum	29.00	29.00	29.00	35.00	34.00	37.50
Maximum	35.00	36.00	36.00	44.00	45.00	45.00

Table 29 : Distribution of subjects by their observation power and rate of visual perception

	Young age group 21-30 years				Middle age group 31-40 years				Old age group 41-50 years			
	OP		RVP		OP		RVP		OP		RVP	
	N	%	N	%	N	%	N	%	N	%	N	%
Low	7	53.8	1	7.7	4	30.8	1	7.7	7	53.8	5	38.5
Med	6	46.2	9	69.2	9	69.2	7	53.8	6	46.2	7	53.8
High	-	-	3	23.1	-	-	5	38.5	-	-	1	7.7
Total	13	100.0	13	100.0	13	100.0	13	100.0	13	100.0	13	100.0
Mean	5.46		29.23		5.69		29.69		5.46		27.85	
S.D.	0.52		1.79		0.48		1.89		0.52		1.99	
Min	5.00		26.00		5.00		26.00		5.00		26.00	
Max	6.00		32.00		6.00		32.00		6.00		32.00	

OP - Observation power
RVP - Rate of visual perception

Table 30: Distribution of subjects by scores on the perceived level of visual comfort under six illuminances

Score on visual comfort	Illuminance (lx)											
	500 lx		300 lx		166 lx		100 lx		72 lx		17 lx	
	N	%	N	%	N	%	N	%	N	%	N	%
<u>Age group</u> <u>21-30 years</u>												
< 10	-	-	-	-	-	-	-	-	-	-	3	23.08
11-15	-	-	-	-	2	15.38	1	7.70	3	23.08	7	53.84
16-20	-	-	1	7.69	4	30.77	8	61.54	8	61.54	3	23.08
21-25	7	53.85	8	61.54	7	53.85	4	30.77	2	15.38	-	-
26-30	6	46.15	4	30.77	-	-	-	-	-	-	-	-
Total	13	100.00	13	100.00	13	100.00	13	100.00	13	100.00	13	100.00
		0		0		0						0
Medium		25.0		23.0		22.0		19.0		17.0		12.0
Mean		25.5		23.9		20.3		19.1		17.5		12.5
S.D.		2.5		2.5		5.1		3.1		2.8		3.1
Minimum		22		20		14		14		14		6
Maximum		29		28		25		24		24		17
<u>Age group</u> <u>31-40 years</u>												
< 10	-	-	-	-	-	-	-	-	-	-	4	30.77
11-15	-	-	-	-	3	23.08	5	38.46	7	53.85	7	53.85
16-20	-	-	4	30.77	5	38.46	5	38.46	6	46.15	2	15.38
21-25	7	53.85	6	46.15	5	38.46	3	23.08	-	-	-	-
26-30	6	46.15	3	23.08	-	-	-	-	-	-	-	-
Total	13	100.00	13	100.00	13	100.00	13	100.00	13	100.00	13	100.00
		0		0		0						0
Medium		25.0		23.0		20.0		17.0		15.0		13.0
Mean		25.0		22.5		18.8		17.1		15.2		12.6
S.D.		1.7		3.6		3.5		3.9		2.5		3.4
Minimum		21		17		12		11		11		6
Maximum		27		28		23		23		19		17
<u>Age group</u> <u>41-50 years</u>												
< 10	-	-	-	-	-	-	-	-	-	-	2	15.38
11-15	-	-	-	-	-	-	4	30.77	5	38.46	6	46.15
16-20	-	-	1	7.70	7	53.85	4	30.77	6	46.15	3	23.08
21-25	7	53.85	10	76.92	4	30.77	5	38.46	2	15.38	2	15.38
26-30	6	46.15	2	15.38	2	15.38	-	-	-	-	-	-
Total	13	100.00	13	100.00	13	100.00	13	100.00	13	100.00	13	100.00
		0		0		0						0
Medium		25.0		23.0		20.0		18.0		17.0		15.0
Mean		25.3		23.2		21.2		18.3		17.3		15.2
S.D.		1.8		1.9		3.3		3.8		3.4		4.4
Minimum		22		19		16		12		12		10
Maximum		28		26		26		25		24		24

