

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	1 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	LAMPS & LUMINARIES AND ACCESSORIES			
1	Double-capped fluorescent lamps	Marking.	Clause 2.2 as per IEC 61195 – (Edition 2.1 -2012-10)	Qualitative
		Mechanical Requirements – Construction and assembly. Dimensional requirements for caps.	Clause 2.3 as per IEC 61195 – (Edition 2.1 -2012-10)	0.01 to 300 mm 0.02 to 600 mm 0.01 to 25mm 0.1 to 1.4 Nm 0.1 to 5 Nm 35 to 300°C Go and No go Gauges for G5 and G13 caps
		Insulation Resistance.	Clause 2.4 as per IEC 61195- (Edition 2.1 -2012-10)	50 to 1200V DC 0.100 to 9999 MΩ
		Electric Strength.	Clause 2.5 as per (IEC 61195 - Edition 2.1 -2012-10).	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Parts which can become accidentally live.	Clause 2.6 as per IEC 61195 - ((Edition 2.1 -2012-10)	50 to 1200V DC 0.100 to 9999 MΩ
		Resistance to heat and fire.	Clause 2.7 as per IEC 61195- (Edition 2.1 -2012-10)	35 to 300°C Ball Diameter: 5mm Force I: 20 N, Glow wire test Apparatus: Tip Temperature 550°C to 960°C

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	2 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Creepage distance for caps.	Clause 2.8 as per (Edition 2.1 - 2012-10)	0.01 to 300mm
		Lamp cap temperature rise.	Clause 2.9 as per IEC 61195 Edition 2.1 -2012-10)	Ambient to 300°C
		Lamp minimum overall length.	Clause 2.10 as per IEC 61195 (Edition 2.1 -2012-10)	Length Gauges as per IEC:60081
		Caps	Clause 1.5.2 as per IEC 60081- (Edition 5.0 2013-07)	Go and No go Gauges for G5 and G13 caps.
		Dimensions.	Clause 1.5.3 as per IEC 60081- (Edition 5.0 2013-07)	Length Gauges as per IEC:60081
		Starting characteristics.	Clause 1.5.4 as per IEC 60081-- (Edition 5.0 2013-07)	0.1 s - 60 Min
		Electrical and cathode characteristics.	Clause 1.5.5 as per IEC 60081- (Edition 5.0 2013-07)	Voltage: 0.01 - 600V Current: 0.001 - 2 A Power : 0.01 W - 600W
		Photometric characteristics – Initial luminous flux, Initial chromaticity coordinates, initial CRI.	Clause 1.5.6 as per IEC 60081- (Edition 5.0 2013-07))	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	3 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lumen Maintenance	Clause 1.5.7 as per IEC 60081- (Edition 5.0 2013-07)	0.1 to 10000 hr. Spectrum : 350 to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
		Marking	Clause 1.5.8 as per IEC 60081- (Edition 5.0 2013-07)	Qualitative
		Product Drawing (Overall length, Tube length, Tube diameter)	Clause 8 as per ANSI C78.81-2010	0.01 to 300mm 0.02mm to 600mm
		Applications of Lamps on More than One Type of Circuit	Clause 9 as per ANSI C78.81-2010	Qualitative
		Lamp Physical and Dimensional Requirements	Clause 10 as per ANSI C78.81-2010	Go and No go Gauges for G5 and G13 caps.
		Lamp Electrical Characteristics	Clause 11 as per ANSI C78.81-2010	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	4 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Tubular Fluorescent lamps	Qualitative examination and checking of marking.	Clause 6.3 as per IS 2418 – Part 1 – 1977	Qualitative
		Torsion test.	Clause 6.4 as per IS 2418 - Part 1 – 1977	0.1 to 1.4Nm 0.1 to 5 Nm
		Insulation resistance test	Clause 6.5 as per IS 2418 - Part 1 – 1977	50 to 1200V DC 0.100 to 9999 MΩ
		Burning test,	Clause 6.6 as per IS 2418 - Part 1 – 1977	Qualitative
		Starting Characteristics test, (Start timing)	Clause 4.2 & 6.7 as per IS 2418 - Part 1 – 1977	0.1 s to 60 Min
		Test for electrical, luminous and colour characteristics	Clause 6.8 as per IS 2418 - Part 1 – 1977	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000 K CRI : Up to 100 Co-ordinates: Up to 1
		Life test	Clause 6.9 as per IS 2418 – Part 1 – 1977	0.1 Hrs to 10000 Hrs. Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	5 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Mechanical and Physical Requirements	Clause 4.1 as per IS 2418 – Part 1 – 1977	0.1 to 1.4Nm 0.1 to 5 Nm Go and No go Gauges for G5 and G13 caps. Angular gauge /6°/- Length gauges as per IS:2418 Pt.2
3.	Fluorescent Lamps	Electrical and Photometric Characteristics	IES LM – 9 - 09	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
		Life Testing	IES LM-40– 10	0.1 hrs to10000 Hrs.
		Color co-ordinates, Nominal color temperature, Objective chromaticities, Chromaticity tolerances and CRI	Clause 2,3,4,5 and 6 as per ANSI C78.376-2001	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	6 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Luminaires	Marking	Clause 1.5 as per IEC 60598-2-1 (Edition 1- 1987)	Qualitative
			Clause 2.6 as per IEC 60598-2-2 (Edition 3.0 2011-11)	
			Clause 3.5 as per IEC 60598-2-3 (Edition 3.1 2011-11)	
			Clause 4.5 as per IEC 60598-2-4 (Edition 2 1997-04)	
			IEC 60598-1 Section 3 (Edition 8.0 2014-05)	
		Construction	Clause 1.6 as per IEC 60598-2-1(Edition 1 -1987)	0.01 to 300mm
			Clause 2.7 as per IEC 60598-2-2 (Edition 3.0 2011-11)	0.01N to196N
			Clause 3.6 as per IEC 60598-2-3 (Edition 3.1 2011-11)	0.2 to1.2 Nm 1Nm to 6 Nm
			Clause 4.6 as per IEC 60598-2-4 (Edition 2 1997-04)	
			IEC 60598-1 Section 4 (Edition 8.0 2014-05)	0.20Nm,0.35Nm, 0.50Nm,0.70Nm, 1.00Nm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	7 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		External and Internal Wiring	Clause 1.7 as per IEC 60598-2-1 (Edition 1- 1987) Clause 2.11 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.10 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.10 as per IEC 60598-2-4 (Edition 2 1997-04) IEC 60598-1 Section 5 (Edition 8.0 2014-05)	0.01 to 300mm 0.01N to 196N 0.2 to 1.2 Nm 1Nm to 6 Nm
		Provision for Earthing.	Clause 1.8 as per IEC 60598-2-1 (Edition 1 Amendment 1: 1987) Clause 2.9 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.8 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.8 as per IEC 60598-2-4 (Edition 2 1997-04) IEC 60598-1 Section 7 (Edition 8.0 2014-05)	0.001Ω to 1.8000Ω

