



मंगलूर रिफाइनरि एंड पेट्रोकेमिकल्स लिमिटेड  
(ऑइल एंड नेचुरल गैस कॉरपोरेशन की सहायक कंपनी)

**Mangalore Refinery & Petrochemicals Limited**  
(A subsidiary of Oil and Natural Gas Corporation Ltd.)

पंजीकृत कार्यालय: कुतेतुर पोस्ट, वाया काटीपल्ला, मंगलूर, भारत - 575 030

Registered Office: Kuthethoor P.O., Via Katipalla, Mangaluru, Karnataka, India - 575030

Tender Number	3000015394
Item Name	Supply of LED Flood Light Luminaries as per tender specifications.

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**NOTICE INVITING TENDER**

MRPL invites Bids from eligible bidders in complete accordance with the following details and Tender document.

The brief details of the tender are as below;

SL. No.	Description	Details
1	Tender Number	3000015394
2	Brief Description of the Tender	Supply of LED Flood Light Luminaries as per tender specifications.
3	Tender Type	Open - Domestic
4	Bid Type	Two Bid
5	Mode	Electronic Procurement Sytem (EPS)
6	Tender Document download start date	30-08-2019
7	Bid Closing date/Time	19-09-2019 @ 15.00 Hrs (IST)
8	Date / Time of Technical Bid Opening	19-09-2019 @ 15.30 Hrs (IST)
9	Prebid Conference	Not Applicable
10	EMD	Applicable Rs. 1,83,000 /- (One Lakh eighty three thousand only)
	EMD (BG or DD) drawn in favour of MRPL Mangaluru, to be sent directly to Materials Department, MRPL, Kuthethoor PO, Via Katipalla, Mangaluru. <b>Please super-scribe on envelope "EMD for Tender No. 3000015394 dated 30.08.2019"</b>	
11	Delivery Period	Preferred Delivery Period: 08 Weeks from the date of PO.
12	Relaxation in PQC (Financial Turnover & Past Experience) for Start-up Companies	As per Tender Conditions
13	Offer Validity	120 days from Bid closing Date
14	Payment Term	100% within 15 days upon receipt of material subject to acceptance and against submission of 5% of basic order value in the form of BG-S/P / DD towards performance warranty period
15	Price Reduction Schedule Clause (PRS)	Applicable
16	Security deposit (SD)	Applicable
17	Performance Bank Guarantee (PBG)	Applicable
18	Integrity pact	Not Applicable

19. A	<b>Contact details –</b> Technical Querries	Mr. Rakesh M N/ <a href="mailto:rakesh_mn@mrpl.co.in">rakesh_mn@mrpl.co.in</a> / 0824-288-2530 Mr. Nagaraja Rao T.K./ <a href="mailto:tnagaraj@mrpl.co.in">tnagaraj@mrpl.co.in</a> / 0824-288-2505
B	Commercial Querries	<a href="mailto:jayank.verma@mrpl.co.in">Mr. Jayank Verma / jayank.verma@mrpl.co.in</a> / 0824-288 - 2238 <a href="mailto:sampath_rai@mrpl.co.in">Mr. Sampath Rai B / sampath_rai@mrpl.co.in</a> / 0824-288-2225
21	Contact person For Queries related to E-tendering	Mr. Dilip Ranganath, Email: <a href="mailto:eps@mrpl.co.in">eps@mrpl.co.in</a> Phone No. 0824-288-2248 (Dealing officer / Section Incharge details as mentioned above may also be contacted).
22	Alternate Contact details for E-Tendering	Mr. Mohan Kumar / Mr. Prabhuswamy, <a href="mailto:mohan@antaressystems.com">mohan@antaressystems.com</a> / <a href="mailto:prabhuswamy@antaressystems.com">prabhuswamy@antaressystems.com</a> Phone No. 080 - 49352000
23	Address to submit the tender document (in case of Manual Tender)	Materials Department, Mangalore Refinery and Petrochemicals Ltd, Mangalore -575030, Karnataka, India (Please mention tender number on the envelop)

**Important information to be noted by the bidders:**

- Bidders are requested to visit MRPL website <http://mrpl.co.in> regularly to keep themselves updated. Any Revision, clarification, addendum, corrigendum, for replies to queries raised during pre-bid meeting Time / Due date extension etc., (if any) , to this tender would appear on the above websites only and & will not be published on any other Media /Press.
- In case of E-Tenders, the Technical & Price Bid Formats should be downloaded, filled & uploaded in the EPS portal (<https://www.tenderwizard.com/MRPL>).