Table 31 : Mean scores on visual performance of subjects on visual acuity test against high brightness contrast

Illuminance at test point	Age group	A			B			C			D			E			F			G			H		
		Mean (S.D.)			Mean (S.D.)			Mean (S.D.)			Mean (S.D.)			Mean (S.D.)			Mean (S.D.)			Mean (S.D.)			Mean (S.D.)		
500 lx	Young	31.1 (1.5)			31.3 (1.4)			30.0 (2.6)			30.1 (2.8)			29.4 (2.2)			29.0 (3.2)			28.7 (2.4)			23.2 (6.3)		
	Middle	31.2 (1.3)			31.2 (1.5)			31.1 (1.5)			30.1 (1.9)			29.8 (2.5)			29.2 (2.4)			26.4 (4.1)			20.2 (9.8)		
	Old	29.5 (2.9)			28.7 (2.5)			28.2 (3.9)			27.2 (4.4)			28.1 (3.5)			24.5 (7.7)			18.2 (11.0)			10.2 (11.8)		
300 lx	Young	31.2 (1.2)			31.5 (1.0)			31.0 (1.9)			29.8 (2.5)			29.5 (2.4)			28.7 (3.5)			28.8 (4.2)			22.3 (5.6)		
	Middle	31.2 (1.3)			30.2 (1.7)			31.2 (1.1)			30.5 (1.3)			29.7 (2.2)			28.9 (2.4)			26.7 (6.2)			18.2 (8.5)		
	Old	30.2 (2.9)			30.2 (2.6)			30.1 (3.0)			28.8 (3.8)			27.4 (4.8)			22.8 (9.7)			18.2 (10.9)			7.1 (9.7)		
166 lx	Young	31.1 (1.8)			31.3 (0.9)			31.6 (1.1)			30.6 (2.0)			29.0 (2.7)			28.2 (3.3)			28.2 (2.8)			19.8 (7.7)		
	Middle	31.4 (1.4)			31.4 (1.3)			31.3 (1.3)			30.2 (2.3)			30.0 (2.3)			27.9 (4.1)			26.5 (4.5)			18.0 (4.2)		
	Old	29.2 (4.5)			29.2 (3.9)			28.9 (4.2)			27.7 (4.9)			27.0 (6.1)			20.0 (10.4)			14.5 (10.9)			5.4 (8.1)		
100 lx	Young	30.8 (1.6)			30.8 (2.0)			29.8 (2.0)			28.9 (3.3)			29.8 (2.7)			28.2 (3.6)			23.6 (3.1)			17.7 (4.7)		
	Middle	31.1 (2.2)			31.4 (1.2)			31.3 (1.5)			30.2 (1.8)			30.7 (2.3)			25.6 (5.4)			23.8 (7.4)			16.2 (8.7)		
	Old	28.8 (4.6)			27.8 (4.4)			26.9 (4.4)			26.1 (5.7)			25.1 (7.2)			20.0 (9.0)			13.0 (11.5)			3.5 (6.1)		
72 lx	Young	31.2 (1.0)			30.8 (1.6)			30.1 (2.1)			29.8 (2.1)			28.5 (3.1)			26.0 (6.0)			17.5 (7.1)			12.2 (5.2)		
	Middle	30.5 (1.1)			30.0 (1.4)			29.8 (1.6)			29.0 (2.5)			26.7 (2.7)			25.8 (2.6)			15.8 (8.7)			9.2 (6.6)		
	Old	28.9 (2.8)			27.5 (3.8)			26.2 (3.9)			26.2 (5.1)			24.3 (7.2)			21.0 (8.2)			8.8 (7.2)			3.2 (4.3)		
17 lx	Young	30.2 (1.7)			30.4 (2.5)			30.0 (2.3)			29.8 (2.3)			28.8 (4.1)			24.0 (5.3)			17.3 (7.4)			8.7 (5.7)		
	Middle	30.4 (2.2)			30.9 (1.9)			30.8 (1.9)			30.1 (2.4)			28.4 (5.5)			23.5 (7.6)			15.9 (7.1)			5.2 (6.1)		
	Old	27.5 (4.1)			26.5 (4.6)			25.5 (6.4)			20.0 (8.2)			16.7 (9.6)			8.3 (9.6)			2.9 (4.4)			0.2 (0.6)		