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	8 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection against Electric Shock	Clause 1.11 as per IEC 60598-2-1(Edition 1: 1987) Clause 2.12 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.11 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.11 as per IEC 60598-2-4 (Edition 2 1997-04) IEC 60598-1 Section 8 (Edition 8.0 2014-05)	30N, 50V, Specified gauges
		Resistance to dust, Solid objects and Moisture	Clause 1.13 as per IEC 60598-2-1(Edition 1- 1987) Clause 2.14 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 2.14 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.13 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.13 as per IEC 60598-2-4 (Edition 2 1997-04) IEC 60598-1 Section 9 (Edition 8.0 2014-05)	Qualitative

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	9 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insulation Resistance and Electric Strength, Touch Current and Protective Conductor Current	Clause 1.14 as per IEC 60598-2-1(Edition 1: 1987) Clause 2.15 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.14 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.14 as per IEC 60598-2-4 (Edition 2 1997-04) Clause 4.14 as per IEC 60598-2-4 (Edition 2 1997-04)	50 to 1200V DC 0.100 to 9999 MΩ 0.20 to 5.00 kV AC 0.01 to 100.0mA
		Creepage Distance and Clearances	IEC 60598-1 Section 10 (Edition 8.0 2014-05) Clause 1.7 as per IEC 60598-2-1 (Edition- 1987) Clause 2.8 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.7 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.7 as per IEC 60598-2-4 (Edition 2 1997-04) IEC 60598-1 Section 11 Edition 8.0 2014-05)	0.01 μA to 50mA 0.01 to 300mm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	10 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Endurance Test and Thermal Test	Clause 1.12 as per IEC 60598-2-1(Edition 1- 1987) Clause 2.13 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.12 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.12 as per IEC 60598-2-4 (Edition 2- 1997-04) IEC 60598-1 Section 12 (Edition 8.0 2014-05)	35°C to 300°C
		Resistance to Heat, Fire and Tracking	Clause 1.15 as per IEC 60598-2-1(Edition 1- 1987) Clause 2.16 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.15 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.15 as per IEC 60598-2-4 (Edition 2 1997-04) IEC 60598-1 Section 13 (Edition 8.0 2014-05)	35 °C to 300°C Ball Diameter: 5mmForce l: 20.0N,. Vernier caliper 0.01 mm to 300 mm Glow wire test apparatus :Tip Temperature 550°C to 960°C 0.1 s to 60 Min

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	11 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Terminals/Screw Terminals/ Screw less Terminals and Electrical Connections	Clause 1.9 as per IEC 60598-2-1 (Edition 1 - 1987) Clause 2.10 as per IEC 60598-2-2 (Edition 3.0 2011-11) Clause 3.9 as per IEC 60598-2-3 (Edition 3.1 2011-11) Clause 4.9 as per IEC 60598-2-4 (Edition 2 1997-04) IEC 60598-1 Section 14 & 15 (Edition 8.0 2014-05)	0.2 to 1.2 Nm 1Nm to 6 Nm
	Marking		Clause 5 as per IS 10322 (Part 5/Sec1):2012 Clause 5 as per IS 10322 (Part 5/Sec2):2012 Clause 5 as per IS 10322 (Part 5/Sec3):2012 Clause 5 as per IS 10322 (Part 5/Sec4):2012 Clause 5 as per IS 10322 (Part 5/ Sec 5): 2012 Clause 6 as per IS 10322 (Part 1):1982	Qualitative

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	12 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Construction.	Clause 6 as per IS 10322 (Part 5/Sec1):2012	0.01 mm to 300mm
			Clause 6 as per IS 10322 (Part 5/Sec2):2012	0.01N to 196N
			Clause 6 as per IS 10322 (Part 5/Sec3):2012	0.2 to 1.2 Nm 1Nm to 6 Nm
			Clause 5 as per IS 10322 (Part 5/Sec4):2012	
			Clause 6 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 1 to 21 as per IS 10322 (Part 2):1982	0.20Nm,0.35Nm, 0.50Nm,0.70Nm,1.00Nm
		Creepage Distance and Clearances	Clause 7 as per IS 10322 (Part 5/Sec1):2012	0.01mm to 300mm
			Clause 7 as per IS 10322 (Part 5/Sec2):2012	
			Clause 7 as per IS 10322 (Part 5/Sec3):2012	
			Clause 7 as per IS 10322 (Part 5/Sec4):2012	
			Clause 7 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 4 as per IS 10322 (Part 4):1984	

