



The successful bidder shall fulfil the fitting specifications tabulated below for the LED light fixture to be supplied against the SOQ items and get it approved by the engineer -in-charge for supplying the same.

SPECIFICATIONS FOR LED FIXTURES FOR THE BOQ ITEM No.1

Sr.No	Technical Parameter	Acceptable value
1	Total Power Consumption	Not more than 110% of rated capacity of LED light fitting
2	Efficiency of LED light fitting (System efficacy)	≥ 110 Lumens / Watt
3	System Luminous flux	Minimum 8800 lumen
4	Housing	High pressure die cast aluminium / standard ALLOY FOR out door application
5	Protector	Silicon Gasket
6	Operating Voltage range	150V-270V, 50Hz single phase
7	Colour Rendering Index (CRI)	≥ 70
8	Total Harmonic Distortion (THD)	$< 10\%$
9	IP category	$\geq \text{IP65}$
10	Surge Protection	$> 4\text{kV}$
11	Power factor	≥ 0.95
12	Colour Temperature (CCT)	5500 - 6000K
13	Life of LED Light fitting	Not less than 50000 burning hours
14	Beam angle	As per site requirement
15	Make of LED	Nichia/ Cree / Osram / Philips (LUMILEDS) / Sharp/Seoul/Everlite/Citizen(Japan)/Bridgelux(USA)Samsung.
16	Test Reports /Certificates & Documents during execution in case of award.	1) Type Test Certificates from NABL accredited Labs only. 2) LM 79 Test Report 3) LM 80 Test Report. 4) Lumen depreciation Curve of LEDs used.
17	Warranty certificate from OEM	Five Years from the actual Date of Completion of Work on whole light fitting including Driver/control gear, LED ,all accessories (Guarantee certificate from OEM to be submitted in case of award)



18	Labelling /Identification Mark	Manufacture name /logo shall be engraved / embossed on housing/body or on aluminium plat labels or screen printed on housing/body
19	Type of driver	Enclosed/Encapsulated
20	Approved make of driver	Meanwell/inventronics/C&S / Moso power/BAG /Philips/Wipro/Osram/Bajaj /pharos/Fulham/helver/OEM of light fixture
21	Efficiency of driver	$\geq 85\%$
22	Testing facility	LED luminaire manufacturer shall have in-house NABL accredited photometry lab OR Manufacturer should produce necessary certificate from NABL accredited photometry lab
23	BIS registration	All luminaires & drivers shall be BIS registered
24	Housing thickness considering all in one solar led light	Housing of luminaires shall $\geq 5\text{mm}$ for CRCA or 1mm for extruded aluminum or 1.5mm for PDC aluminium or heavier if so required to meet the application
25	IK rating	IK 07 or above
26	LED binning (standard deviation colour matching)	Less than 5 (SDCM)

Note:-

1. The quantity mentioned in BOQ is tentative the actual quantity shall be based on the site requirement.
2. Before procurement of LED lighting fixtures, contractor will get the lighting (Lux) design from OEM of LED lighting fixture fulfilling the requirement of Street lighting considering the parameters of BOQ and technical specification only.
3. The submitted lighting design from OEM of LED lighting fixture shall be got approved from AAI before procurement of LED lighting fixtures.
4. After installation of LED lighting fixture achieved lux level shall be recorded and same shall be verified with the approved lighting design submitted from OEM and agency, if any deviation is there then, same shall be rectified by the agency without any extra cost to AAI
5. AAI reserves the right to call for samples of those make/model of LED lamp as offered by the tenderer during sample approval phase and test it, if required. However, the cost of the sample and the cost of testing shall be borne by the agency.
6. The bidder shall quote their rates, in accordance with the technical specification.



SPECIFICATIONS FOR LED FIXTURES FOR THE BOQ ITEM No.2

Sr.No	Technical Parameter	Acceptable value
1	Total Power Consumption	Not more than 110% of rated capacity of LED light fitting
2	Efficiency of LED light fitting (System efficacy)	≥ 110 Lumens / Watt
3	System Luminous flux	Minimum 37550 lumen
4	Housing	High pressure die cast aluminium / standard ALLOY FOR outdoor application
5	Protector	Silicon Gasket
6	Operating Voltage range	150V-270V, 50Hz single phase
7	Colour Rendering Index (CRI)	≥ 70
8	Total Harmonic Distortion (THD)	$< 15\%$
9	IP category	$\geq IP65$
10	Surge Protection	$> 4kV$
11	Power factor	≥ 0.95
12	Colour Temperature (CCT)	5500 - 6000K
13	Life of LED Light fitting	Not less than 50000 burning hours
14	Beam angle	As per site requirement
15	Make of LED	Nichia/ Cree / Osram / Philips (LUMILEDS) / Sharp/Seoul/Everlite/Citizen(Japan)/Bridgelux(USA)Samsung.
16	Test Reports /Certificates & Documents during execution in case of award.	1) Type Test Certificates from NABL accredited Labs only. 2) LM 79 Test Report 3) LM 80 Test Report. 4) Lumen depreciation Curve of LEDs used.
17	Warranty certificate from OEM	Five Years from the actual Date of Completion of Work on whole light fitting including Driver/control gear, LED ,all accessories (Guarantee certificate from OEM to be submitted in case of award)
18	Labelling /Identification Mark	Manufacture name /logo shall be engraved / embossed on housing/body or on aluminium plat labels or screen printed on housing/body