Table 32 : Mean scores on visual performance of subjects on visual acuity test against medium brightness contrast

Illuminance at test point	Age group	A		B		C		D		E		F		G		H	
		Mean (S.D.)		Mean (S.D.)		Mean (S.D.)		Mean (S.D.)		Mean (S.D.)		Mean (S.D.)		Mean (S.D.)		Mean (S.D.)	
500 lx	Young	31.5 (1.5)		31.6 (1.4)		31.0 (2.4)		30.6 (2.3)		29.8 (3.8)		28.5 (3.7)		27.5 (4.2)		21.2 (7.3)	
	Middle	30.3 (2.5)		30.7 (2.5)		30.4 (2.3)		29.5 (3.3)		29.2 (2.8)		27.4 (5.2)		25.8 (7.4)		17.7 (8.9)	
	Old	29.6 (3.3)		29.6 (3.9)		29.2 (3.8)		27.8 (4.8)		27.0 (5.7)		21.1 (9.5)		17.5 (11.0)		9.5 (11.2)	
300 lx	Young	31.5 (1.0)		31.6 (0.7)		30.8 (1.6)		30.5 (2.3)		30.3 (2.3)		28.8 (4.1)		27.1 (5.1)		19.9 (8.4)	
	Middle	30.1 (2.3)		30.7 (2.1)		30.2 (3.1)		30.6 (2.5)		29.7 (2.6)		28.2 (3.8)		25.6 (8.0)		16.3 (9.8)	
	Old	29.2 (3.4)		29.5 (4.3)		28.8 (4.0)		28.8 (4.7)		28.8 (4.8)		23.5 (9.5)		17.0 (14.1)		4.5 (7.1)	
166 lx	Young	31.0 (1.8)		30.8 (1.7)		30.6 (2.4)		30.5 (2.4)		29.8 (2.5)		29.8 (2.0)		26.8 (4.9)		19.5 (3.4)	
	Middle	30.5 (2.0)		31.2 (1.6)		31.3 (.9)		30.6 (2.6)		28.2 (3.2)		25.9 (4.8)		24.9 (6.2)		12.0 (6.9)	
	Old	29.8 (2.8)		26.7 (4.7)		26.9 (4.8)		25.3 (6.1)		24.5 (6.0)		15.1 (10.0)		8.2 (9.8)		2.0 (3.0)	
100 lx	Young	28.0 (2.7)		28.7 (2.7)		25.8 (4.4)		25.7 (3.7)		25.8 (6.7)		23.8 (10.0)		23.7 (7.0)		17.8 (9.1)	
	Middle	27.1 (1.9)		27.3 (2.3)		26.8 (2.8)		24.6 (3.5)		24.6 (7.4)		22.8 (9.3)		20.5 (7.8)		11.4 (7.8)	
	Old	27.8 (4.4)		27.1 (4.4)		26.3 (5.0)		25.2 (6.0)		25.0 (7.9)		13.6 (10.6)		7.7 (9.5)		1.0 (1.9)	
72 lx	Young	30.1 (1.6)		29.7 (2.3)		28.7 (3.6)		28.8 (4.1)		28.1 (3.9)		24.0 (5.0)		15.8 (7.8)		9.8 (7.4)	
	Middle	30.5 (1.5)		30.3 (1.9)		29.4 (3.0)		28.6 (2.7)		26.2 (4.0)		21.1 (6.1)		14.6 (9.1)		8.4 (7.3)	
	Old	27.2 (3.8)		27.5 (4.6)		26.7 (5.9)		21.0 (8.6)		17.8 (10.0)		14.7 (10.8)		3.4 (5.1)		1.9 (3.3)	
17 lx	Young	28.7 (2.6)		28.6 (3.0)		25.2 (5.4)		24.0 (6.5)		24.1 (6.0)		20.8 (5.9)		13.6 (7.3)		3.4 (4.3)	
	Middle	27.7 (3.8)		26.1 (4.4)		24.8 (5.7)		23.6 (5.8)		23.2 (6.8)		15.0 (9.4)		8.5 (8.9)		1.5 (2.6)	
	Old	26.0 (5.6)		23.8 (6.9)		22.5 (8.4)		17.8 (8.7)		10.7 (9.1)		3.3 (4.8)		0.4 (1.4)		0.0 (0.0)	