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	13 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Provision for Earthing	Clause 8 as per IS 10322 (Part 5/Sec1):2012 Clause 8 as per IS 10322 (Part 5/Sec2):2012 Clause 8 as per IS 10322 (Part 5/Sec3):2012 Clause 8 as per IS 10322 (Part 5/Sec4):2012 Clause 8 as per IS 10322 (Part 5/Sec 5): 2012 Clause 8 as per IS 10322 (Part 5/Sec 5): 2012 Clause 20 as per IS 10322 (Part 2):1982	0 to 1.8000Ω
		Terminals	Clause 9 as per IS 10322 (Part 5/Sec1):2012 Clause 9 as per IS 10322 (Part 5/Sec2):2012 Clause 9 as per IS 10322 (Part 5/Sec3):2012 Clause 9 as per IS 10322 (Part 5/Sec4):2012	0.2 to 1.2 Nm 1Nm to 6 Nm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	14 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Clause 9 as per IS 10322 (Part 5/Sec 5): 2012	0.2 to 1.2 Nm 1Nm to 6 Nm
			Clause 1 to 8 as per IS 10322 (Part 3):1984	0.2 to 1.2 Nm 1Nm to 6 Nm
		External and Internal Wiring	Clause 10 as per IS 10322 (Part 5/Sec1):2012	0.01 to 300mm
			Clause 10 as per IS 10322 (Part 5/Sec2): 2012	0.01N to 196N
			Clause 10 as per IS 10322 (Part 5/Sec3):2012	0.2 to 1.2 Nm 1Nm to 6 Nm
			Clause 10 as per IS 10322 (Part 5/Sec4):2012	
			Clause 10 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 19 as per IS 10322 (Part 2):1982	
		Protection against Electric Shock.	Clause 11 as per IS 10322 (Part 5/Sec1):2012	30N, 50V, Specified gauges
			Clause 11 as per IS 10322 (Part 5/Sec2):2012	
			Clause 11 as per IS 10322 (Part 5/Sec3):2012	

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	15 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Clause 11 as per IS 10322 (Part 5/Sec4):2012	30N, 50V, Specified gauges
			Clause 11 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 21 as per IS 10322 (Part 2):1982	
		Qualitative Examination	Clause 12.2 as per IS 10322 (Part 5/Sec1): 2012	Qualitative
			Clause 12.2 as per IS 10322 (Part 5/Sec2): 2012	
			Clause 13.2 as per IS 10322 (Part 5/Sec3): 2012	
			Clause 13.2 as per IS 10322 (Part 5/Sec4): 2012	
			Clause 13.2 as per IS 10322 (Part 5/Sec 5): 2012	
		Mechanical Strength Test	Clause 12.3 as per IS 10322 (Part 5/Sec1): 2012	0.1 to 1.4Nm 0.1 to 5 Nm
			Clause 12.3 as per IS 10322 (Part 5/Sec2): 2012	0.20Nm,0.35Nm, 0.50Nm,0.70Nm, 1.00Nm
			Clause 13.3 as per IS 10322 (Part 5/Sec3): 2012	

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	16 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Clause 13.3 as per IS 10322 (Part 5/Sec4): 2012	0.20Nm,0.35Nm, 0.50Nm,0.70Nm, 1.00Nm
			Clause 13.3 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 5 as per IS 10322 (Part 4):1984	
		Endurance tests and thermal tests	Clause 12.4 as per IS 10322 (Part5/Sec1): 2012	Ambient to 300°C
			Clause 12.4 as per IS 10322 (Part 5/Sec2): 2012	
			Clause 13.4 as per IS 10322 (Part 5/Sec3): 2012	
			Clause 13.4 as per IS 10322 (Part 5/Sec4): 2012	
			Clause 13.4 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 6 as per IS 10322 (Part 4):1984	Qualitative
		Resistance to dust and moisture.	Clause 12.5 as per IS 10322 (Part5/Sec1): 2012	
			Clause 13.5 as per IS 10322 (Part 5/Sec3): 2012	Qualitative
			Clause 13.5 as per IS 10322 (Part 5/Sec4): 2012	

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	17 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Clause 13.5 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 2 as per IS 10322 (Part 4):1984	
		Insulation resistance and electric strength	Clause 12.6 as per IS 10322 (Part5/Sec1): 2012	50 to 1200V DC 0.100 to 9999 MΩ
			Clause 12.6 as per IS 10322 (Part 5/Sec2): 2012	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
			Clause 13.6 as per IS 10322 (Part 5/Sec3): 2012	
			Clause 13.6 as per IS 10322 (Part 5/Sec4): 2012	
			Clause 13.6 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 3 as per IS 10322 (Part 4):1984	0.01 μA to 50mA
		Resistance to heat, fire and tracking	Clause 12.7 as per IS 10322 (Part5/Sec1): 2012	35 °C to 300°C
				Ball Diameter: 5mm Force I: 20.0N, Vernier caliper: 0.01mm to 300 mm
			Clause 12.7 as per IS 10322 (Part 5/Sec2): 2012	Glow wire test apparatus :Temperature 550°C to 960°C

