Laboratory	**Gupta Power Infrastructure Limited, Green Energy Lab, Unit No-306, 3rd Floor, Kaushambi, Radisson Blu Complex, K.M. Trade Tower, Ghaziabad, Uttar Pradesh**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-7800** **Page 1 of 6**
Validity	**30.08.2018 to 29.08.2020** **Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		ELECTRICAL TESTING		
I.	**LAMPS , LUMINARIES AND ACCESSORIES**			
1.	**Self-ballasted LED lamps for General lighting Services - (B22d, E27, E14 caps only**	Marking	IS 16102 (Part 1), Cl 5	Qualitative
		Interchangeability	IS 16102 (Part 1) Cl 6.1	Qualitative
		Bending Moment, Axial Pull and Mass	IS 16102 (Part 1) Cl 6.2	0.75 Nm to 3 Nm 0.5 to 5 kg
		Protection against Accidental contact with live parts	IS 16102 (Part 1), Cl 7	2.5 N to 100 N 0 to 50 V
		Insulation resistance And Electric Strength After Humidity treatment	IS 16102 (Part 1), Cl 8	20°C to 100°C, 50 to 95% 50 V to 1000V DC, 0.01MΩ to 10GΩ 0.01 to 5 kVac 0.1 mA to 100 mA
		Mechanical strength	IS 16102 (Part 1), Cl 9	0.75 Nm to 4 Nm 2.5 N to 300 N (Qualitative)
		Cap temperature rise	IS 16102 (Part 1), Cl 10	Ambient to 199.9 °C
		Resistance to the Heat	IS 16102 (Part 1), Cl 11	Ø 5mm, 20 N Amb. to 200°C 0.01 mm to 150 mm
		Resistance to flame and ignition	IS 16102 (Part 1),(Cl 12)	550°C to 900°C Qualitative
		Fault conditions	IS 16102 (Part 1), (Cl 13)	0.01 to 5 kVac 0.1 mA to 100 mA 50 V to 1000V DC, 0.01 MΩ to 10GΩ

Laboratory	**Gupta Power Infrastructure Limited, Green Energy Lab, Unit No-306, 3rd Floor, Kaushambi, Radisson Blu Complex, K.M. Trade Tower, Ghaziabad, Uttar Pradesh**	
Accreditation Standard	**ISO/IEC 17025: 2005**	
Certificate Number	**TC-7800**	**Page 2 of 6**
Validity	**30.08.2018 to 29.08.2020**	**Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				0.1°C to 200 °C Above amb. to 200°C 1mSec to 99min99s Force: 2.5 N to 300 N :0.001 to 600Vdc 0.06 to 600Vac 0.001 to10Adc 0.1 to10 Aac 0.01 mm to 150 mm 50 V to 1000 V DC, 0.01MΩ to 10GΩ
		Creepage distances Clearances	IS 16102 (Part 1), Cl 14	0.01 mm to 150mm
2.	**Self-ballasted LED lamps for General lighting Services (Using Integrating Sphere)**	Marking	IS 16102 (Part 2),Cl 5	Qualitative
		Dimensions	IS 16102 (Part 2),Cl 6	0.01 mm to 150mm
		Lamp Power, Power Factor and Harmonics	IS 16102 (Part 2) Clause 8.1, 8.2,8.3	0.5 W to 40 W 1to 40th harmonic Power factor 0.1 to 1.0
		Luminous Flux and Efficacy	IS 16102 (Part 2) Cl 9.1 & 9.3	100 lm to 4000 lm
		Correlated Color Temperature and Color Rendering Index	IS 16102 (Part 2),Cl 10	2500 K to 10000 K 1 to 100
		Life	IS 16102 (Part 2),Cl 11	100 lm to 4000 lm 0.1 h to 6000 h
3.	**Safety of Lamp Control Gears – General Requirements**	Marking	IS 15885 (Part 1),Cl. 7 IS 15885 (Part 2 / Sec 13) Cl. 7	Qualitative
		Terminals	IS 15885 (Part 1),(Cl. 8) IS 15885 (Part 2 / Sec 13) Cl. 9	Qualitative
		Provision for Protective Earthing	IS 15885 (Part 1),Cl. 9 IS 15885 (Part 2 / Sec 13) Cl. 10	0.5 A to 160A 0.05 V to 12V

