

**Technical Specification of Portable LED Light Tower with Genset****Description : Portable LED Light Tower with Genset****Specifications:**

S. No.	Description	Specification
<b>A. Dimensions</b>		
1	Height (Close Height of System )	1020 mm (+/- 50 mm)
2	Height (Telescopic Mast)	Minimum 4000 mm
3	Dimensions in mm (L x W x H)	500 x 455 x 1020 ( +/- 50 mm)
4	Diameter after Rigger Open	970 mm (+/- 100 mm)
5	Maximum Weight Lighting System (Without Packing Box and Accessories)	< 45 kg
6	Wheel size & quantity	Dia 150 mm (+/-10mm) & 02 Nos
7	Thickness of FRP Body	4.0 mm (+/- 1.0 mm)
8	Bottom Base Plate	3.0 mm (+/- 0.2 mm)
9	Top Hexagonal Bracket	Pipe Dia between 25 mm to 26 mm
<b>B. Construction of Material</b>		
1	Main Body	Fibre reinforced plastic (FRP)
2	Telescopic Tower	Aluminum alloy Grade 6082 & anodized. Material certificate to be provided along with bid and also at the time of supply . Lab shall also confirm the same.
3	Riggers, Wheel Bracket	Mild steel (CRC Sheet) with Powder coated
4	Bottom Base Plate	Aluminum with Powder coated.
5	Top Hexagonal Bracket	MS Pipe (CRC Pipe Dia 25.4 mm $\pm$ 0.4 mm) with Powder coated.
6	Bracket (Cradle) For LED	SS 304
7	Wheels	Nylon / Rubber
8	Hardware(Bolt, Nut and Washers)	Stainless steel
9	LED Luminaire Casing	Pressure die-cast aluminum
10	Finishing	Anodized/ Powder Coated
11	Lamp cover	UV stabilized Polycarbonate lens Transparency $\geq$ 95% Lab to Verify
12	Secondary Optics	Polycarbonate lens . Manufacturer brand embossed on lens cover. Lab to verify
13	Impact Resistance	$\geq$ IK07. Lab test report to be provided.

14	Mechanism for Light Direction change from 360 degree-180 degree-360	Push Pin Mechanism
15	Only Spiral Cable to be provided for ease of use & safety with following specification	<p>1100 V AC to 1500V AC Coiled Length L-425 mm +/- 50.0 mm (Approx.) Ends Length L1-155 mm +/-10.00 mm L2- 155 mm +/-10.00 mm</p> <p>CABLE DIA: 8.5 mm +/-0.5 mm</p> <p>SPIRAL OD: 52 mm +/- 5.0 mm</p> <p>CABLE LENGTH- 6.5 Meter +/-0.5 meter</p> <p>Multi standard copper conductor with PVC insulation.</p> <p>Lab to verify</p> <p>Physically to be checked during technical evaluation /demo / inspection as this cable is safety item</p>

#### C. Telescopic Tower Mast Detail (Construction)

1	No. of Section in Tower	Maximum 06 Section and top Load capacity to be minimum 10 kgs
2	Height of Tower mast in telescopic conditions (From Ground) with LED Luminaire	Minimum 4000 mm
3	Tower Mast Height in Collapsible condition with LED Light	Maximum 1020mm ( +/- 50 MM )
4	Tower mast Pipe Thickness	Minimum 1.55 mm
5	In-built Automatic Pneumatic Pump to be used for lifting of Tower/telescopic/ Vertical Mast.	<p>In built Automatic Pneumatic Pump to be used for lifting of Tower/telescopic/ Vertical Mast using On &amp; Off switch for Automatic Pump .Additionally lifting of mast shall take place with remote &amp; Wi-fi Operation</p> <p>Lab shall test this and conform.</p> <p>The same should be demonstrated also before and after supply of material .</p>
6	Step up or step down time of Tower/Telescopic/Vertical Mast	60 seconds maximum.