**MRPL has discontinued publication of Tender Advertisements through newspapers or any other print media.**

The complete Tender/Bidding document is available for view/download on MRPL website <http://www.mrpl.co.in> as well as on <https://eprocure.gov.in/cppp/>.

Further replies to pre-bid queries, all updates, Corrigenda, Addenda, Amendments, Extension in last date of submission of bid, Clarifications etc.,(if any) to the Tender/Bidding document will be hosted on above indicated websites. Bidders should regularly visit above indicated website to keep themselves updated.

**INSTRUCTIONS TO BIDDERS (ITB)**

1. All bidders are required to read these conditions carefully and upload (in e-Tenders) one set duly signed by them as token of having read, understood and accepted the conditions, along with information called for by MRPL. In case of manual tenders signed and sealed documents to be submitted in hard copy.
2. The Bidding document shall be read in conjunction with any amendment(s) issued.
3. Bidders should get clarified all the technical doubts and other points related to the tender before submitting the priced and un-priced offer.
4. No assumption, stipulation, deviations from terms and conditions or presumptions, etc. shall be made by the Bidder while submitting the offer in the Price Part of the Tender. The liability of obtaining all necessary clarity with respect to the tender, its technical aspects and pricing shall be on the Bidder. MRPL shall be under no obligation whatsoever to entertain any tender bid which is based on any assumption, stipulation, deviations from terms and conditions or presumptions, etc. and would have the option to reject such bid.
5. Bidders shall submit all valid documents including supporting documents with reference to PQC/ Technical data sheets/ technical and commercial documents / validation(s) / authorisation(s) by competent authorities' etcetera. in the first instant itself. MRPL reserves the right to complete the evaluation based on the details furnished during the initial bid submission without seeking any additional information or correspondences.
6. Bidder shall submit the offer in two parts, i.e. Technical Bid and Price Bid in separate sealed covers through post (in case of manual tender)/ uploaded in the system (in case of E Tender).
7. In case of manual tender, both the sealed covers containing Part-1 (Un priced Technical Bid) and Part-2 (Priced Bid) shall be put in one single cover and submitted by duly super-scribing Tender Number & Bid Closing date. In case offer received without super-scribing Tender Number it will be treated as unsolicited offer.

**Part I - TECHNICAL BID**

Bidders are required to serially number all the pages being appended by them as part of submission to the Technical bid. Such numbering shall include, Covering letter, Technical specifications, items list being offered, Drawings, Specification, Certificates, Catalogues, Compliance or Deviation statements, etc. as applicable to this Tender and create an Index Page with headings and corresponding page numbers. In addition to this, all pages of the Tender Documents issued by MRPL shall be signed on all pages and to be submitted by post (in case of manual tender)/ uploaded in the system (in case of E Tender).

**Part II - PRICE BID**

8. In case, PRICE BID is included in TECHNICAL BID portion, or PRICES are mentioned in the technical bid itself the entire bid will be rejected.
9. Bidders may attend Pre Bid Meeting (If applicable), Technical Bid/ Price Bid Opening at own expense and interest. Queries if any, to be sent 2 days prior to pre bid meeting.

