

SECTION 3- LED LIGHT FIXTURES

3.1. SPECIFICATIONS FOR LED LIGHT FIXTURES:

- (i) **Rated Voltage:** 160VAC- 270VAC, 50 Hz
- (ii) **Power factor**> 0.90
- (iii) **LED fitting system efficacy:** Minimum 95 lumens/watt or otherwise specified.
- (iv) **Life of LED light fitting:** Not less than 50000 burning hrs.
- (v) **IP Category:** IP 20 or higher for indoor applications and IP 65 and above for Outdoor application.
- (vi) **Surge Protection:** Shall be provided conforming to relevant IS standard / IEC 61643- II class -2 & EN 61643 – II Type -2.
- (vii) **Labeling / Identification mark:** Manufacturers Name /Logo engraved/Embossed on housing/body or Name /Logo on aluminium plate labels or Name /Logo printed on housing/body.
- (viii) **Colour Rendering Index (CRI):** Minimum 80 for indoor applications
- (ix) **Total Harmonic distortion(THD) :** Less than 10%
- (x) **Type of Housing:** Extruded aluminium / Standard alloy housing for indoor applications and high pressure die cast aluminium/standard alloy for outdoor application.
- (xi) **Warrantee Period:** 5 years manufacturers warrantee from actual date of completion of work on complete luminaire i/c driver/control gear, LED, all accessories etc. The certificate of warranty for 5 years shall be issued from manufacturers head office.
- (xii) **Total Power Consumption of fitting:** Not more than 110% of Rated Capacity of LED fittings.
- (xiii) LED fittings shall comply with the relevant IS specifications with upto date amendments.
- (xiv) **Thermal management of LED:** Adequate heat sink with proper thermal management shall be provided and junction temperature does not increase more than 85 deg C
- (xv) The electronic driver shall be of high efficiency and it shall be integrated as per manufacturer recommendations.

- (xvi) **Make of LED:** Nichia/Cree/Osram/Philips (lumiled)/Sharp/Seoul.
(Undertaking from LED manufacturers shall be obtained for confirmation about use of said make LED's in their fittings).

3.2. TESTING:

Certificates of all type tests and routine tests conducted at manufacture's works as per BIS shall be submitted along with the material. Photo biological safety report and LM 80 report for the particular LEDs used in the LED fittings also shall be submitted.

3.3. GUARANTEE:

The firm is required to submit guarantee certificate on complete luminaire i/c driver/control gear, LED, all accessories etc. for 05 years from manufacturer.

3.4. APPROVAL:

The contractor shall submit sample fittings along with the following for approval before dispatch of material.

- a) Technical Catalogue of Product
- b) Test report of luminaire/lumen output (LM79 & LM80)

Complete supply shall be made after approval of the sample.

3.5. ADDITIONAL CONDITIONS:

3.5.1. Cutting and making good the false ceiling shall be under the scope of contractor. Nothing extra shall be paid in the regard.

3.5.2. The fittings may be supplied in different lots to ensure progress of the work without waiting for the production of entire fittings.

3.5.3. Work shall be carried out as per CPWD specifications and IE rules as amended up to date. The contractor shall indemnify AAI against all claims, damages, and compensations under relevant labour acts and shall insure the entire work at his cost as per clause 46 of AAI General Conditions of Contract.