#### D. LED Luminaires & Drivers

##### LED Flood Light

1	LED Make and Brand embossing of make as per BIS	<p>Nichia/Osram/Samsung/Lumileds/Cree /Avago/Bridgelux/Seoul or Any BIS approved make. Make shall be embossed on LED lens as this is mandatory as per BIS. In absence Bid will be rejected.</p> <p>BIS Approval as per IS 10322(part 5/ sec 5) BIS Certificate to be submitted along with bid and also at time of supply .</p> <p>Lab report shall clearly mention Led make and BIS standard .</p> <p>In absence of the above bid will be rejected.</p>
2	Type LED	High Power LED
3	LED Luminaries (6 x 60W Module) Power	360W Nominal (358 W) Maximum 360 watt only. Compulsory to have 6 x 60 watt. Make and brand of Led luminaire to be given with bid along with BIS Certificate. In absence the bid will be rejected. LED Manufacturer name shall be embossed on LED Luminaires Lens.
4	Total Luminous Flux	$\geq 52000$ lm. This has to be achieved using max 360 watt led output.
5	Luminous Efficacy	$\geq 145$ lm/W . Lab to test this and confirm and also mention make and brand of Led and BIS standard of LED
6	LED Life	$\geq 50,000$ Burning hours. As per Led Chip MANUFACTURER LM-80/TM21 report
7	Depreciation	30% Max after 50,000 burning hours.As per Led Chip MANUFACTURER LM-80/TM21 report
8	LED Luminaire Ingress Protection (Degree of Protection)	IP67. LAB TEST REPORT SHOULD CHECK AND MENTION LED MAKE
9	CCT (Correlated Colour Temperature)	5500K (+/-500K)
10	Operating temperature range of Luminaire (Led Flood Light)	-20 deg. C to +50 deg. C
12	CRI (Colour Rendering Index)	$\geq 70$
13	LED luminaire BIS Compliance	BIS Approved as per IS 10322(part 5/ sec 5 )

	Power Control with RF device with wireless remote & Mobile App through Wi-Fi device (QR Code)	LED Light On/Off, Tower Up /down by Remote.  LED Light On/Off, Tower Up /down & dimming of light with Mobile App through Wi-Fi (QRCode)  To be shown in demo before and after supply of material at customer end
15	No. of Remotes	02 Nos (one as spare) with minimum 30 meters without obstacle & Minimum 15 meters with obstacles range operation. To be shown in demo before and after supply of material at customer end

#### Driver

1	Driver Type	Constant Power mode potted driver with short circuit protection with inbuilt high voltage cut off and dimming function
2	Output Rated Power & Number of Drivers	200W & Minim 02 Nos.
3	Input Operating Voltage	100- 305V AC or as specified (Auto Restart)
4	Output Voltage	27V- 56V DC
5	Output Rated Current	3.5 -5.55A
6	Input Voltage Range	220-240V AC
7	Input Current AC	2.4 A
8	Frequency	50Hz
9	Surge protection	External $\geq 10\text{KVA}$
10	THD	$\leq 10\%$
11	Efficiency of Driver electronic	$\geq 90\%$
12	Driver Components	Industrial grade only
13	Ingress Protection (Degree of Protection)	IP67
14	Power Factor	$\geq 0.95$ between 220V AC TO 230V AC
15	Working Temperature	(-) 40 °C to + 90 °C
16	BIS compliance	Yes as per IS 15885(PART 2/SEC 13)

#### General Set up Parameters

1	Installation Time (Rigger Opening + Tower Telescopic Time + Light up of LED etc)	Maximum 80 seconds
2	Closing Time (Tower Collapse Time + Rigger Folding + Light Folding etc.)	Maximum 50 seconds
3	Fuel (Petrol) Consumptions when Operated on Genset EP 1000 or equivalent on full load of 360 watt and 51000 lumen output without refueling.	Approx 390 ml per Hour Lab test report shall mention actual Measured value.

4	Total non stop run time with EP 1000 or equivalent Genset Fuel Tank Capacity: 3.6L on full load of 360 watt and 51000 lumen output without refueling.	Minimum 09 hrs Lab to check and mention actual value
5	The strength of the Tower/ telescopic collapsible mast/ Vertical Mast tower is to provide support for it to remain erect at wind speed of	45 Km / hr
6	Provision of Change Over switch with suitable rating and its function	Should be provided Function: For operation of Portable Light i. in Manual mode means: LED Light on/ off, Dimming and Tower up/ down manually through switches and ii. In Auto mode means: Operate with Remote: LED Light on/off, tower up/ down or with Mobile App: LED On/Off, Dimming & Tower up- down  To be shown in demo before and after supply of material at customer end
7	LED Dimming Function	In Manual Mode: Rotary Type Dimmer shall be provided. Non rotary dimmer won't be accepted. Picture of Rotary dimmer to be attached with bid.  To be shown in demo before and after supply of material at customer end
8	RF Device with Remote & Mobile Application	In Auto Mode : i. LED Light On/Off and Tower up / down operation through Remote  ii. LED Light On/Off with LED Light Dimming and Tower up /down operation through mobile App/ QR or Barcode scan iii. Above shall be demonstrated before and after supply of material to customer and inspection agency. To be shown in demo before and after supply of material at customer end
<b>Photometric Parameters of System</b>		

