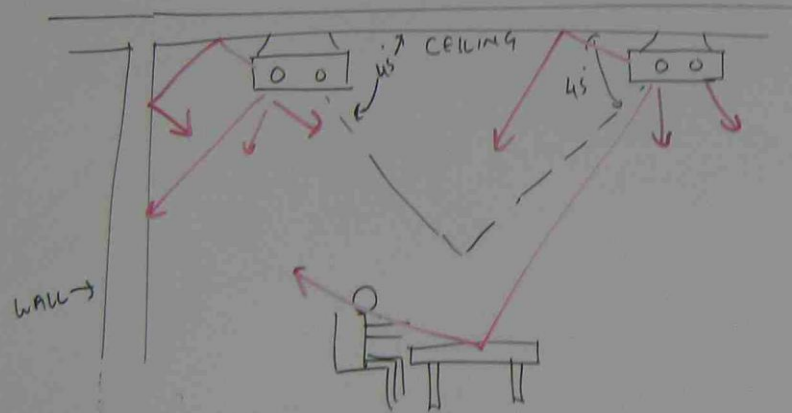


## GLARE CONTROL

TO CONTROL THE GLARE, LUMINAIRES MUST CONTROL THE INTENSITY OF LIGHT INCIDENT WITHIN DIRECT FIELD OF VISION. THIS MAY BE PERFORMED BY SCREENING THE LAMP WITH SHIELDS, LOUVRES OR BY RETRACTING THE LIGHT INTO DESIRED ZONE THROUGH A CLEAR PRISMATIC LENS PANEL.



## LIGHTING LEVEL

SUNNY DAY (OUTSIDE) = 100 000 LX

OFFICE 50 LX TO 1000 LX

## STANDARD

AS 1680 - 1970 INTERIOR LIGHTING AND VISUAL ENVIRONMENT.

## LIGHT EFFICIENCY

LIGHT SOURCE	EFFICIENCY	APPLICATION
TUNGSTEN FILAMENT (INCANDESCENT)	15 Lm/W	COLOR MATCHING DISPLAY DOMESTIC
LOW PRESSURE SODIUM DISCHARGE	150 Lm/W	ROADWAYS, SECURITY

### COMPARISON BETWEEN OLD LAMP AND NEW LAMP

OLD LAMP	
RATED WATT	APPROXIMATE Lm/w
20	60
40	78
65	77
DIAMETER 38mm	

NEW LAMP	
RATED WATT	APPROXIMATE Lm/w
18	64
36	83
58	83
DIAMETER 26mm	

THE NEW GENERATION OF LAMP ARE 10% LESS ENERGY IN THEMSELVES.

### INCREASE UTILIZATION OF LIGHT

LIGHT REACHING A SUBJECT IS MADE UP OF BOTH DIRECT COMPONENT COMING DIRECTLY FROM LUMINAIRE (SOMETIMES PASSING DIFFUSER) AND AN INDIRECT COMPONENT WHICH IS REFLECTED FROM WALLS, CEILING FLOOR ETC.

## INDIRECT COMPONENT

DARK CEILING & FLOORS ABSORB THE LIGHT. HIGH REFLECTANCE SURFACE  
NEEDS TO BE INCORPORATED INTO BUILDING DESIGN.

## COMPARING DARK SURFACE / WALL & REFLECTANCE SURFACE / WALL

BUILDING - SMALL COMMERCIAL BUILDING.

$$29m \times 16m = 400m^2$$

### CONDITION (1)

RECESSED 2x40 W FLOURESCENT LUMINAIRES

DARK LOW REFLECTANCE ROOM FINISHES

CEILING	BEIGE	REFLECTANCE 50%
WALL	WALNUT TIMBER	20%
FLOOR	MID BROWN	20%

77 LIGHTS

KWH for 260 HR MONTH

2000 KWH / MONTH

### CONDITION (2)

RECESSED 2x40 W FLOURESCENT LUMINAIRES  
LIGHT HIGH REFLECTANCE ROOM FINISHES

CEILING	OFF WHITE	REFLECTANCE 80%
WALL	TEAK PINE CREAM	70%
FLOOR	BROWN	20%

59 LIGHTS

KWH for 260 HR MONTH

1534 KWH / MONTH.



## SWITCH OFF UNUSED LUMINAIRES

MUCH RESEARCH IS BEING CONDUCTED IN TO IMPROVING THE EFFICIENCY OF LAMPS AND LUMINAIRES AND IF A REDUCTION IN POWER CONSUMPTION OF 5% IS ACHIEVED WITHOUT ANY LOSS OF LIGHT OUTPUT, THIS IS REGARDED AS A SUBSTANTIAL DEVELOPMENT. HOWEVER SWITCHING ONLY ONE LUMINAIRE OFF IS 20 TIMES MORE EFFICIENT.

THERE ARE MANY AREAS WHERE LIGHTING IS USUALLY LEFT ON FOR THE WHOLE WORKING DAY BUT USED FOR ONLY A FEW HOURS. FOR EXAMPLE BOARD ROOMS, CANTEENS, CORRIDORS, STORE ROOMS, STAIR WELLS WITH NATURAL LIGHTING, AIR CONDITIONING PLANT AND LIFT ROOMS.

EXTENDED BURNING HOURS IN PUBLIC AREAS CAN BE BEST REDUCED BY THE USE OF AUTOMATIC SWITCHING SUCH AS

LIGHT SENSITIVE SWITCHES

TIME SWITCHES

PROGRAMMABLE TIME SWITCHES.

# ILLUMINATION REQUIREMENT (AS 1680.1)

LOCATION	Lx	LOCATION	Lx
<u>ENTRANCES</u>		<u>TOILET</u>	80
HALL, WAITING ROOM	160	PLANT ROOMS	80 → 160
ENQUIRY DESK	400		
GATE	40	COMPUTER ROOM	400
LOADING BAY / GATE HOUSE	80		
CORRIDOR / PASSAGE WAYS	40 → 80	DRAWING OFFICE	
STAFF RESTAURANT	160 → 240	GENERAL	400
KITCHENS		BOARD	600
STAFF ROOM	40 → 80	GENERAL OFFICE	
FIRST AID		Typing / Writing	400
TREATMENT ROOM	400	copying	
		STORE	160