10. Date and Time of Price bid opening shall be advised separately to the technically qualified bidders.
11. In case of /EMD, the parties are requested to send EMD of prescribed value by way of DD/BG issued by a Scheduled/ Nationalised Bank in the name of MRPL, payable at Mangaluru along with a request letter. MRPL will not be responsible for any loss or postal delay / non receipt of tender/ EMD etc. Date format should be "DD.MM.YYYY" (Date/Month/Year) format. In case the EMD is/are paid electronically, then proof of the same shall be provided.
12. EMD, as mentioned above in the form of DD/BG drawn in favour of MRPL, Mangaluru to be couriered to Materials Department, MRPL, Kuthethoor PO, Via Katipalla, Mangaluru- 575030 and bidder shall ensure to submit the same at MRPL before bid closing date and time. In case payment is done electronically, bidder shall ensure to submit the proof within the bid closing date/time.
13. The Bank Guarantee by Indian Bidders will be given on non- judicial stamp paper as per stamp duty applicable at the place where the tender has emanated. The non-judicial stamp paper should be in name of the issuing Bank. The Bank Guarantee by Indian bidders will be given from Nationalized /Scheduled Banks only.
14. Bids without EMD (If applicable) & Integrity Pact(where applicable)duly NOT signed in all pages will be summarily rejected, without any further reference to the Bidder.
15. In case of manual tenders, all the Rates given in the Tender must be expressed both in words and in figures and in case of difference between the two, the rates given in words would be final and considered correct. In case of any differences between unit rates and totalised rates quoted by the bidder, then the unit rates shall prevail.
16. Any corrigendum / amendment to the tender will be uploaded on MRPL website <http://mrpl.co.in/> e-Procurement site [www.tenderwizard.com/MRPL](http://www.tenderwizard.com/MRPL) and will not be published through press advertisement. Prospective bidders should visit the above MRPL website/ e-Procurement site from time to time to make note of corrigendum / amendment if any. MRPL will not be responsible for non-receipt of communications in this regard.
17. MRPL tenders are also displayed in Central Public Procurement Portal -visit <https://eprocure.gov.in/cppp/latestactivetenders> and select MRPL.
18. Deviation on Pre-Qualification Criteria (as applicable) and Bidders' Evaluation Criteria is not acceptable and such Bids having any deviation are liable for rejection.
19. Date format should be "DD.MM.YYYY" (Date/Month/Year) format in respect of dates mentioned by bidders in their offer.
20. The tender terms/ conditions as per SCC (Special conditions of the contract) Supersedes all similar terms/conditions prescribed under GCC and in case of ambiguity of similar tender terms/conditions, the stricter terms shall prevail.
21. Where applicable, offers of those vendors who do not accept and submit the duly signed Integrity Pact are liable to be rejected.
22. Wherever applicable if EMD/Integrity Pact are not submitted in original along with the Technical bid, such offers shall be liable for rejection.
23. Suppliers shall send GST Invoices/ Debit Notes/ Commercial Invoices for the associated delivery costs including Freight and TPI if any along with the main invoice for material supply, failing which MRPL shall not be responsible for payment of such dues subsequently.

24. In case of annual rate contracts (ARC), the total freight charges for the entire contract value shall not exceed the sum of the actual freight charges of individual deliveries as issued through individual delivery instructions during the implementation of the contract.
25. In case any of the documents/details submitted are found to be false/fake/incorrect, before finalisation of tender/after placement of Purchase Order, MRPL reserves right to reject such bids/forfeiture of EMD/Security Deposit/Cancellation of Purchase Order/including placing such vendor(s)/ Bidder (s) on Holiday Listing.
26. **HOLIDAY LISTING POLICY:**
- The Guidelines and procedures for Holiday Listing are available in MRPL website as Holiday Listing Policy and shall be applicable in the context of all tenders and consequently all Orders / Contracts / Purchase Orders. This can be accessed at URL [www.mrpl.co.in](http://www.mrpl.co.in) refer to Tenders - Holiday Listing Policy. Further, Bidders shall not be banned/holiday listed by any entity during the tendering process, failing which MRPL reserves right to reject such bids. An undertaking shall be given by the bidder in section-2 of Tender Documents.
  - Agencies participating in tenders are deemed to have read, understood, accepted and agreed for the terms under the Holiday Listing Policy of MRPL and shall not seek any damages/compensation from MRPL on account of the Holiday Listing of business with the Agency.
27. **Raising Disputes / Complaints. (Applicable for all tenders where Integrity Pact is applicable.)**
- MRPL has appointed independent external monitors (IEMs). Bidders may raise disputes/complaints, if any, with the nominated Independent External Monitors (IEM). The name, emails & Phone no of the present IEMs are as given below:

SI No	IEMs	E-mail Id	Mobile / Phone
1	Shri. M N Krishnamurthy, IPS (Retd.)	krishnamurthymn19@gmail.com	9591110000 080-25427282
2	Shri S Ravi, IRS(Retd.)	sudhaandravi@gmail.com	9444143642 044-24792558

- Curriculum Vitae of Independent External Monitors (IEMs) are placed permanently on the home page of MRPL's website [www.mrpl.co.in](http://www.mrpl.co.in) -Tenders.

**General Guidelines of E-Procurement System (EPS):**

1. Tenders are invited on-line on the website <https://www.tenderwizard.com/MRPL> from the firms having Class IIB or above Digital Signature Certificate (DSC) (with Signing & Encryption Certificate) issued by any agency authorized by Controller of Certifying Authority (CCA), Govt. of India.
2. **Offers received online on the e-procurement portal only will be considered for evaluation.**
3. The server date and time as appearing on website <https://www.tenderwizard.com/MRPL> shall only be considered as cut-off time for receipt of tenders. Offers received by any other mode will not be considered.
4. Bidders are responsible for obtaining the digital certificates for participation / submission of bids at their cost/ updating necessary software(s)/ browsers from time to time which are compliant with the e-tendering portal.
5. The digital certificate shall be registered on the portal <https://www.tenderwizard.com/MRPL>
6. Bidder shall download the bidding manual, system requirement and vendor registration manual and JRE setup for portal <https://www.tenderwizard.com/MRPL> to get acquainted with the procedures for submitting the online bids.
7. MRPL shall not be responsible for any delays occurred due to reasons whatsoever in receiving as well as on line submission of offers, including internet connectivity, document uploading/downloading issues etc.
8. In case of any queries regarding Registration, Bid Submission procedure and system related issue, the bidder shall contact help desk of our e-procurement service provider M/s. Antares Systems Limited.

Support Location	Contact No:	Email ID
Bengaluru Helpdesk	080-49352000	<a href="mailto:mohan@antaressystems.com">mohan@antaressystems.com</a>
		<a href="mailto:prabhuswamy@antaressystems.com">prabhuswamy@antaressystems.com</a>

Support Location	Contact Name:	Contact No's	Contact E-mail address
Mangaluru Desk (For Queries related to E-tendering)	Mr. Dilip Ranganath	Land Line: 0824-288-2248, Mobile: +91-88800 48887	eps@mrpl.co.in
	Mr. Jayaprakash	Land Line: 0824-288-2298, Mobile: +91-96861 96762	

**Pre - Qualification Criteria (PQC)**

1. The Bidder should be a manufacturer of **LED Lighting Luminaries**. Documentary proof should be submitted.
2. The bidder should have supplied **LED Lighting Luminaries / LED Lights** to at least any Hydrocarbon sector like Refineries / Fertilizer Plants / Petrochemicals / Oil and Gas processing plants / Any Industry / Establishment / City Corporations / NHAI / Ports / Railway / Power Plants / Utility Plants for a single order value not less than Rs. 28.00 Lakhs during previous 5 years period ending the last day of the month previous to the one in which bids are invited. The bidder should submit copy of Purchase orders and relevant Invoice Copy / Lorry Receipt copy (LR Copy) as documentary proof for the above along with technical bid.
3. The bidder should submit test certificate as per IES LM-80-2008 from OEM of LED chip and as per IES LM-79-2008/ IS equivalent from NABL accredited laboratory for the offered make and model of the LED Flood Light Luminaries along with technical bid.
4. The bidder should not be under Holiday listing period by any Govt. Body / PSU during the period in which tender is invited. Bidder should submit an undertaking to this effect at the time of bidding.