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	18 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Clause 13.7 as per IS 10322 (Part 5/Sec3): 2012	0.1 s to 60 Min
			Clause 13.7 as per IS 10322 (Part 5/Sec4): 2012	
			Clause 13.7 as per IS 10322 (Part 5/Sec 5): 2012	
			Clause 7 as per IS 10322 (Part 4):1984	
		Photometry Test.	Clause 12.8 as per IS 10322 (Part5/Sec1): 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
			Clause 12.8 as per IS 10322 (Part 5/Sec2): 2012	Test distance ≤ 8.7m, Field angle ≥ 10°, 0.01lx to 100000 lx,
			Clause 12,13.8 as per IS 10322 (Part 5/Sec3): 2012	.
			Clause 12,13.8 as per IS 10322 (Part 5/Sec4): 2012	
			Clause 12,13.8 as per IS 10322 (Part 5/Sec5): 2012	
		In-Situ Temperature Measurement Test	Clause No. 14,15,19.1,19.2,19.3,19.4,19.5,19.6,19.7 ANSI/UL 1598 – 2012 and Clause No. 48, 54,59, 65, 84,116,123E 124,125 ANSI/UL 153 – 2014	-200 to 600 °C

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	19 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	Floodlights using HID or Incandescent filament lamps	Light distribution Curves(cd) -IESNA Type both horizontal and vertical. -Maximum luminous intensity and its location. -Field angle in both horizontal and vertical directions. -Beam angle in both horizontal and vertical directions. -Field and beam flux (lumens) and field efficiency. -Total flux and total efficiency. Distribution Data. - Iso-candela curves of equal luminous intensity. -Horizontal and vertical intensity distribution curves passing through 0°H, 0°V. -Horizontal and vertical intensity distribution curves passing through 0°H, 0°V.	IESNA LM-35-02	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Test distance $\leq 8.7m$, Field angle $\geq 10^\circ$, 0.01lx to 100000 lx,

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	20 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Other Data.		
		-Test distance.		
		-Tabulation of candela values and zonal lumen values		
6.	Indoor Luminaires using HID of Incandescent Filament Lamps	Lamp Lumen output. General Lighting Characteristics -Luminous intensity distribution in designated planes. -Tabulated luminous intensity values for each plane in 5-degree step. -Tabulation of lumens and percentage of bare lamp lumens for zones. -Curves or tabulation of average luminance data. -Test distance	IESNA LM-46-04	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Test distance $\leq 8.7\text{m}$, Field angle $\geq 10^\circ$, 0.01lx to 100000 lx,
7.	SSL Products	Total Luminous flux, Luminous efficacy, Luminous intensity distribution, chromaticity coordinates, CT and/or CRI for white light products	Clause No. 9 to 12 IES LM – 79 – 08	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Test distance $\leq 8.7\text{m}$, Field angle $\geq 10^\circ$, 0.01lx to 100000 lx,

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	21 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
8.	Self-Ballasted LED Lamps for General Lighting Services Part 1 Safety Requirements.	Marking	Clause 5 as per IS 16102 –Part 1 : 2012	Qualitative
		Interchangeability	Clause 6 as per IS 16102 – Part 1 : 2012	Go Gauges and No-Go Gauges for Bayonet and Screw Caps
		Protection Against Accidental contact with live Parts	Clause 7 as per IS 16102 –Part 1 : 2012	30N, 50V, Specified gauges
		Insulation Resistance and Electric strength after Humidity treatment.	Clause 8 as per IS 16102 – Part 1 : 2012	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA 0.01 μ A to 50mA 50 to 1200V DC 0.100 to 9999 M Ω
		Mechanical Strength	Clause 9 as per IS 16102 –Part 1 : 2012	0.1 to 1.4Nm 0.1 to 5 Nm
		Cap temperature rise	Clause 10 as per IS 16102 – Part 1 : 2012	Ambient to 300°C

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	22 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to Heat	Clause 11 as per IS 16102 –Part 1 : 2012	35°C to 300°C Ball Diameter: 5mm Force I: 20.0 N, Vernier caliper : 0.01 mm to 300 mm
		Resistance to Flame and Ignition	Clause 12 as per IS 16102 – Part 1 : 2012	Glow wire test apparatus : Tip Temperature 550°C to 960°C As per UL/IEC 60598
		Fault Condition	Clause 13 as per IS 16102 – Part 1 : 2012	0.1 to 300V
		Creepage distance and Clearances	Clause 14 as per IS 16102 – Part 1 : 2012	0.01 to 300mm
8.	Self-Ballasted LED Lamps for General Lighting Services	Marking	Clause 5 as per IS 16102 – Part 2 : 2012	Qualitative
		Dimensions	Clause 6 as per IS 16102 – Part 2 : 2012	0.01 to 300mm
		Lamp Power	Clause 8 as per IS 16102 – Part 2 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Luminous flux	Clause 9 as per IS 16102 – Part 2 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Centre Beam Intensity	Clause 10 as per IS 16102 – Part 2 : 2012	Test distance $\leq$ 8.7m, Field angle $\geq$ 10°, 0.01lx to 100000 lx,

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	23 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
9.	LED Modules for General Lighting	Beam Angle	Clause 11 as per IS 16102 – Part 2 : 2012	Qualitative
		CCT, Chromaticity Coordinates and CRI	Clause 12 as per IS 16102 – Part 2 : 2012	Qualitative
		Lamp Life, Lumen Maintenance and Endurance test for Built-in Electronic Ballast.	Clause 13 as per IS 16102 –Part 2 : 2012	0.1 hrs to 10000 Hrs.
		Harmonics and Power Factor.	Clause 15 as per IS 16102 –Part 2 : 2012	1to 100th harmonic
		Marking.	Clause 7 as per IS 16103 – Part 1 : 2012	Qualitative
		Terminals.	Clause 8 as per IS 16103 -Part 1 : 2012	0.1 to 1.4Nm 0.1 to 5 Nm
		Provisions for protective earthing.	Clause 9 as per IS 16103 –Part 1 : 2012	0Ω to 1.8000Ω
		Protection against accidental contact with live parts.	Clause 10 as per IS 16103 – Part 1 : 2012	30N, 50V, Specified gauges
		Moisture resistance and Insulation.	Clause 11 as per IS 16103 – Part 1 : 2012	Temperature -40°C to 180°C Humidity : 10 to 95%rh 50 to 1200V DC 0.100 to 9999 MΩ