Mandeep Kumar
Convenor

Anuja Anand
Program Manager

Laboratory	**Gupta Power Infrastructure Limited, Green Energy Lab, Unit No-306, 3rd Floor, Kaushambi, Radisson Blu Complex, K.M. Trade Tower, Ghaziabad, Uttar Pradesh**	
Accreditation Standard	**ISO/IEC 17025: 2005**	
Certificate Number	**TC-7800**	**Page 3 of 6**
Validity	**30.08.2018 to 29.08.2020**	**Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection against Accidental Contact Against Live Parts	IS 15885 (Part 1),Cl. 9 IS 15885 (Part 2 / Sec 13) Cl. 8	Force: 0 to 100N 0 to 50V (Qualitative)
		Moisture Resistance and Insulation	IS 15885 (Part 1),Cl. 11 IS 15885 (Part 2/Sec 13) Cl. 11	Temp: 0 to 50°C, RH:10% to 99% 500V DC, Resistance : 0.01MΩ to 10GΩ
		Electric Strength	IS 15885 (Part 1),Cl. 12 IS 15885 (Part 2/Sec 13) Cl. 12	0.1 kV to 5 kV~ 0.1 mA to 100mA (Qualitative)
		Thermal Test for Windings of Ballast	IS 15885 (Part 1),Cl. 13 IS 15885 (Part 2/Sec 13) Cl. 13	Ambient to 150˚C
		Fault Condition	IS 15885 (Part 1),Cl. 14 IS 15885 (Part 2/Sec 13), Cl. 14	Amb. to 250°C 500V DC, 0.01MΩ to 10GΩ Voltage DC :0.001 to 600V Voltage AC : 0.06 to 600V Current DC: 0.001 to 10A Current AC : 0.1 to 10A 99min, 99s 0.1 to 400°C
		Transformer Heating	IS 15885 (Part 2/Sec 13) (Cl. 15)	Voltage DC :0.001 to 600V Voltage AC : 0.06 to 600V Current DC: 0.001 to 10A Current AC : 0.1 to 10A 99min, 99s Amb. to 200°C; 0.1 to 400°C
		Construction	IS 15885 (Part 1) Cl. 15 IS 15885 (Part 2/Sec 13) Cl. 16	(Qualitative)

Mandeep Kumar
Convenor

Anuja Anand
Program Manager

Laboratory	**Gupta Power Infrastructure Limited, Green Energy Lab, Unit No-306, 3rd Floor, Kaushambi, Radisson Blu Complex, K.M. Trade Tower, Ghaziabad, Uttar Pradesh**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-7800** **Page 4 of 6**
Validity	**30.08.2018 to 29.08.2020** **Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Creepage distances Clearances	IS 15885 (Part 1),Cl. 16 IS 15885 (Part 2/Sec 13) Cl. 17	0.01mmto 150mm
		Screws, current carrying parts and connections	IS 15885 (Part 1),Cl. 17 IS 15885 (Part 2/Sec 13) Cl. 18	Qualitative
		Resistance to Heat, Fire and Tracking	IS 15885 (Part 1):2011 (Cl. 18) IS 15885 (Part 2/Sec 13) Cl. 19	Ø 5 mm, 20 N 99 min, 99 sec 0.01 mm to 150 mm Above amb. to 250°C Burner Dia:9.5 mm Needle Dia:0.5 mm, Time:1 mSec.-99.99 Minute Voltage:0 to 600 Vrms Current:0 to 2.0 Arms
		Resistance to Corrosion	IS 15885 (Part 1),Cl. 19 IS 15885 (Part 2/Sec 13) Cl. 20	Qualitative
4.	**Solid State Lighting (LED) Products (Using Integrating sphere)**	Total Luminous Flux	IS 16106 , Cl 11	100 lm to 40000 lm
		Luminous Efficacy	IS 16106 , Cl 13	0 to 40000 lm
		Correlated color Temperature and Color Rendering Index	IS 16106 , Cl 14	2500 k to10000 k Ra: 1 to 100
5.	**DC. or AC. Supplied Electronic Control Gear For Led Modules - Performance Requirements**	Marking	IS 16104 ,Cl. 6	Qualitative
		Output Voltage and Current	IS 16104 ,Cl. 7	Voltage:20.0 V to 300.0 V Curent:5.00mA to 30A Time: 99Min 99Sec
		Total Circuit Power	IS 16104 ,Cl. 8	Voltage:20.0 V to 300.0 V Curent:5.00mA to 30A Power:1.000W to 6.000 kW