Table 33 : Mean scores on visual performance of subjects on visual acuity test against low brightness contrast

Illuminance at test point	Age group	A	B	C	D	E	F	G	H
		Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)
500 lx	Young	31.8 (0.4)	31.5 (0.9)	31.1 (1.0)	31.2 (0.9)	29.7 (2.8)	28.9 (2.6)	25.9 (3.8)	16.8 (6.7)
	Middle	30.6 (2.2)	29.8 (2.5)	29.7 (2.8)	30.6 (1.8)	29.2 (2.5)	27.0 (4.7)	24.4 (5.1)	13.4 (7.8)
	Old	29.4 (1.9)	27.9 (3.8)	28.2 (2.2)	26.2 (3.3)	26.6 (3.5)	20.0 (8.2)	14.8 (10.4)	5.8 (8.0)
300 lx	Young	31.6 (0.8)	31.3 (1.3)	31.2 (1.2)	31.0 (1.5)	29.7 (2.8)	27.8 (3.5)	25.8 (4.6)	17.7 (6.8)
	Middle	31.5 (0.8)	31.4 (1.0)	31.0 (1.2)	29.7 (1.9)	30.0 (2.4)	27.7 (4.5)	24.3 (6.6)	12.8 (8.6)
	Old	28.8 (3.1)	28.1 (3.7)	27.8 (4.5)	25.8 (4.3)	25.5 (4.6)	16.1 (11.8)	12.5 (10.9)	3.9 (4.7)
166 lx	Young	31.2 (1.6)	31.2 (1.4)	31.1 (1.2)	31.2 (1.1)	28.3 (2.9)	28.3 (2.5)	25.3 (4.7)	16.5 (5.8)
	Middle	30.2 (4.4)	31.0 (1.9)	30.7 (1.7)	30.6 (1.7)	29.9 (2.1)	25.0 (4.4)	23.4 (4.3)	12.2 (4.3)
	Old	28.5 (3.7)	28.3 (3.6)	27.7 (4.8)	25.6 (6.6)	25.6 (5.9)	17.2 (10.6)	8.6 (8.8)	2.8 (3.9)
100 lx	Young	30.5 (2.5)	30.3 (2.5)	30.2 (3.0)	29.5 (3.5)	28.3 (5.0)	26.9 (5.8)	23.9 (9.2)	13.9 (6.6)
	Middle	31.4 (1.2)	31.5 (1.0)	31.5 (1.1)	28.7 (4.7)	26.5 (6.9)	21.8 (7.9)	19.8 (6.5)	10.6 (7.0)
	Old	28.2 (3.6)	27.9 (4.2)	25.7 (6.9)	24.9 (7.6)	24.8 (7.9)	14.8 (9.0)	8.0 (8.9)	1.0 (2.0)
72 lx	Young	30.5 (1.5)	29.8 (3.1)	29.6 (2.7)	29.1 (2.4)	27.5 (2.8)	23.9 (5.9)	14.0 (5.7)	7.7 (4.9)
	Middle	30.5 (1.5)	30.2 (1.7)	29.9 (1.9)	28.7 (1.9)	27.1 (2.7)	24.0 (3.2)	10.5 (3.0)	3.7 (4.1)
	Old	27.9 (3.2)	27.6 (4.4)	27.2 (5.0)	20.7 (8.2)	16.5 (6.9)	13.3 (9.4)	2.9 (3.9)	0.4 (1.0)
17 lx	Young	30.2 (2.7)	30.0 (3.5)	30.2 (3.5)	28.8 (3.3)	23.0 (4.4)	17.8 (6.7)	12.3 (7.1)	3.9 (4.9)
	Middle	30.5 (2.1)	29.9 (3.6)	30.0 (4.5)	28.2 (5.6)	23.8 (7.6)	15.4 (6.3)	8.7 (7.3)	1.0 (2.1)
	Old	27.2 (5.7)	27.5 (5.4)	25.6 (6.9)	17.5 (9.1)	9.1 (8.7)	3.5 (7.2)	-0.2 (0.6)	0.0 (0.0)