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	24 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electric strength	Clause 12 as per IS 16103 –Part 1 : 2012	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Fault condition	Clause 13 as per IS 16103 – Part 1 : 2012	0.1 to 300V
		Conformity testing during manufacture	Clause 14 as per IS 16103 -Part 1 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Construction	Clause 15 as per IS 16103=Part 1 : 2012	0.01 to 300mm
		Creepage distances and clearances	Clause 16 as per IS 16103-Part 1 : 2012	
		Screws, current-carrying parts and connections	Clause 17 as per IS 16103-Part 1 : 2012	0.2 to 1.2 Nm 1Nm to 6 Nm
		Resistance to heat, fire and Tracking.	Clause 18 as per IS 16103-Part 1 : 2012	35 to 300°C Ball Diameter: 5mm Force l: 20.0N, Vernier caliper : 0.01 mm to 300 mm
		Conformity testing during manufacture	Clause 14 as per IS 16103 -Part 1 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Construction	Clause 15 as per IS 16103-Part 1 : 2012	0.01 to 300mm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	25 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Creepage distances and clearances.	Clause 16 as per IS 16103 – Part 1 : 2012	Qualitative
		Screws, current-carrying parts and connections.	Clause 17 as per IS 16103 – Part 1 : 2012	0.2 to 1.2 Nm 1Nm to 6 Nm
		Resistance to heat, fire and Tracking.	Clause 18 as per IS 16103 – Part 1 : 2012	35 to 300°C
			Glow wire test apparatus Tip Temperature 550°C to 960°C As per UL/IEC 60598	Ball Diameter: 5mm Force I: 20.0N, Vernier caliper : 0.01 mm to 300 mm 0.1 s to 60 Min
		Resistance to Corrosion.	Clause 19 as per IS 16103-Part 1 : 2012	Qualitative
		Information to luminaire design.	Clause 20 as per IS 16103-Part 1 : 2012	Qualitative
		Heat Management.	Clause 21 as per IS 16103-Part 1 : 2012	Qualitative
10.	Safety of Lamp Control gear.	Marking.	Clause 7 as per IS 15885-Part 2/Sec13 : 2012	Qualitative
		Protection against accidental contact with live parts.	Clause 8 as per IS 15885-Part 2/Sec13 : 2012	30N, 50V, Specified gauges,
		Terminals.	Clause 9 as per IS 15885-Part 2/Sec13 : 2012	0.2 to 1.2 Nm 1Nm to 6 Nm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	26 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Provision for protective earthing.	Clause 10 as per IS 15885 – Part 2/Sec13 : 2012	0Ω to 1.8000Ω
		Moisture Resistance and Insulation.	Clause 11 as per IS 15885 – Part 2/Sec13 : 2012	Temperature -40°C to 180°C Humidity : 10 to 95%rh 50 to 1200V DC 0.100 to 9999 MΩ
		Electric Strength	Clause 12 as per IS 15885 – Part 2/Sec13 : 2012	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Thermal Endurance test for windings of ballast	Clause 13 as per IS 15885 – Part 2/Sec13 : 2012	35 to 300°C
		Fault condition.	Clause 14 as per IS 15885 – Part 2/Sec13 : 2012	0.1 to 300V
		Construction	Clause 15 as per IS 15885 – Part 2/Sec13 : 2012	0.01 to 300mm
		Creepage distances and clearances.	Clause 16 as per IS 15885 – Part 2/Sec13 : 2012	0.01to 300mm
		Screws, current-carrying parts and connections.	Clause 17 as per IS 15885 – Part 2/Sec13 : 2012	0.2 to 1.2 Nm 1Nm to 6 Nm
		Resistance to heat, fire and Tracking	Clause 18 as per IS 15885 – Part 2/Sec13 : 2012	35 to 300°C Ball Diameter: 5mm Force I: 20.0 N, Vernier caliper: 0.01 mm to 300 mm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	27 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to heat, fire and Tracking	Clause 18 as per IS 15885 – Part 2/Sec13 : 2012	Glow wire test apparatus: Tip Temperature 550°C to 960°C As per UL/IEC 60598 0.1 s to 60 Min
		Resistance to Corrosion	Clause 19 as per IS 15885 – Part 2/Sec13 : 2012	Qualitative
11.	DC or AC. supplied electronic control gear for LED Modules – Performance Requirements.	Marking.	Clause 6 as per IS 16104 : 2012	Qualitative
		Output voltage and current.	Clause 7 as per IS 16104 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Total circuit power.	Clause 8 as per IS 16104 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Circuit Power Factor.	Clause 9 as per IS 16104 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Supply Current.	Clause 10 as per IS 16104 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Operational Tests for abnormal conditions.	Clause 12 as per IS 16104 : 2012	Qualitative

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	28 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Endurance	Clause 13 as per IS 16104 : 2012	Temperature -40°C to 180°C Humidity : 10 % to 95% RH
12.	Solid State Light (LED) Sources	Luminous flux, Chromaticity co-ordinates.	Clause 6 as per IS 16105:2012	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
13.	Solid State Lighting (LED) Products	Luminous flux measurement.	Clause 11 as per IS 16106:2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Luminous intensity distribution.	Clause 12 as per IS 16106:2012	Test distance $\leq$ 8.7m, Field angle $\geq$ 10°, 0.01lx to 100000 lx,
		Luminous Efficacy.	Clause 13 as per IS 16106:2012	
		Color Characteristics.	Clause 14 as per IS 16106:2012	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000 K, CRI : Up to 100 Co-ordinates: Up to 1