Mandeep Kumar
Convenor

Anuja Anand
Program Manager

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Circuit Power Factor	IS 16104 ,(Cl. 9)	20.0 V to 300.0 V 5mA to 30A 1W to 6 KW PF : 0.2 to 1
		Supply Current	IS 16104 ,Cl. 10	20.0 V to 300.0 V 5.00mA to 30A 1.000W to 6.000 kW
		Operational Tests for Abnormal Condition	IS 16104 ,Cl. 12	Voltage DC :0.001 to 600V Voltage AC :0.06 to 600V Current DC: 0.001 to 10A Current AC :0.1 to 10A 99Min 99Sec
		Endurance	IS 16104 ,Cl. 13	Qualitative
6.	**Luminaires**	Marking	IS 10322 (Part 5/Sec I, II, III, IV, V, VI,VIII), Cl. 6 IS 10322 (Part 5/Sec VII) Cl. 20.6 IS 10322 (Part 1),Cl. 3	Qualitative
		Provision for Earthing	IS 10322 (Part 5/Sec I, II, III, V, VIII), Cl. 9 IS 10322 (Part 5/Sec IV) Cl 8 IS 10322 (Part 1),Cl 7	0 to 1.8 Ω
		Protection against electric shock	IS 10322 (Part 5/Sec I,II,III,V,VI,VIII) Cl 12 IS 10322 (Part 5/Sec IV), Cl 11 IS 10322 (Part 5/Sec VI), Cl 12 IS 10322 (Part 5/Sec VII), Cl 20.12 IS 10322 (Part 1),Cl 8	Qualitative

Laboratory	**Gupta Power Infrastructure Limited, Green Energy Lab, Unit No-306, 3rd Floor, Kaushambi, Radisson Blu Complex, K.M. Trade Tower, Ghaziabad, Uttar Pradesh**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Certificate Number	**TC-7800**	**Page 6 of 6**	
Validity	**30.08.2018 to 29.08.2020**	**Last Amended on --**	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Endurance Tests and Thermal Tests	IS 10322 (Part 5/Sec I, II, III, V, VI, VIII), Cl 13 IS 10322 (Part 5/Sec IV) Cl 13.4 IS 10322 (Part 5/Sec VII) Cl 20.13 IS 10322 (Part 1),Cl 12	Ambient to 150 °C
		Insulation resistance and Electric Strength	IS 10322 (Part 5/Sec I,III,V,VI,VIII) Cl. 15 IS 10322 (Part 5/Sec IV) Cl 13.6 IS 10322 (Part 5/Sec VII) Cl 20.15 IS 10322 (Part 1),Cl 10	0.01 MΩ to 2 GΩ, 100 to 1000 Vdc 0.01 kV to 5 kV ac, 0.1 mA to 100 mA Current: 0.1uA to 10 mA Voltage:0.1V to 277V
		Creepage distances and clearances	IS 10322 (Part 5/Sec I,II,III,V,VI,VIII), Cl 8 IS 10322 (Part 5/Sec IV), Cl 7 IS 10322 (Part 5/Sec VII) Cl. 20.8 IS 10322 (Part 1),Cl. 11	0.01 mm to 300 mm
		Humidity Test	IS 10322 (Part 5/Sec I,III,V,VI,VIII), Cl. 14 IS 10322 (Part 5/Sec IV), Cl 13.5 IS 10322 (Part 5/Sec VII),Cl. 20.14 IS 10322 (Part 1),Cl 9.3	Qualitative

Mandeep Kumar
Convenor

Anuja Anand
Program Manager