



SARMA GUIDELINE

SAFETY, HEALTH, ROAD TRANSPORT, ENVIRONMENTAL & QUALITY STANDARD

ILLUMINATION

LIGHTING: NATURAL & ARTIFICIAL

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Section B, Element 10, Items 10.1, 10.2, 10.3 & 10.4 and

Section C, Element 1, Item 1.1.4)



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1. PURPOSE

The purpose of this guideline is to ensure that sufficient lighting levels and visibility are provided and maintained under all operating circumstances and that:

- 1.1. A Lighting Survey [\[SHREQ_1.12-F03\]](#) has been completed of all areas, and lighting levels are measured at agreed intervals, and emergency lighting is installed where required;
- 1.2. The physical condition of all lighting, fittings and switches are maintained in a good state of repair, all bulbs and tubes are in working order and all windows and skylights are free of cracks and clean;
- 1.3. A defect reporting system [\[SHREQ_0.00-F03\]](#) is in place and that all defects are actioned promptly and repaired;
- 1.4. Safety glass is installed in terms of the National Building Regulations, to ensure personal safety as per Safety Glass Survey form [\[SHREQ_1.12-F02\]](#) and
- 1.5. Appropriate lighting, reflective clothing and mirrors are provided to ensure that workers and equipment can be clearly seen and are visible.

2. SCOPE


- 2.1. This guideline applies to **EMPLOYERS**.

3. RESPONSIBILITY AND ACCOUNTABILITY

- 3.1. It shall be the responsibility of Section 16(2) Appointees [\[SHREQ_5.11-F02-3\]](#) to ensure that this standard is complied with;
- 3.2. It will be the responsibility of the Section 16(2) Appointees [\[SHREQ_5.11-F02-3\]](#) to ensure that lighting surveys are carried out, by an Authorised Inspection Authority (AIA) every 3 years or when structural alterations are made;
- 3.3. The Section 16(2) Appointees [\[SHREQ_5.11-F02-3\]](#) shall ensure that the AIA Survey complies with the requirements set by the Department of Labour and applicable Codes of Practice – SABS 0114 and legislation;
- 3.4. The Section 16(2) Appointees [\[SHREQ_5.11-F02-3\]](#) shall conduct a Safety Glass Survey form [\[SHREQ_1.12-F02\]](#) in terms of SABS Code 0400 Part N (1990) every 2 years, and will prepare a report. Any hazards shall immediately be addressed;
- 3.5. The Section 16(2) Appointees [\[SHREQ_5.11-F02-3\]](#), in liaison with the various Health and Safety Representatives [\[SHREQ_5.11-F02-8\]](#), must ensure that all occupational hazards pertaining to lighting and vision are identified and adequately addressed and
- 3.6. It is the responsibility of the SHE Representative/Section 16(2) Appointees to ensure that regular inspections are completed and that all defects are reported and repaired timorously.

4. DEFINITIONS AND ABBREVIATION

4.1 WORKPLACE

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An Authorized place where an Employee, Contractor and Visitor perform work in the course of his/her employment.

4.2 EMERGENCY LIGHTING

In the event of an emergency situation lighting must be sufficient to guarantee the safe shut down of all office machinery ensuring the safe evacuation of personnel in the event of a power failure.

4.3 ILLUMINANCE

The intensity of light falling on a surface measured in Lux.

4.4 LUMINAIRE

Means a light fitting which supports a lamp & provides it with electrical connections.

4.5 LUX

Lux is defined as a unit of illumination.

4.6 GLARE

Glare may be defined as any brightness within the field of vision that causes discomfort, annoyance and interference with vision or eye fatigue. Glare can be direct (sun) or indirect (reflected from a shiny surface).


5. LEGAL AND OTHER REQUIREMENTS

5.1. General

ENTRY NUMBER	DOCUMENT NUMBER	ENTRY DESCRIPTION
5.1.1.	Engineering Instructions Standing	Lighting Requirements
5.1.2.	SABS 0108	Classification of Hazardous Location and Selection of Electrical Applications
5.1.3.	SABS 0400	National Building Regulation

5.2. Legal References

ENTRY NUMBER	DOCUMENT NUMBER	ENTRY DESCRIPTION
5.2.1.		Regulations 5(1) (d) Switchgear and Transformers: Equipment, Thoroughfares, Working Areas Clearly Distinguishable and Labels Readable

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5.2.2.		Electrical Installation Regulations
5.2.3.		Electrical Meters
5.2.4.		Environmental Regulations 3, 4 Luminance to be According to Tables
5.2.5.		Facility Regulations 2 (4)(c), 4(2)(d), Showers and Change rooms to have Obscure Windows
5.2.6.		General Safety Regulations 4 (7)(b)
5.2.7.		Occupational Health and Safety Act No. 85 of 1993
5.2.8.		Rooms <100m ² to have windows $\geq 3/5$ of square roof of m ² floor area

5.3. Other Requirements

5.3.1. Local Authorities.


6. RECORDS

ENTRY NUMBER	REFERENCE NUMBER	ENTRY DESCRIPTION	STORAGE SPACE	RETENTION TIME
6.1.	EMPLOYERS	Maintenance record		
6.2.	EMPLOYERS	Maintenance schedules		
6.3.	EMPLOYERS	Risk assessment forms		
6.4.	EMPLOYERS	SHE Representative inspection reports		
6.5.	EMPLOYERS	Survey records		
6.6.	EMPLOYERS	Waste permit		
6.7.	EMPLOYERS	Waste certificate		
6.8.	EMPLOYERS	Work notification / orders		