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	29 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
14.	AC Supplied electronic ballasts for tubular fluorescent lamps. General and Safety Requirements.	Marking.	Clause 7 as per IS 13021 Part 1: 1991	-
		Terminals.	Clause 8 as per IS 13021 Part 1: 1991	0.2 to 1.2 Nm 1Nm to 6 Nm
		Provisions for earthing	Clause 9 as per IS 13021 Part 1: 1991	0.1 Ohm to 2.0 Ohm
		Creepage distances and Clearances	Clause 10 as per IS 13021 Part 1: 1991	0.01 to 300mm
		Protection against accidental contacts with live parts	Clause 11 as per IS 13021 Part 1: 1991	30N, 50V, Specified gauges
		Protection against electric shock.	Clause 12 as per IS 13021 Part 1: 1991	30N, 50V, Specified gauges, 0 to 5kV
		Moisture Resistance and Insulation.	Clause 13 as per IS 13021 Part 1: 1991	Temperature -40°C to 180°C Humidity : 10 to 95%rh 50 to 1200V DC 0.100 to 9999 MΩ
		Electric Strength	Clause 14 as per IS 13021 Part 1: 1991	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Abnormal conditions	Clause 15 as per IS 13021 Part 1: 1991	0.1 to 300V
		Fault Conditions	Clause 16 as per IS 13021 Part 1: 1991	0.1 to 300V

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	30 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Current carrying parts and connections.	Clause 17 as per IS 13021 Part 1: 1991	0.2 to 1.2 Nm 1Nm to 6 Nm
		Resistance to Heat and Fire	Clause 18 as per IS 13021 Part 1: 1991	35 to 300°C Ball Diameter: 5mm Force I: 20.0N, Vernier caliper: 0.01mm to 300 mm Glow wire test apparatus : Tip Temperature 550°C to 960°C
		Resistance to corrosion	Clause 19 as per IS 13021 Part 1: 1991	Qualitative
	AC Supplied electronic ballasts for tubular fluorescent lamps. Performance Requirements	Marking.	Clause 5 as per IS 13021 Part 2: 1991	----
		Starting Conditions	Clause 7 as per IS 13021 Part 2: 1991	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Operating Conditions.	Clause 8 as per IS 13021 Part 2: 1991	
		Circuit Power Factor.	Clause 9 as per IS 13021 Part 2: 1991	
		Supply Current.	Clause 10 as per IS 13021 Part 2: 1991	

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	31 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Maximum current in any lead to a cathode.	Clause 11 as per IS 13021 Part 2: 1991	
		Current Waveforms.	Clause 12 as per IS 13021 Part 2: 1991	
		Magnetic Screening.	Clause 13 as per IS 13021 Part 2: 1991	
		Operational Tests for Abnormal conditions.	Clause 16 as per IS 13021 Part 2: 1991	Qualitative
		Endurance.	Clause 17 as per IS 13021 Part 2: 1991	Temperature: 40°C to 180°C
	AC and/or DC Supplied electronic control gear for tubular fluorescent lamps- Performance Requirements.	Marking.	Clause 5 as per IEC 60929 Edition 4.0 2011-05	----
		Starting Conditions	Clause 7 as per IEC 60929 Edition 4.0 2011-05	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Operating Conditions.	Clause 8 as per IEC 60929 Edition 4.0 2011-05	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Circuit Power Factor.	Clause 9 as per IEC 60929 Edition 4.0 2011-05	
		Supply Current.	Clause 10 as per IEC 60929 Edition 4.0 2011-05	

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	32 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Maximum current in any lead to a cathode.	Clause 11 as per IEC 60929 Edition 4.0 2011-05	
		Lamp operating Current Waveforms.	Clause 12 as per IEC 60929 Edition 4.0 2011-05	
		Operational Tests for Abnormal conditions.	Clause 14 as per IEC 60929 Edition 4.0 2011-05	
		Endurance.	Clause 15 as per IEC 60929 Edition 4.0 2011-05	Temperature:-40°C to 180°C
	Lamp control gear – Particular requirements for a.c. and/or d.c. supplied electronic control gear for fluorescent lamps.	Marking.	Clause 7 as per IEC 61347-2-3 Edition 2.0 2011-05	Qualitative
		Protection against accidental contact with live parts.	Clause 8 as per IEC 61347-2-3 Edition 2.0 2011-05	30N, 50V, Specified gauges
		Terminals.	Clause 9 as per IEC 61347-2-3 Edition 2.0 2011-05	0.2 to 1.2 Nm 1Nm to 6 Nm
		Provisions for earthing.	Clause 10 as per IEC 61347-2-3 Edition 2.0 2011-05	0.001 Ω to 1.8000Ω
		Moisture resistance and insulation.	Clause 11 as per IEC 61347-2-3 Edition 2.0 2011-05	Temperature -40°C to 180°C Humidity : 10 to 95%rh 50 to 1200V DC 0.100 to 9999 MΩ

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	33 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electric Strength.	Clause 12 as per IEC 61347-2-3 Edition 2.0 2011-05	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Thermal endurance test for windings.	Clause 13 as per IEC 61347-2-3 Edition 2.0 2011-05	35 to 300°C
		Fault conditions	Clause 14 as per IEC 61347-2-3 Edition 2.0 2011-05	----
		Protection of associated components.	Clause 15 as per IEC 61347-2-3 Edition 2.0 2011-05	----
		Abnormal conditions.	Clause 16 as per IEC 61347-2-3 Edition 2.0 2011-05	----
		Behavior of control gear at end of lamp life.	Clause 17 as per IEC 61347-2-3 Edition 2.0 2011-05	Qualitative
		Construction.	Clause 18 as per IEC 61347-2-3 Edition 2.0 2011-05	0.01 to 300mm
		Creepage distances and clearances.	Clause 19 as per IEC 61347-2-3 Edition 2.0 2011-05	0.01 to 300mm
		Screws, current-carrying parts and connections.	Clause 20 as per IEC 61347-2-3 Edition 2.0 2011-05	0.2 to 1.2 Nm 1Nm to 6 Nm
		Resistance to heat fire and tracking	Clause 21 as per IEC 61347-2-3 Edition 2.0 2011-05	35 to 300°C Ball Diameter: 5mm Force I: 20.0N, Vernier caliper: 0.01mm to 300 mm Glow wire test apparatus : Tip Temperature 550°C to 960°C 0.1 s to 60 Min

