**LED LUMINAIRES**

The luminaires shall be tested as per standards and test reports shall be submitted along with the materials, should comply with following specifications and suitable for installation on GI poles.

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| Sl. No. | Parameters | Required Specification |
| 1 | Total system wattage of Fixture including  Driver | Not Less than 30 W |
| 2 | Efficiency of LED light fitting (Efficacy) | Min 95 Lumens/Watt |
| 3 | Life of LED light fitting | Not less than 50000 burning Hours |
| 4 | Lumen Depreciation | Depreciates 30% after life (50000 hours) |
| 5 | Approved make for LED | Nichia/Cree/Osram/Phillips(Lumiled)/Sharp/Seoul.  (SEE NOTE BELOW) |
| 6 | CRI (Colour Rendering lndex) | Min 80 for indoor applications and Min 70  for outdoor applications. |
| 7 | CCT (Colour Temperature) | 5700 K ± 300 |
| 8 | THD (Total Harmonic Distortion) | Less than 10% |
| 9 | Type of Housing | High pressure die cast aluminium / Standard alloy for  outdoor application. |
| 10 | Impact resistance | Impact resistance greater than or equal to IK 07 |
| 11 | Heat dissipation/ heat sink | Well designed Thermal management system with  Aluminum heat sink. |
| 12 | IP Category | IP 65 or higher |
| 13 | Electrical safety | As per IEC safety standards |
| 14 | Surge Protection | Shall be provided conforming to relevant IS standard  / IEC 61643-II class - 2 & EN 61643-II Type-2  ,61643- ll Type - 2. |
| 15 | Labeling/ identification Mark | Manufactures Name / Logo engraved /  Embossed on housing / body or Name/ Logo on aluminium plate Lables or Name / Logo printed on  housing / body |
| 16 | Warranty period | 5 years warranty from actual date of completion of  work on complete luminaire including driver/control gear.  (SEE NOTE (b) BELOW) |
| 17 | Power Factor | Equal to 0.95 or More |
| 18 | Total Power consumption of fitting | Not More than 110 % of rated capacity of LED Light. |
| 19 | Test reports of luminaire | The luminaire should be tested as per IEC 60598 2-  3:2002 standards and following test reports should be submitted alongwith the fittings:  Heat Resistance Test, Thermal Test, Ingress Protection Test, Drop Test, Electrical / Insulation Resistance Test, Endurance Test, Humidity Test, Photometry Test (LM 79 Report), LM 80 report. |

**Note:**

(a) Agency has to submit an undertaking from fitting manufacturer regarding confirmation about use of said make LED'S in their fittings.

(b) All LED light fixtures must be warranted by the manufacturer for a minimum of 05 years after date of completion. (Otherwise an amount of Rs. 15,00,000.00 will be recovered from final bill of the agency.)