1	Lux required at 5 meter & Lux at 60 mtr Radius with 180 Degree Light Direction using C Type Goniophotometer by testing lab.	At 5 Meters Min 1050 Lux & 60 Meters Min 12
1A	<p>Lux at 5 meter &amp; Lux at 60 mtr Radius with 180 Degree Light Direction in non lab condition</p> <p>1A Parameter to be checked at the time of demo or supply whichever is applicable or both using regular lux meter arranged by customer.</p>	At 5 Meters Min 505 Lux & 60 Meters Min 8
2	Lux required at 5 meter & Lux 60 mtr Radius with 360 Degree Light direction using C Type Goniophotometer by testing Lab	At 5 Meter min 145 lux & lux at 60 meter min 1.50 Lux.
2A	<p>Lux at 5 meter &amp; Lux 60 mtr Radius with 360 Degree Light direction</p> <p>2A Parameter to be checked at the time of demo or supply whichever is applicable or both using regular lux meter arranged by customer</p>	At 5 Meter min 90 lux & lux at 60 meter min 1.2 Lux.

#### Accessories and Packings

1	Ruggedized Storage Box for main equipment compulsory	<p>Storage Box should be made up of PPCP (Polypropylene Copolymer)</p> <p>Outer Dimensions should be 1180 x 550 x 600 MM +/- 5%</p> <p>Weight of Empty Storage Box should not be more than 9 kg</p> <p>Same shall be shown to the material inspection agency and customer.</p>
2	Tool Kit	<p>Tool Kit:</p> <p>i. D Spanner 10-11: 2 NOS.,</p> <p>ii Allen Key Set : 2,3,5 &amp; 6</p> <p>iii Screwdriver : 1 No.</p>
3	AC Cord for AC Mains / Genset Supply	Yes, 1 No.
4	Operating Manual	English Language
<b>E. GENSET DETAILS</b>		
1	Genset details	Min 750 VA with CPCB Compliance

2	Generator rated output (va) 230v/ 50hz	0.75 kVA
3	Fuel tank capacity	3.6 Ltrs (Minimum)
4	Starting system	Recoil Start
5	Type of fuel	Petrol
6	Type of cooling	Air cooled
7	Type of air filter (Cleaner)	Foam Air Filter
8	Lab report should have picture of the LED light tower	Product Picture mandatory else offer will be rejected. Lab report should have picture of the LED light tower including control panel , Remote , High altitude test & Led Lamp, Rotary Dimmer & barcode for Mobile application
F.	High Altitude Test for the entire product.	The equipment lighting tower along with power source shall operate satisfactorily at an altitude of 1800 meters above mean sea level. The same shall be certified in the Lab test report. Mandatory.

#### REPORTS AND CERTIFICATION for Quality and performance.

1	Type test report covering all above points from central government National. Test house shall be enclosed .. All these reports and documents to be submitted along with bid documents. In absence the bidder will be disqualified. OEM shall have a dedicated toll free no for service support starting from 1800 as its emergency equipment. In absence of the same bid will be rejected.
2	Availability for LM 79 (Photometry) (Ref. IS: 16106: 2012). Lab to confirm Lab to confirm based on Manufacturer documents.
3	Availability of LM 80 & TM 21 . Lab to confirm based on Manufacturer documents.
4	LED Luminaire shall have BIS approved. Document to be attached. IS 10322(part 5/ sec 5) BIS Certificate to be given at the time of bidding and at the time of supply both . Manufacturer name shall be embossed on the led lens as this is mandatory as per BIS . Sticker will not be accepted. In absence the bid is liable to be rejected. This is very important quality and safety requirement. Lab report shall clearly mention LED Manufacturer name , BIS standard and details of Led.
5	A complete light tower picture shall be provided in the LAB test report . Without a Picture lab report will not be considered.
6	The type test report shall be from the National Test house.
7	Product catalog must be submitted. In absence of a catalog bid will be rejected. Model no should be clearly mentioned. Make and model no of BIS approved led light lamp shall be enclosed shall be mentioned on the bidder letter head giving BIS license no also. Copy of BIS license shall be enclosed

8	Local Content Certificate for Class 1 (equal to or more than 50%) Supplier should be submitted on OEM Letterhead. Bidder/OEM will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Order, 2017 (hereinafter PPP-MII order) of Government of India issued vide Notification No:P-45021/2/2017 -BE-II dated 04/06/2020. Cost accountant certificate must be submitted to confirm make in India content % in case of value addition in imported products. OEM authorization also must in case of imported product
9	2 Number Purchase order copy from government department for the same specification of light tower as asked in the bid should be submitted along with the offer.
10	The Bidder should be the Original Equipment Manufacturer (OEM) or its Authorized dealer. Authorization letter from OEM for the same and specific tender should be enclosed along with the offer.
11	Bidder/OEM should be an ISO certified organization (ISO 9001:2015 for Quality management system (QMS)). Necessary proof should be submitted along with the offer.
12	Since the product is for emergency management and life saving, User may call for equipment during bid technical evaluation at consignee premises. If the bidder/supplier fails to give demonstration during technical evaluation, their bid will be rejected.