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	34 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to corrosion.	Clause 22 as per IEC 61347-2-3 Edition 2.0 2011-05	----
	Ballasts for fluorescent lamps- for switch start circuits.	Terminals for external wiring.	Clause 4 as per IS 1534 Part 1 – 1977	0.2 to 1.2 Nm 1Nm to 6 Nm
		Screws, current-carrying parts and constructions.	Clause 5 as per IS 1534 Part 1 – 1977	0.2 to 1.2 Nm 1Nm to 6 Nm
		Provisions for Earthing.	Clause 6 as per IS 1534 Part 1 – 1977	0Ω to 1.8000Ω
		Creepage distances and clearances.	Clause 7 as per IS 1534 Part 1 – 1977	0.01 to 300mm
		Marking.	Clause 8 as per IS 1534 Part 1 – 1977	----
		Qualitative Examination.	Clause 9.4 as per IS 1534 Part 1 – 1977	-----
		Protection against accidental contacts and electric shock.	Clause 9.5 as per IS 1534 Part 1 – 1977	30N, 50V, Specified gauges
		Voltage across capacitors.	Clause 9.6 as per IS 1534 Part 1 – 1977	0.01 V to 300 V
		Moisture resistance and Insulation	Clause 9.7 as per IS 1534 Part 1 – 1977	Temperature 40°C to 180°C Humidity : 10 to 95%rh 50 to 1200V DC 0.100 to 9999 MΩ

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	35 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Tests for thermal endurance of windings.	Clause 9.8 as per IS 1534 Part 1 – 1977	35 to 300°C 50 to 1200V DC 0.100 to 9999 MΩ 0.20 to 5.00 kV AC 0.01 to 100.0mA
		Test for limitations of Ballast Heating.	Clause 9.9 as per IS 1534 Part 1 – 1977	Ambient to 300°C
		Test for Mechanical strength.	Clause 9.10 as per IS 1534 Part 1 – 1977	30N, 50V, Specified gauges 0.20Nm,0.35Nm,0.50Nm ,0.70Nm,1.00Nm
		Resistance to Heat	Clause 9.11 as per IS 1534 Part 1 – 1977	Glow wire test apparatus : Tip Temperature 550°C to 960°C As per UL/IEC 60598
		Test for Resistance to corrosion.	Clause 9.12 as per IS 1534 Part 1 – 1977	Qualitative
		Performance.	Clause 9.13 as per IS 1534 Part 1 – 1977	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
	Ballasts for tubular fluorescent lamps – Performance requirements.	Marking.	Clause 5 as per IEC 60921 Edition 2.1 2006-06	Qualitative

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	36 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Voltage at terminations of lamp or starter.	Clause 6 as per IEC 60921 Edition 2.1 2006-06	Voltage: 0.01 to 600V Current: 0.001to 2 A Power : 0.01 W to 600W
		Pre-heating conditions.	Clause 7 as per IEC 60921 Edition 2.1 2006-06	
		Lamp power and current.	Clause 8 as per IEC 60921 Edition 2.1 2006-06	
		Circuit power-factor.	Clause 9 as per IEC 60921 Edition 2.1 2006-06	
		Supply current.	Clause 10 as per IEC 60921 Edition 2.1 2006-06	
		Maximum current in any lead to a cathode.	Clause 11 as per IEC 60921 Edition 2.1 2006-06	
		Current waveform.	Clause 12 as per IEC 60921 Edition 2.1 2006-06	
		Magnetic screening.	Clause 13 as per IEC 60921 Edition 2.1 2006-06	
	Lamp control gear Particular requirements for miscellaneous electronic circuits used with luminaires	Marking.	Clause 7 as per IEC 61347-2-11 First Edition 2001-04	Qualitative
		Protection against accidental contact with live parts.	Clause 8 as per IEC 61347-2-11 First Edition 2001-04	30N, 50V, Specified gauges
		Terminals.	Clause 9 as per IEC 61347-2-11 First Edition 2001-04	0.2 to 1.2 Nm 1Nm to 6 Nm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	37 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Provisions for earthing.	Clause 10 as per IEC 61347-2-11 First Edition 2001-04	0 Ω to 1.8000Ω
		Moisture resistance and insulation.	Clause 11 as per IEC 61347-2-11 First Edition 2001-04	Temperature – 40°C to 180°C Humidity : 10 to 95% RH 50 to 1200V DC 0.100 to 9999 MΩ
		Electric Strength.	Clause 12 as per IEC 61347-2-11 First Edition 2001-04	0.20 to 5.00 kV AC 0.01 to 100.0mA
		Thermal endurance for windings.	Clause 13 as per IEC 61347-2-11 First Edition 2001-04	35 to 300°C
		Faults conditions.	Clause 14 as per IEC 61347-2-11 First Edition 2001-04	0.1 to 300V
		Construction.	Clause 15 as per IEC 61347-2-11 First Edition 2001-04	0.01 to 300mm
		Creepage distances and clearances.	Clause 16 as per IEC 61347-2-11 First Edition 2001-04	0.01 to 300mm
		Screws, current-carrying parts and connections.	Clause 17 as per IEC 61347-2-11 First Edition 2001-04	0.2 to 1.2 Nm 1Nm to 6 Nm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	38 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to heat, fire and tracking.	Clause 18 as per IEC 61347-2-11 First Edition 2001-04	35 - 300°C Ball Diameter: 5mm Force I: 20.0N, Vernier caliper: 0.01mm to 300 mm Glow wire test apparatus : Tip Temperature 550°C to 960°C 0.1 s to 60 Min
		Resistance to corrosion.	Clause 19 as per IEC 61347-2-11 First Edition 2001-04	----
	Self-Ballasted lamps for General lighting services (CFL).	Marking	Clause 6 as per IS 15111 (Part 1): 2002	Qualitative
		Interchangeability	Clause 7 as per IS 15111 (Part 1): 2002	Go and No go Gauges for Bayonet and Screw caps.
		Protection against electric shock.	Clause 8 as per IS 15111 (Part 1): 2002	30N, 50V, Specified gauges 30N, 50V, Specified gauges 30N, 50V, Specified gauges Gauges (As per IEC : 60061-3)