19	Type of driver	Enclosed/Encapsulated
20	Approved make of driver	Meanwell/inventronics/C&S / Moso power/BAG /Philips/Wipro/Osram/Bajaj /pharos/Fulham/helver/OEM of light fixture
21	Efficiency of driver	≥85%
22	Testing facility	LED luminaire manufacturer shall have in-house NABL accredited photometry lab OR Manufacturer should produce necessary certificate from NABL accredited photometry lab
23	BIS registration	All luminaires & drivers shall be BIS registered
24	Housing thickness considering all in one solar led light	Housing of luminaires shall ≥.5mm for CRCA or 1mm for extruded aluminum or 1.5mm for PDC aluminium or heavier if so required to meet the application
25	IK rating	IK 07 or above
26	LED binning (standard deviation colour matching)	Less than 5 (SDCM)

Note:-

1. The quantity mentioned in BOQ is tentative the actual quantity shall be based on the site requirement of lux requirement of car park lighting.
2. Before procurement of LED lighting fixtures, contractor will get the lighting (Lux) design from OEM of LED lighting fixture fulfilling the requirement of car park lighting considering the parameters of BOQ and technical specification only.
3. The submitted lighting design from OEM of LED lighting fixture shall be got approved from AAI before procurement of LED lighting fixtures.
4. After installation of LED lighting fixture achieved lux level shall be recorded and same shall be verified with the approved lighting design submitted from OEM and agency, if any deviation is there then, same shall be rectified by the agency without any extra cost to AAI
5. AAI reserves the right to call for samples of those make/model of LED lamp as offered by the tenderer during sample approval phase and test it, if required. However, the cost of the sample and the cost of testing shall be borne by the agency.
6. The bidder shall quote their rates, in accordance with the technical specification.



SPECIFICATIONS FOR LED FIXTURES FOR THE BOQ ITEM No.3

Sr.No	Technical Parameter	Acceptable value
1	Total Power Consumption	Not more than 110% of rated capacity of LED light fitting
2	Efficiency of LED light fitting (System efficacy)	≥ 110 Lumens / Watt
3	System Luminous flux	Minimum 59390 lumen
4	Housing	High pressure die cast aluminium / standard ALLOY FOR out door application
5	Protector	Silicon Gasket
6	Operating Voltage range	150V-270V, 50Hz single phase
7	Colour Rendering Index (CRI)	≥ 70
8	Total Harmonic Distortion (THD)	$< 10\%$
9	IP category	$\geq IP65$
10	Surge Protection	$> 4kV$
11	Power factor	≥ 0.95
12	Colour Temperature (CCT)	5500 - 6000K
13	Life of LED Light fitting	Not less than 50000 burning hours
14	Beam angle	As per site requirement
15	Make of LED	Nichia/ Cree / Osram / Philips (LUMILEDS) / Sharp/Seoul/Everlite/Citizen(Japan)/Bridgelux(USA)Samsung.
16	Test Reports /Certificates & Documents during execution in case of award.	1) Type Test Certificates from NABL accredited Labs only. 2) LM 79 Test Report 3) LM 80 Test Report. 4) Lumen depreciation Curve of LEDs used.
17	Warranty certificate from OEM	Five Years from the actual Date of Completion of Work on whole light fitting including Driver/control gear, LED ,all accessories (Guarantee certificate from OEM to be submitted in case of award)
18	Labelling /Identification Mark	Manufacture name /logo shall be engraved / embossed on housing/body or on aluminium plat labels or screen printed on housing/body
19	Type of driver	Enclosed/Encapsulated



20	Approved make of driver	Meanwell/inventronics/C&S / Moso power/BAG /Philips/Wipro/Osram/Bajaj /pharos/Fulham/helver/OEM of light fixture
21	Efficiency of driver	≥85%
22	Testing facility	LED luminaire manufacturer shall have in-house NABL accredited photometry lab OR Manufacturer should produce necessary certificate from NABL accredited photometry lab
23	BIS registration	All luminaires & drivers shall be BIS registered
24	Housing thickness considering all in one solar led light	Housing of luminaires shall ≥.5mm for CRCA or 1mm for extruded aluminum or 1.5mm for PDC aluminium or heavier if so required to meet the application
25	IK rating	IK 07 or above
26	LED binning (standard deviation colour matching)	Less than 5 (SDCM)

Note:-

1. The quantity mentioned in BOQ is tentative the actual quantity shall be based on the site requirement of lux requirement of car park lighting.
2. Before procurement of LED lighting fixtures, contractor will get the lighting (Lux) design from OEM of LED lighting fixture fulfilling the requirement of car park lighting considering the parameters of BOQ and technical specification only.
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