Table 34 : 'F' value showing the difference in mean scores on the level of visual performance of subjects on visual acuity test against different brightness contrasts under varying illuminances by their age

Sources of Variation	SS	DF	MS	'F' value	Level of Significance
OLoP I_{LBC}					
Within cells	2364341.38	36	65676.15		
Constant	120149056.6	1	120149057	1829.42	.00**
Age	2169732.97	2	1084866.5	16.52	.00**
LoP I_{LBC-L}					
Within cells	38481.38	36	1068.93		
Constant	11270031.41	1	11270031	10543.31	.00**
Age	11240.21	2	2620.10	5.26	0.01**
LoP I_{LBC-M}					
Within cells	109086.46	36	3030.18		
Constant	9693083.31	1	9693083.3	3198.85	.00**
Age	63395.23	2	31697.62	10.46	.00**
LoP I_{LBC-MS}					
Within cells	320569.69	36	8904.71		
Constant	6329921.64	1	6329921.6	710.85	.00**
Age	242368.67	2	121184.33	13.61	.00**
LoP I_{LBC-S}					
Within cells	305601.38	36	8488.93		
Constant	3900074.08	1	3900074.1	459.43	.00**
Age	389387.54	2	194693.77	22.94	.00**

Table 35 : 'F' values showing the difference in mean scores on the level of visual performance of subjects on visual acuity test against different brightness contrasts by varying illuminances

Multivariate tests of significance

Pillais	Value	Approx. F	Hypoth. DF	Error Ms	Level of Significance
OLoP I _{BC}	.92	70.46	5.00	32.00	.00**
LoP I _{BC-L}	.58	8.87	5.00	32.00	.00**
LoP I _{BC-M}	.58	8.87	5.00	32.00	.00**
LoP I _{BC-MS}	.82	28.88	5.00	32.00	.00**
OLoP I _{BC-S}	.87	44.41	5.00	32.00	.00**

Univariate F-tests

Illuminance (lx)	Hypoth. SS	Error SS	Hypoth. MS	Error MS	F' value	Level of significance
OLoP I_{BC}						
500-300	66.69	26811.08	66.69	744.75	.09	.77
500-166	8448.10	30582.92	8448.10	849.53	9.94	.00**
500-100	56362.03	60893.69	56392.03	1691.49	33.34	.00**
500-72	136823.08	30908.15	136823.08	858.56	159.36	.00**
500-17	373185.26	59654.00	373185.26	1657.056	225.21	.00**
LoP I_{BC-L}						
500-300	.41	820.46	.41	22.79	.02	.89
500-166	21.56	1244.62	21.56	34.57	.62	.44
500-100	546.56	1134.15	546.56	31.50	17.35	.00**
500-72	251.31	939.54	251.31	26.10	9.63	.00**
500-17	1185.26	2001.85	1185.26	55.61	21.31	.00**
LoP I_{BC-M}						
500-300	23.08	2640.92	23.08	73.36	.31	.58
500-166	4.33	3116.31	4.33	86.56	.05	.82
500-100	1667.31	3622.00	1667.31	100.61	16.57	.00**
500-72	2171.31	4841.54	2171.31	134.49	16.15	.00**
500-17	8214.26	8507.54	8214.26	236.32	34.76	.00**
LoP I_{BC-MS}						
500-300	47.41	3640.31	47.41	101.12	.47	.50
500-166	1440.23	3680.77	1440.23	102.24	14.09	.00**
500-100	6282.69	9000.31	6282.69	250.01	25.13	.00**
500-72	7616.03	4870.62	7616.03	13.29	26.29	.00**
500-17	46869.33	12467.69	46869.33	346.32	135.33	.00**
LoP I_{BC-S}						
500-300	45.23	6328.77	45.23	175.80	.26	.62
500-166	2231.41	7358.92	2231.41	204.41	10.92	.00**
500-100	8835.10	13381.23	8835.10	371.70	23.77	.00**
500-72	48477.56	9648.46	48477.56	268.01	180.88	.00**
500-17	72541.64	16306.15	72541.64	452.95	160.15	.00**