**Note:**

- a. In line with the Government policy, qualified Micro and Small Scale Enterprises (MSEs) will be given relaxation up to 15% on prior experience (for sl.no.2 above). (i.e Rs. 24.00 Lakhs).
- b. No relaxation in the prior experience, turnover for Startups for this tender due to Public Safety, Health, Critical Safety, Operations & equipment etc.
- c. All documents furnished by bidder in support of meeting the experience criteria of PQC shall be either, "Duly certified by Statutory Auditors of the Bidder or a practicing Chartered Accountant (not being an employee or a director or not having any interest in the bidder(s) company/firm) where audited accounts are not mandatory as per law" or "Duly notarized by any Notary Public in the bidders country



### **Bid Evaluation Criteria (BEC)**

1. The bidder should accept in toto the technical specifications and scope of work given in the tender.
2. Technically accepted bids will be evaluated on commercially Overall L1 basis, i.e. lowest landed cost to MRPL.

### **Rejection Criteria**

#### **The bids are liable for rejection in following cases:**

- a. Bids received after the due date and time of bid submission.
- b. Non submission of EMD, in original is not found in Technical bid of the offer.  
However, PSU/ firms registered with NSIC or MSE vendors (Micro Small Enterprises) registered with DIC (District Industries Centres) or Udyog Aadhaar or any other body specified by Ministry of Micro, Small & Medium Enterprises (MoMSME) are exempted from submission of EMD (as applicable). Such bidder needs to submit relevant and valid documents along with technical bid of tender. The benefits of PP Policy are not applicable to bidders who are traders/ dealers/resellers/ distributors/authorized agents for the indented items as per MSME guidelines. However, the MSEs registered bidders are exempted from payment of Earnest Money Deposit (EMD).
- c. Non adherence to technical/commercial terms, incomplete bids, bids in deviations to tender conditions, bids with falsified or incorrect information, bids not meeting PQC/BEC, bids not conforming to Unpriced/Priced Bid format, manipulated or unsigned bids.
- d. If price bid is submitted along with technical bid.
- e. Consortium / joint bids shall not be accepted.
- f. Offer submitted in any currency other than INR shall be rejected

**TECHNICAL (UNPRICED) BID FORMAT & DECLARATION FORM FOR COMMERCIAL  
EVALUATION**

*(To be attached with technical bid)*

Sl No	Item Code	Description	UOM	QTY	HSN Code	GST %	Quoted (Yes/ No)
1	1000108381	350 W LED FITTING FOR HLMS SUITABLE FOR REPLACEMENT OF 2*400 W HPSV FITTING AS PER SPECIFICATION	EA	450			To be quoted in EPS system directly

<b>EX - WORKS BASIC PRICE</b>	To be quoted in Price Bid of EPS
Inspection Charges wherever applicable for FULL ORDER (Inclusive, if extra specify)	Not Applicable
Inspection Charges wherever applicable For PART ORDER (Inclusive , if extra specify)	Not Applicable
Packing & Forwarding charges extra if any for Full Order	To be quoted in Price Bid of EPS
<b>GST Rate in %</b>	
Freight up to MRPL Refinery Site extra if any for Full Order	To be quoted in Price Bid of EPS
Freight up to MRPL Refinery Site extra if any for Part Order	Not Applicable
Transit Insurance	MRPL A/c
<b>GRAND TOTAL</b>	To be quoted in Price Bid of EPS

Preferred Delivery Period: 08 Weeks from the date of PO.	
Price Basis/Inco terms	
Currency of Offer	<b>INR ONLY</b>
Whether ITC benefits will be passed on to MRPL	

