TECHNICAL SPECIFICATIONS CHECKLIST FOR LED BASED OUTDOOR LIGHTING FIXTURES

Sr. No.	Particulars	Desired Specification	Bidder's Offer	
			Confirm	Deviation
1	Item Description and Scope of Work	Supply, Installation, Testing and commissioning of Energy Efficient LED (Light Emitting Diode) based Street Lighting Luminaries, including (but not limited to) the following: i. Complete Fixture including LED Lamps with Integrated Current Control Driver Circuit. ii. Comprehensive Mounting arrangement for installation of the Luminaries on indoor/existing Street Lighting Poles/Building/Allied Structures OR Both, for a height up to 20-30 meters from Ground Level iii. All required Accessories for (i) and (ii) above		
2	Quantity Required			
Specifications Outdoor Type Fittings				
3	Light Source	LED (Light Emitting Diode)		
4	Make of LED Fitting		Vendor to Specify	
5	Make of the LED Chip	CREE/OSRAM/NICHIA/PHILIPS or equivalent		
6	Mounting of LED	SMD to be used on a single metal clad PCB (Min FR4 grade)		
7	View Angle	120 Degree		
8	Ambient Temperature Suitability	0–50 Deg C		
9	Nominal Operating Parameters	220 – 240 V / 50 Hz / 1-ph AC		
10	Input Power (Watt)/Lumen Flux	Street light : 50W Max – 4000Lumen minimum		
		Flood Light: 120W Max – 9600Lumen minimum		
		Flood Light: 200W Max – 16000Lumen minimum		
11	Luminous Efficiency (Lumens/Watt)	**LED:** Up to 45W : 100L/W minimum Above: 45W : 120L/W minimum **LM-80** "Approved Method for Measuring Lumen Maintenance of LED Light Sources **Luminaries:** Up to 45W : 80L/W minimum Above: 45W : 90L/W minimum **LM-79** "Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products" Test Certificate from International / NABL Accredited Laboratory shall be submitted as documentary evidence for meeting the Luminous Efficiency criteria		
12	Drive Current (mA)	350mA Maximum If for higher power rating (>45W) drive current is greater than 350mA then it can be accepted if the LED's LM80/IS16105 test report support the same.		
13	LED Operating Life (Hrs)	LED Luminaries shall have a guaranteed operating life of		

09.01.2020

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		50000 burning hours (Minimum) with a controlled junction temperature of 850 deg C and soldering point temperature 85 deg C		
14	Color of Light	Cool White		
15	Color Temperature	5700K (5665K+-355K) as per ANSI standard C78.377. Colour point should fall within 7step McAdam as per ANSI C78.377A		
16	Color Rendering Index (CRI)	65 (Minimum)		
17	MOC of Fixture Housing	Pressure die-cast Aluminum		
18	MOC of Fixture Cover	UV Stabilized Polycarbonate		
19	Gasket Between Housing and Cover	Silicon gasket		
20	Ingress Protection (IP)	IP 65 (or better)		
21	Biological safety norms	The LEDs shall comply to Photo biological Safety norms IEC 62471/EN62471/IS16108		
22	Impact Resistance	IK - 05		
23	LED Driver	Isolated Power output rating >/= 50W – Potted driver is mandatory		
24	Driver Efficiency	Up to 100W – 85% minimum More than 100W – 90% minimum		
25	Driver inbuilt & low voltage cut off	140V(Low) 277(High)		
26	Power Factor of Complete Fitting	Greater than 0.90		
27	Driver Protection	Short Circuit & Open Load		
28	Driver Surge Protection Standard	Minimum 3kV		
29	Total Harmonic Distortion (THD)	Less than 20% at full load		
30	Referred Standards (Bidder shall submit relevant report of these tests conducted in NABL accredited lab. A copy of NABL accreditation shall also be furnished)	a. **IS 10322** – Specification for the luminaries b. **IEC 60598**-1 Luminaries - General requirement and tests c. **IEC 61347 – 2 – 13** Lamp control gear: particular requirements for DC or AC supplied electronic control gear for LED modules. d. **IEC 61000 – 4-2/3/4/5/6/11** - Standard Testing of LED driver e. **IEC 62031** LED modules for general lighting-Safety requirements f. **IEC 62384** DC or AC supplied electronic control gear for LED modules performance requirements g. **IEC/PAS 62612** Self-ballasted LED lamps for general lighting services- Performance requirements h. **LM-79** "Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products" i. **LM-80** "Approved Method for Measuring Lumen		

09/01/2020

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		Maintenance of LED Light Sources		
31	Guarantee Terms	The Supplier shall provide Comprehensive Guarantee that the LED based Street Lighting Luminaries, including ALL their components shall be repaired or replaced, as the case may be, on priority basis, at Supplier's own risk and expense in case the same have been found to be defective in respect of material, workmanship, or under-performing from rated operation for a period of 06 Years w.e.f. the date of commissioning. ***Within warrantee period vendor has to replace the defective fittings failing of which vendor will be eliminated from approved vendor list of IOCL**		
32	Other Requirements to be submitted by Bidder along with offer	Bidder Shall be any of the following in respect of the offered product and shall submit relevant report/certificate: 1. Original Equipment Manufacturer/ Authorized Distributor / Channel Partner / Authorized Dealer / Authorized Stockiest of PHILIPS/BAJA/CG/GE/OSRAM/TOSHIBA 2. Original Equipment Manufacturer/ Authorized Distributor / Channel Partner / Authorized Dealer / Authorized Stockiest of other makes shall be considered provided the manufacturer has full fledged testing facilities for meeting the requirements of standards specified in 30. Also make of LED chip should be same as specified in item no 5. 3. Technical Catalogue for offered product shall be submitted along with the bid 4. Other details like PO quantity, PO value and Completion certificate with completion date of the said PO shall also be furnished. 5. All bidders shall furnish documentary evidence of purchase in respect of "Make of LED chip" to be supplied. 6. Successful bidder shall furnish PBG of 20% of PO value valid for a period of 3 years from the date of successful commissioning of LED fittings.		

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