Table 36 : 'F' values showing the difference in mean scores on the level of performance of subjects on visual acuity test under varying illuminances by brightness contrasts

Multivariate tests of significance

Pillais	Value	Approx. F	Hypoth. DF	Error Ms	Level of Significance
OLoP I _L	.78	60.87	2.00	35.00	.00**
LoP I _{L-L}	.18	15.86	2.00	35.00	.00**
LoP I _{L-M}	.44	13.63	2.00	35.00	.00**
LoP I _{L-MS}	.77	59.58	2.00	35.00	.00**
LoP I _{L-S}	.69	38.12	2.00	35.00	.00**

Univariate F-tests

Brightness Contrast	Hypoth. SS	Error SS	Hypoth. MS	Error MS	'F' value	Level of significance
OLoP I_L						
BC.1-BC.2	97800.23	50973.08	97800.23	1415.92	69.07	.00**
BC.2-BC.3	24.64	51733.38	24.64	1437.04	.02	.90
BC.1-BC.3	100929.64	34833.54	100929.64	967.60	104.31	.00**
LoP I_{L-L}						
BC.1-BC.2	1551.69	1723.08	1551.69	47.86	32.42	.00**
BC.2-BC.3	868.10	2626.15	868.10	72.95	11.90	.00**
BC.1-BC.3	98.56	1517.69	983.56	42.16	2.34	.14
LoP I_{L-M}						
BC.1-BC.2	4082.08	5408.92	4082.08	150.25	27.17	.00**
BC.2-BC.3	915.92	2784.46	915.92	77.35	11.84	.00**
BC.1-BC.3	1130.77	4268.15	1130.77	118.56	9.54	.00**
LoP I_{L-MS}						
BC.1-BC.2	12889.26	6577.54	12889.26	182.71	70.55	.00**
BC.2-BC.3	266.77	7996.92	266.77	222.14	1.20	.28
BC.1-BC.3	16864.64	6260.46	16864.64	173.90	96.98	.00**
LoP I_{L-S}						
BC.1-BC.2	9200.03	10560.15	9200.03	293.34	31.36	.00**
BC.2-BC.3	2338.56	15522.31	2338.56	461.18	5.42	.03*
BC.1-BC.3	20815.41	11205.08	20815.41	311.25	66.88	.00**

Table 37 : 'F' values showing the difference in mean scores on the level of visual performance of subjects on visual acuity test against different brightness contrasts by interaction between age and illuminances

Multivariate tests of significance

Pillais	Value	Approx. F	Hypoth. DF	Error Ms	Level of Significance
OLoP I _{BC}	.41	1.70	10.00	66.00	.10
LoP I _{BC-L}	.177	.64	10.00	66.00	.77
LoP I _{BC-M}	.50	2.20	10.00	66.00	.03*
LoP I _{BC-MS}	.52	2.31	10.00	66.00	.02*
OLoP I _{BC-S}	.40	1.69	10.00	66.00	.10

