

S.No	Description	specification	Firms confirmation
1	GENERAL DESCRIPTION : This Specifications covers design, manufacture, testing at manufacturer's Works, packing, supply, delivery of LED outdoor Light luminaries of Cool white.		
2	SCOPE		
A	Supply of Luminaries		
	Description	Material Code	Qty
	a) LED Street light fitting 60 watts, 230 volts	1472552350	
	b) 200 watts LED flood / light fitting 830V (YELLOW)	1472552540	
3	Technical Specifications		
	The LED Luminaires shall be as per the following parameters and no deviations are acceptable.		
3(A)	GENERAL		
a	The LED street light modules will confirm to IS 10322, and powered by latest bright LEDs (Phillips Lumileds / Cree/ Osram/ Nichia/ LG/ Samsung makes only) with high efficiency and meeting LM-80 and LM-79 standards. Makes of light fittings : Phillips, Osram, GE Venture, Wipro, Crompton, Bajaj, Havells, Halonix, Jaquar, Eveready, Syska, Surya, Keselec, Poly Cab only. Only specified makes mentioned above are acceptable and other makes are not acceptable.		
	Description	Out door (Cool White Type)	
b	Luminaries Wattage	As per enquiry	
c	LED luminary efficacy	> 100 Lumens/ Watt	
d	Life Span @ 70% light output	> 50000 Hrs.	
e	Uniformity Ratio (E min / E avg)	0.3	
f	Control of Distribution	Fully Cutoff	
g	Constant lux (The voltage variations / fluctuations in the specified voltage range shall not impinge upon the LUX levels it produces)	At 140V to 270V	
h	Driver current (With Constant Current Driver)	<1500ma/ LED	
i	Driver efficiency	> 90%	
j	Beam angle of the luminaire	120°	
k	Color Temperature	5700K to 6500K	
l	P/N Junction temperature (High thermal conduction must be achieved by use of silicon heat conductive greases as adhesive)	<85 °C	
m	Luminaire Body Temperature	The Body Temperature shall be < Ambient+40° C even after continuous burning of Luminaire for 24 Hrs	
n	Colour Rendering Index (CRI)	> 70	
3 (B)	ELECTRICAL		
a	AC Input Voltage Range	140V to 270V AC	
b	Under voltage cut-off & over voltage Cut-off	To be provided	
c	AC Input frequency .(The LED circuitry shall function at an operating frequency that must be greater than 120 Hz to prevent perceptible flicker to the unaided eye over the entire voltage range specified above.)	50 Hz	
d	Power Factor (Source Power Factor varies from 0.5 Lag to 0.5 Lead)	> 0.95	
e	Luminary Wattage variance at 140 V to 270 V	+ 10%	
f	Luminary Lux Levels Variance at 140 V to 270 V	± 5%	
g	Total Harmonic Distortion(THD)	< 10%	
h	Electrical Connection System	3 wire system	
i	System of earthing (The luminaries offered shall conform to Level-1 classification)	Solidly grounded	
j	There shall be electrical isolation between input and output circuits of the driver.	To be complied	
k	surge protection	on board ≥ 6kv and ≥10KV External with potted driver (Inside Housing)	
l	Driver	Potted Driver	

3(C)	MECHANICAL			
a	Construction of Casing	High Pressure Die Cast Aluminum with integrated heat sink		
b	Finish	PDC Powder Coated & colour		
c	Heat Sink type (It shall be designed in such a way that the heat generated within the LED source is efficiently dissipated to the surrounding atmosphere without abnormal rise in temperature. Any debris build up shall not degrade heat dissipation performance of the luminaries)	High Pressure Die Cast Aluminum with integrated heat sink		
d	Lamp Cover	Toughened Glass		
e	Secondary Optics/Lense for street lights & Flood Lights	Polycarbonate lens/silicon		
f	IP Level	IP-66		
g	Impact Resistance	IK07		
h	Mounting	Surface / Suspended type. Street lights along with bolts & nuts. Flood lights shall have adjustable tilt design and the mounting bracket shall of suitable thickness and also with bolt & Nuts		
	Application of Illumination	For Yard, Stadiums, Parks, Junction lighting, etc		
j	Firm's Offer/confirmation			
	Gross Weight and Dimensions (L x W x T) of Luminaries (Efforts shall be made to keep the overall outer dimensions as minimum as possible with out compromising on the performance, mainly thermal management of the luminaire)	To be furnished		
4	Technical Specifications of Luminaries (Rating Wise)			
a	LED Luminaries Wattage Rating (Luminary wise)			
b	Firm's Offer/confirmation			
	Light Source	High power Cool white LEDs		
c	Firm's Offer/confirmation			
	Minimum light output (Lumens) from luminaire	To be furnished		
5	CONNECTING CABLE FOR OUTDOOR FITTINGS			
a	Connecting cable, from electronic circuit (PCB) to Driver circuit which will be fixed in side of housing, is of copper, 3 core with colour indication, multi strand, PVC insulated, 1.1 KV grade and the current carrying capacity shall be 200% of its rated current.			
b	Cable Outlet: Suitable circular hole shall be provided at the bottom of the fitting with fire resistance high grade engineering plastic glands securely fixed to the body on both sides by check nuts. The outgoing cable from fitting to power line shall be clamped to the inside base of the body to ensure fixing of the cable and suitable 'O' ring shall be provided at the cable entry to prevent dust / moisture entry and shall confirm to IP-66 protection. The cable shall be 3 core, aluminium cable with colour indication, multi strand, PVC insulated, 1.1 KV grade and the current carrying capacity shall be 200% of its rated current.			
c	The earth core, having distinguished colour, shall be connected inside properly in view of solid earthing system.			
6	SAFETY PROTECTIONS:			
	Luminaries shall be designed and constructed in such a way as to avoid incursion of any danger while using them and shall ensure the following:			
a	Personnel safety against electrical shock, effects of excessive temperature & spread of fire.			
b	The material used in the construction of driver printed boards, driver enclosure etc. shall be non-flammable and heat resistant.			