TENDER TERMS	REMARKS	BIDDERS CONFIRMATION
Price Reduction Schedule (PRS)	Needs To Be Accepted As Per MRPL General Purchase Conditions (GPC)	Accepted / Not Accepted
Security Deposit		Accepted / Not Accepted
Performance Bank Guarantee (PBG)		Accepted / Not Accepted
Warranty (As per SCC)		Accepted / Not Accepted
Payment Terms		Accepted / Not Accepted
Acceptance of Part Order		Not Applicable
Offer Validity (120 Days)		Accepted / Not Accepted
Integrity Pact	Not Applicable	

**Terms & Conditions:**

This is mandatory format to be filled in all rows & signed by bidder. None entry will be treated as "**ACCEPTED/ INCLUSIVE**". Bidders commercial terms given elsewhere will not be considered for evaluation and shall be treated as null and void.

1. If Bidder is not accepting tender terms as per MRPL GPC and is not submitting this declaration as per above format, their offer is liable for rejection. Any correction/deletion/applying correction fluids etc. in this format will result in rejection of offer.
2. Bidder shall agree to supply the part order (wherever applicable) without any pre-conditions. Request of vendors asking for assured quantities for part order will be rejected.
3. Bidder should supply the material upto MRPL Refinery Site. Transportation Charges extra if any shall be quoted.
4. Bidder shall provide correct GST No. & Address details in the space provided below.
5. Vendors shall fill **MSE/NON MSE bidder details format** attached. Further, MSE bidders are required to submit copies of valid and duly authorized documentary evidence as proof of the same and are also advised to register themselves in MSE databank.
6. Evaluation shall be done on Landed Cost after considering set off on Taxes and Duties. The basic Prices/Quoted shall not include any taxes and duties.
7. In case the Actual Freight charges are higher than the freight charges quoted in the price bid, the difference in Freight charges shall be debited from the Vendors account at the time of bill payment along with corresponding taxes applicable.
8. Invoice in proper format to be submitted for availing input tax credit.
9. QAP/Material Test Certificate to be submitted along with supply wherever applicable.

**DEVIATIONS (IF ANY):**

<b>Technical deviations, if any</b>	
<b>Commercial deviations, if any</b>	

**GSTIN&THE ADDRESS TO WHICH PO TO BE PLACED / INVOICE TO BE  
RAISED:**

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**It is the responsibility of the vendor to ensure the address of PO vendor and invoicing vendor shall be same.**

**UPDATED BANK DETAILS:**

<b>In case of any change in bank details, vendor is required to update in MRPL Format attached.</b>
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**Place :**

**Date :**

**Contact Person Name :**

**Designation :**

**Telephone/Mobile :**

**E-Mail ID :**

**CONFORMANCE TO PRE QUALIFICATION CRITERIA****(To be filled up and submitted with Technical Unpriced Bid by Bidder)**

<b>SL.No</b>	<b>MRPL's Bidder Qualification Criteria</b>	<b>Bidder's Confirmation (YES/NO/Not Applicable)</b>	<b>Document Ref. No. submitted by Bidder (to be appended with this sheet as proof of qualification for the Tender)</b>	<b>Remarks, if any by bidder</b>

**Note:**

1. Bidders to fill up the format and submit along with the Techno-commercial Bid.
2. Reference Nos. of Documents submitted as proof of Pre-qualification (Purchase Orders/Certifications etc.) need to be filled up in this sheet. Supporting documents need to be appended along with this sheet only.

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**SPECIAL CONDITIONS OF CONTRACT (SCC), TECHNICAL SPECIFICATIONS,  
SCOPE OF WORK, DRAWINGS ETC.****1. Scope:**

The scope of work shall include design, manufacture, testing, inspection, packing and supply of LED flood light luminaries in accordance with technical specifications and other terms and conditions of the tender.