Univariate F-tests

Illuminance (lx)	Hypoth. SS	Error SS	Hypoth. MS	Error MS	'F' value	Level of significance
OLoP I_{BC}						
500-300	281.23	26811.08	140.62	744.75	.19	.83
500-166	8820.97	30582.92	4410.49	849.53	5.19	.01**
500-100	1897.28	60893.69	948.64	1691.49	.56	.58
500-72	2572.77	30908.15	1286.38	858.56	1.50	.24
500-17	21851.74	59654.00	10925.87	1657.06	6.59	.00**
LoP I_{BC-L}						
500-300	5.13	820.46	2.56	22.79	.11	.89
500-166	6.82	1244.62	3.41	34.57	.10	.91
500-100	37.28	1134.15	18.64	31.50	.59	.56
500-72	100.15	939.54	50.08	26.10	1.92	.16
500-17	117.90	2001.85	58.87	55.61	1.06	.36
LoP I_{BC-M}						
500-300	56.00	2640.92	28.00	73.36	.38	.69
500-166	100.36	3116.31	50.18	86.56	.58	.57
500-100	53.69	3622.00	26.85	100.61	.27	.77
500-72	894.15	4840.54	447.08	134.49	3.32	.05*
500-17	2510.21	8507.54	1255.10	236.32	5.31	.01**
LoP I_{BC-MS}						
500-300	125.28	3640.31	62.64	101.12	.62	.54
500-166	1158.00	3680.77	579.00	102.24	5.66	.00**
500-100	618.00	9000.31	309.00	250.01	1.24	.30
500-72	136.36	4870.62	68.18	135.29	.50	.61
500-17	5086.97	12467.69	2543.49	346.32	7.34	.00**
LoP I_{BC-S}						
500-300	62.00	6328.77	31.00	175.80	.18	.84
500-166	2584.67	7358.92	1292.33	204.41	6.32	.00**
500-100	898.67	13381.23	449.33	371.70	1.21	.31
500-72	4.97	9648.46	2.49	268.01	.01	.99
500-17	410.21	16306.15	205.10	452.95	.45	.64

Table 38 : 'F' values showing the difference in mean scores on the level of performance of subjects on visual acuity test under varying illuminances by interaction between age and brightness contrasts

Multivariate tests of significance

Pillais	Value	Approx. F	Hypoth. DF	Error Ms	Level of Significance
OLoP I _L	.39	4.30	4.00	72.00	.00**
LoP I _{L-L}	.21	2.04	4.00	72.00	.10
LoP I _{L-M}	.49	5.77	4.00	72.00	.00**
LoP I _{L-MS}	.38	4.27	4.00	72.00	.00**
LoP I _{L-S}	.12	1.15	4.00	72.00	.34

Univariate F-tests

Brightness Contrast	Hypoth. SS	Error SS	Hypoth. MS	Error MS	'F' value	Level of significance
OLoP I_L						
BC.1-BC.2	6585.69	50973.08	3292.85	1415.92	2.33	.11
BC.2-BC.3	5912.97	51733.38	2956.49	1437.04	2.06	.14
BC.1-BC.3	18824.82	34833.54	9412.41	967.60	9.73	.00**
LoP I_{L-L}						
BC.1-BC.2	215.23	1723.08	107.66	47.86	2.25	.12
BC.2-BC.3	453.74	2626.15	266.87	72.95	3.11	.06
BC.1-BC.3	131.74	1517.69	65.87	42.16	1.16	.22
LoP I_{L-M}						
BC.1-BC.2	1741.08	4268.15	870.54	118.56	7.34	.00**
BC.2-BC.3	98.00	5408.92	49.00	150.25	.33	.72
BC.1-BC.3	1912.62	2784.46	956.31	77.35	12.36	.00**
LoP I_{L-MS}						
BC.1-BC.2	1994.21	6577.54	997.10	182.71	5.46	.01**
BC.2-BC.3	310.31	7996.92	155.15	22.14	.70	.50
BC.1-BC.3	2939.90	6260.46	1469.95	173.90	8.45	.00**
LoP I_{L-S}						
BC.1-BC.2	936.82	10560.15	468.41	293.34	1.60	.22
BC.2-BC.3	27.13	15522.31	13.56	431.18	0.31	.97
BC.1-BC.3	924.51	11205.08	477.26	311.25	1.53	.23

Table 39 : 'F' value showing the difference in mean scores on the level of visual performance of subjects on brownness discrimination test under varying illuminances by their age

Sources of Variation	SS	DF	MS	'F' value	Level of Significance
Within cells	169.26	36	4.70		
Constant	151801.71	1	151801.71	32287.47	.00**
Age	17.70	2	8.85	1.88	.17

Table 40 : 'F' values showing the difference in mean scores on the level of visual performance of subjects on brownness discrimination test (i) by varying illuminances (ii) by interaction between age and illuminances

Multivariate tests of significance

Pillais Test	Value	Approx. F	Hypoth. DF	Error Ms	Level of Significance
(i)	.89366	53.78200	5.00	32.00	.000
(ii)	.37034	1.49983	10.00	66.00	.159**