7. PROCEDURE

7.1. MINIMUM LIGHTING LEVELS

- 7.1.1 The degree of accuracy, the precision, colour and reflectance of detail to be observed, will determine the illumination level required, measured in Lux;
- 7.1.2 The sustained minimum average lighting levels will apply, measured at the working surface as indicated in Survey Monitor, in terms of the Environmental Regulations;

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7.1.3 Where lighting levels are found to be below the legally prescribed levels (schedule to ERW.3), corrective actions will be implemented and

7.1.4 The criteria for adequate lighting shall be that the light levels will not create any health or safety hazard.

7.2. IMPLEMENTATION

7.2.1. A lighting survey on form [\[SHREQ_1.12-F03\]](#) of all areas will be completed in all buildings and external work areas to determine light intensity levels. This shall include all emergency lighting systems. Where lighting levels do not meet legislated minimum levels, or workplace requirements, an action plan will be implemented to meet these levels;

7.2.2. The average luminance of any floor level in a workplace within 5 metres of a workplace must not be less than one fifth of the average luminance of the task;

7.2.3. Glare must be reduced to a level that does not impair vision;

7.2.4. A glass risk audit/glazing survey on form [\[SHREQ_1.12-F03\]](#) shall also be completed (survey monitor);

7.2.5. Further surveys will be completed after any changes i.e. structural or other, and

7.2.6. All large glass openings will be clearly marked and fitted with safety glass.

7.3. MAINTENANCE

7.3.1. SHE Representatives [\[SHREQ_5.11-F02-8\]](#) and night shift security personnel (where employed) shall visually check all artificial lighting (luminaries, lamps, tubes and globes) on a daily basis;

7.3.2. All defective lighting to be reported to the Section 16(2) Appointees [\[SHREQ_5.11-F02-3\]](#), who will record the defect in the prescribed defect register. Critical lighting will be promptly repaired;

7.3.3. All windows, fan lights, translucent sheeting and light fittings will be kept clean and free from obstruction, and should be installed as far as possible to minimise glare and recorded in register and


7.3.4. All emergency lighting will be physically tested quarterly.

7.4. INSTALLATIONS

The following must be considered when new installations or alterations are proposed:

7.4.1. The layout must permit the convenient servicing/cleaning of luminaries;

7.4.2. Equipment must be environmentally suitable and comply with the relevant SABS 0108 Standards - (i.e. Flammable stores and wet areas - internal, external, hazardous/special areas);

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- 7.4.3. All switches must be identified and numbered and per standard [\[SHREQ_2.13-F01\]](#) ;
- 7.4.4. Distribution boards/installations must be uniformly numbered & registered [\[SHREQ-2.13-F03\]](#);
- 7.4.5. All installations to conform to **EMPLOYERS** colour coding standards [\[SHREQ_1.25-F01\]](#) and Electrical Installation Regulations and
- 7.4.6. Lighting levels must conform to Regulation 3 Environmental Regulations (OHSA) as a minimum standard.

7.5. EMERGENCY LIGHTING

- 7.5.1. Emergency lighting must be available for the safe evacuation of persons in all areas;
- 7.5.2. Where it is necessary to stop machinery or shut down plant or processes before evacuating the workplace, or where dangerous materials are present the emergency luminance shall not be less than 20 lux. Environmental Regulation 3 (4) 5(a);
- 7.5.3. OHS Act requires that emergency lighting must come into operation within 15 seconds, and provide a luminance of not less than 5 Lux at ground level in open areas and
- 7.5.4. Be of such duration that employees can safely evacuate the workplace until power is restored.

7.6. PROHIBITION

- 7.6.1. No employee shall interfere with or work on any luminaries, or other sources of light other than a qualified electrician. All work shall be completed in terms of the electrical installation regulations, and SABS Standards and
- 7.6.2. No safety glass shall be replaced with non-safety glass during repairs and maintenance.


8. ASSOCIATED DOCUMENTATION

- 8.1 Minimum lighting levels and
- 8.2 Glass survey form [\[SHREQ_1.12-F02\]](#) requirements.

(MINIMUM LIGHTING LEVELS e.g. refer to Survey monitor)

Minimum lighting levels are specified in the Environmental Regulations of OHS Act 85 of 1993. The following sustained minimum average lighting levels will apply, measured at the working surface unless otherwise indicated.

ENTRY NUMBER	LOCATIONS	LUX
8.1.	Computer Rooms	500
8.2.	Admin Offices/batch rooms	500

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8.3.	Electrical Panels	150
8.4.	Passages	75 (floor level)
8.5.	Kitchen/Canteens	150
8.6.	Storerooms, Racks/Passages	150
8.7.	Washrooms, toilets	100
8.8.	Outside stairways/Areas	25 (floor level)
8.9.	Emergency Exits/passages	20 (floor level)
8.10.	All Other Areas	100
8.11.	Safety Glass Survey	[SHREQ_1.12-F02]
8.12.	Survey Lighting	[SHREQ_1.12-F03]

1. STANDARD FOR SAFETY GLAZING IN-DOOR SABS - 0400

Where clear glazing is used and is not likely to be apparent to/or suspected by any person approaching it, such glazing shall bear markings which shall render it apparent to that person.

2. SAFETY GLAZING

Any pane of glass installed in any door shall, where not made of safety glass, be not more than 1m² in area and shall have a nominal thickness of not less than 6mm.

3. INSTALLATION OF GLAZING

- 3.1. Where such pane is to be exposed to the effect of wind it shall be in accordance with SABS 0400;
- 3.2. Such pane shall be fixed in the frame in accordance with any suitable method described in SABS 0400 and
- 3.3. Notwithstanding the requirements of (1) the nominal thickness of a pane of glass shall be not less than.

NAME		DESIGNATION	
SURNAME		DATE	
SIGNATURE			