**2. Basis of design:**

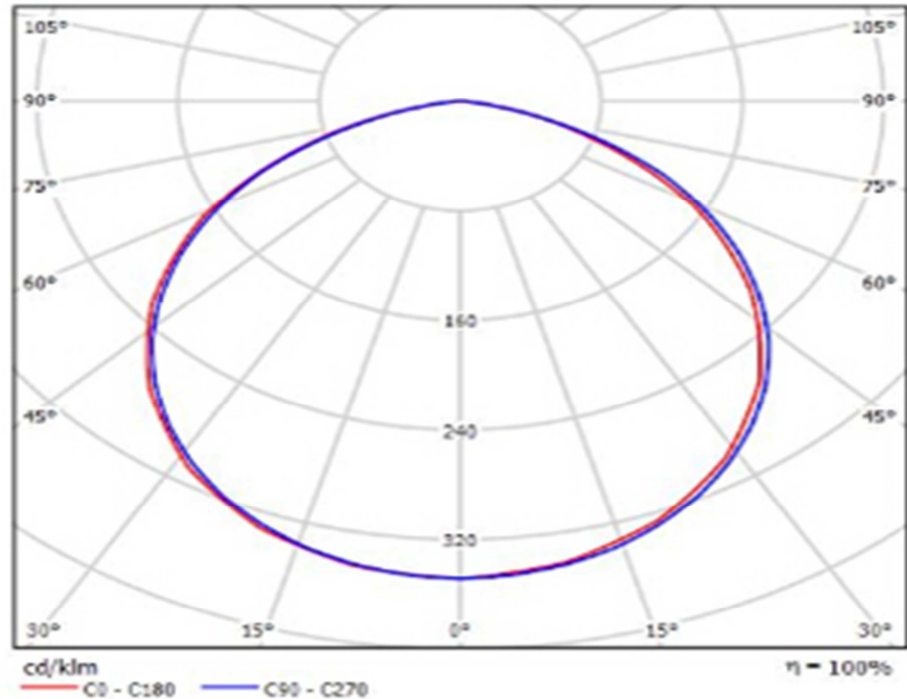
In general the equipment covered by this specification shall, unless otherwise specified conform to the latest edition of Indian standards including amendments but not limited to following.

- 2.1 IS 16101 (2012): General Lighting - LEDs and LED Modules -Terms and Definitions.
- 2.2 IS 16102-1 (2012): Self - Ballasted LED Lamps for General lighting Services, Safety Requirements.
- 2.3 IS 16102-1 (2012): Self - Ballasted LED Lamps for General lighting Services, Safety Requirements.
- 2.4 IS 16102-2 (2012): Self - Ballasted LED Lamps for General Lighting Services, Performance Requirements.
- 2.5 IS 16106 (2012): Method of Electrical and Photometric Measurements of Solid State Lighting (LED) Products.
- 2.6 IS 16108 (2012): Photo biological Safety of Lamps and Lamp Systems.
- 2.7 IS 10322-5-3 (2012): Luminaries, Part 5: Particular Requirements, Section 3: Luminaries for Road and Street Lighting.
- 2.8 IS 12063: 1987 Classification of degrees of protection provided by enclosures of electrical equipment
- 2.9 IS 16107-2-1 (2012): Luminaries performance, Part 2:Particular requirements, Section 1: LED Luminaries
- 2.10 IES LM-79 -2008 : Method for the electrical and photometric measurements of Solid -state lighting.
- 2.11 IES LM-80 -2008: Method for measuring lumen maintenance of Solid -state lighting source.

**3. Details of design:****3.1 LED flood light luminaries**

- 3.1.1 LED Flood light luminaries should be designed with system wattage 350W+/-5% including driver losses to be used at a mounting height of 30 Meter for HLM application.
- 3.1.2 The luminaries should have luminous efficacy of more than 100 lumens/watt.
- 3.1.3 The luminaries should be designed for a operating voltage range of 140V-270 Volts AC 50 Hz +/- 3%, with a power factor more or equal to 0.95
- 3.1.4 LED output current should not cross more than 70% of LED forward current

- 3.1.5 The luminaries should have a third harmonic distortion (THD) less than 10%.
- 3.1.6 Secondary lens to be provided at each LED chip for better light distribution. Secondary lens shall be of Poly Carbonate.
- 3.1.7 Luminaries should have 120 degree symmetric beam angle with  $\pm 5$  degree tolerance. The indicative beam spread shown bellow.