7	STANDARDS		
	The materials shall conform in all respects to the following relevant Standard Specifications with latest amendments thereto.		
a	IS:10322 or latest		
b	Transient voltages, Voltage dips and fluctuations shall conform to IEC:61000-4-5 or latest		
8	TEST REPORTS / TEST CERTIFICATES:		
8(A)	Type Tests :		
a	The luminaires shall be fully type tested at an NABL by the bidder as per IS:10322. Copy of latest type test reports shall be furnished along with the Bid. The Bids received without type test reports by NABL will not be considered. (Enclose SCOPE of testing of Accrediation certificate).		
b	Visual examination		
c	Resistance to dust and moisture		
d	Photometry test		
8(B)	Acceptance Tests		
	These tests shall be carried out, as stipulated in BIS/IEC standards, by an inspecting authority at the suppliers premises on sample taken from a lot for the purpose of acceptance of a lot. Acceptance tests shall not be carried out from particular size from the lot on which type tests have already been conducted.		
a	Visual examination		
c	Resistance to dust and moisture		
d	Insulation resistance and electric strength		
e	Photometry test		
9	Documents to be submitted along with the offer :		
	The bidder shall furnish G A dimensional drawings with all views of Luminaire pertaining to all the models offered along with the technical bid.		
b	Type test certificates as mentioned under SI.No.8A of technical specifications		
c	Technical Catalogue of product		
d	Lumen Depreciation Curve: of LEDs used (supplied by LED manufacturer)		
e	Polar Diagram of Luminaire tested in certified laboratory		
f	LM79 Measurement Report for the luminaire from NABL Accredited Laboratory		
g	LM 80 report for the LEDs used (Supplied by the LED manufacturer) . Enclose LED purchase Invoice.		
h	L70 report for claimed life of LEDs in hours(Supplied by the LED manufacturer)		
i	Performance reports along with order copies of LED luminaires supplies made to public sector companies and Government organizations shall be enclosed. Private sector performance reports will not be considered.		
j	Only manufacturers shall submit the tenders either directly or through their authorized Distributors/Authorized Dealers. Original letters of authorization and Valid Certificates of Authorized Distributorship/Dealership must be enclosed along with the technical bid of the offers in case tenders are submitted through Authorized Distributors/Dealers. Otherwise the tenders will be summarily rejected.		
10	DOCUMENTS TO BE SUBMITTED ALONG WITH EACH CONSIGNMENT.		
a	The Firm shall submit rating wise 3 sets of approved G A dimensional drawings with name plate and all views of Luminaire along with each consignment.		
b	3 sets of operating manuals / technical leaflets rating wise giving all the details of installation, operation and maintenance shall be supplied along with each consignment.		
11	MARKING		
	The following information shall be distinctly and indelibly marked / embossed / engraved on each luminaire housing for using reference during performance study and warranty replacements.		
a	Year of manufacture, batch Number and Serial number		
b	Name of manufacturer		
c	Wattage and Voltage		
12	GUARANTEE TERMS AND CONDITIONS		
a	The Luminaires should be guaranteed for satisfactory operation for a period of 5 years from the date of supply of Luminaries. Failures shall include failure / deterioration of LEDs in terms of performance like guaranteed luminous efficiency, high junction temperature, and abnormal lamp lumen depreciation, deterioration of lens, driver unit and quality of light. In the event of single LED source getting defective, the entire array / module shall be repaired/ replaced by the supplier at free of cost .The transportation of defective Luminaries shall be under firms scope.		