- 3.1.8 The luminaries should have a colour rendering index (CRI) more than 75, and co-related colour temperature (CCT) of cool white i.e more than 5500K°.
- 3.1.9 The luminaries should have an inbuilt short circuit, over current protection and a surge protection of 10kV or more
- 3.1.10 The luminaries should have L70 life of 50,000hrs or more i.e with 70% of its initial luminous output maintained up to 50000 hrs or more, operating hours.
- 3.1.11 The luminaries should have housing made up of epoxy powder coated single piece pressure die cast aluminium and heat resistance toughened glass cover, with a stainless steel hardware.
- 3.1.12 The driver housing should be at rear side of the casing with separate compartment such that, it should not disturb the LED housing pocket during servicing & for better thermal management.
- 3.1.13 The luminaries should have ingress protection of IP66
- 3.1.14 The luminaries shall be designed for operating ambient temperature of -30 to 45 degree centigrade.
- 3.1.15 The luminaries shall be design for Stirrup fixation, bracket type mounting

- 3.1.16 The luminaries should have name plate showing make, model, wattage, operating voltage, year of manufacture.
- 3.1.17 Acceptable LED chip Make: High Power LEDs Lumileds or OSRAM or Nichia or CREE
- 3.1.18 Acceptable driver make : PHILIPS-XITANIUM, or Bajaj or Surya or CGL, Meanwell or Inventronics or Electronica .The driver should be approved by BIS and documented evidence to be submitted.

**4. Special terms and conditions :**

- 4.1 Successful vendor should submit test certificate as per IES LM-80 -2008 from the original equipment manufacture of the light emitting diode (LED) along with the purchasing proof before dispatching the material.
- 4.2 Successful vendor should submit type test certificate as per IES LM-79-2008 / IS standards from NABL accredited laboratory for the particular batch of materials being supplied before dispatching. The test shall ensure the guaranteed performance parameter of the supplied materials i.e Total luminous flux measurement, Luminous efficacy, colour characteristics, photometric test, beam spread etc., electrical parameters ( power factor, total harmonic distortion, operating voltage , cut off voltage etc) and resistance to dust and moisture (IP 66 test).
- 4.3 Vendor shall give guarantee for the period of 3 years from date of supply of flood light luminaries. Vendor shall provide service/replacement in case of failure of flood light luminaries (including both LED chip and driver), during guaranteed period for free of cost.
- 4.4 Vendor shall provide 10% driver unit as a spares along with the Luminaries.

**5. Testing & inspection :**

Vendor shall submit GA drawing, technical details for approval before manufacturing. All equipment shall be routine tested as per applicable Indian standard. Inspection will be done at MRPL stores; however MRPL reserves right to have a factory inspection; vendor shall give inspection call in advance.

**6. Packing and dispatch:**

The equipment shall be properly packed for transportation by ship/rail or trailer. The equipment shall be wrapped with in polythene sheets before being placed in crates/cases to prevent damage. Crates/cases shall have skid bottom for handling. Special notations such as, this side is up, weight, owner's particulars, MRPL material code, PO no's. etc., shall be clearly marked on the package.



Annexure - 3000015394		
<b>Tec. Spec clause No</b>	<b>Existing specification</b>	<b>To be amended as</b>
3.1.5	The luminaries should have a third harmonic distortion (THD) less than 10%.	The luminaries should have a total harmonic distortion (THD) less than 10%.
3.1.7	Luminaries should have 120 degree symmetric beam angle with +/- 5 degree tolerance. The indicative beam spread shown below.	Luminaries should have 60 degree symmetric beam angle with +/- 5 degree tolerance.
3.1.8	The luminaries should have a colour rendering index (CRI) more than 75, and co-related colour temperature (CCT) of cool white i.e more than 5500K°.	The luminaries should have a colour rendering index (CRI) equal or more than 70, and co-related colour temperature (CCT) of cool white i.e more than 5500K°.