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	39 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insulation resistance	Clause 9.2 as per IS 15111 (Part 1): 2002	50 to 1200V DC 0.100 to 9999 MΩ
		Electric strength	Clause 9.3 as per IS 15111 (Part 1): 2002	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Mechanical Strength (Torsion resistance)	Clause 10 as per IS 15111 (Part 1): 2002	0.1 to 1.4Nm 0.1 to 5 Nm
		Cap temperature rise	Clause 11 as per IS 15111 (Part 1): 2002	Ambient to 300°C
		Resistance to heat	Clause 12 as per IS 15111 (Part 1): 2002	35 to 300°C Ball Diameter: 5mm Force I: 20.0N, Vernier caliper: 0.01mm to 300 mm
		Resistance to flame and ignition	Clause 13 as per IS 15111 (Part 1): 2002	Glow wire test apparatus :Tip Temperature 550°C to 960°C As per UL/IEC 60598
		Fault Condition.	Clause 14 as per IS 15111 (Part 1): 2002	0.1 to 300V
		Dimensions	Clause 6 as per IS 15111 (Part 2): 2002	0.01 to 300mm

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	40 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Starting and run-up	Clause 8 as per IS 15111 (Part 2): 2002	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1 0.1 s to 60 Min
		Lamp wattage	Clause 9 as per IS 15111 (Part 2): 2002	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Luminous flux, Efficacy	Clause 10,15 as per IS 15111 (Part 2): 2002	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm
		Colour	Clause 11 as per IS 15111 (Part 2): 2002	0.001 to 0.5 co-ordinates
		Lumen maintenance	Clause 12 as per IS 15111 (Part 2): 2002	0.1 hrs to 10000 Hrs.
		Life	Clause 13 as per IS 15111 (Part 2): 2002	0.1 hrs to 10000 Hrs.
		Harmonics	Clause 14 as per IS 15111 (Part 2): 2002	1 to 100th harmonic
		Power Factor	Clause 16 as per IS 15111 (Part 2): 2002	Voltage:0.01to 600V Current: 0.001 to 2 A Power : 0.01 W - 600W

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	41 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Self-ballasted lamps for general lighting services	Marking.	Clause 4 as per IEC 60968 (Edition 2.0 2012-09)	Qualitative
		Interchangeability	Clause 5 as per IEC 60968 (Edition 2.0 2012-09)	Go and No go Gauges for Bayonet and Screw caps.
		Protection against electric shock	Clause 6 as per IEC 60968 (Edition 2.0 2012-09)	30N, 50V, Specified gauges 30N, 50V, Specified gauges 30N, 50V, Specified gauges Gauges (As per IEC : 60061-3)
		Insulation resistance	Clause 7.1 as per IEC 60968 (Edition 2.0 2012-09)	50 to 1200V DC 0.100 to 9999 MΩ
		Electric strength	Clause 7.2 as per IEC 60968 (Edition 2.0 2012-09)	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Mechanical Strength (Torsion resistance)	Clause 8 as per IEC 60968 (Edition 2.0 2012-09)	0.1 to 1.4Nm 0.1 to 5 Nm
		Cap temperature rise	Clause 9 as per IEC 60968 (Edition 2.0 2012-09)	Ambient to 300°C

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	42 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to heat	Clause 10 as per IEC 60968 (Edition 2.0 2012-09)	35 to 300°C Ball Diameter: 5mm Force I: 20.0N, Vernier caliper: 0.01mm to 300 mm
		Resistance to flame and ignition	Clause 11 as per IEC 60968 (Edition 2.0 2012-09)	Glow wire test apparatus :Tip Temperature 550°C to 960°C
		Fault Condition.	Clause 11 as per IEC 60968 (Edition 2.0 2012-09)	0.1 to 300V
		Dimensions	Clause 3 as per IEC 60969 (Edition 1.2 2001-03)	0.01to 300mm
		Starting and run-up	Clause 5 as per IEC 60969 (Edition 1.2 2001-03)	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1 0.1s to 60 Min
		Lamp wattage	Clause 6 as per IEC 60969 (Edition 1.2 2001-03)	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	43 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Luminous flux	Clause 7 as per IEC 60969 (Edition 1.2 2001-03)	Spectrum : 350nm to 800nm
		Colour	Clause 8 as per IEC 60969 (Edition 1.2 2001-03)	Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
		Lumen maintenance	Clause 9 as per IEC 60969 (Edition 1.2 2001-03)	0.1 hrs to 10000 Hrs.
		Life	Clause 10 as per IEC 60969 (Edition 1.2 2001-03)	0.1 hrsto 10000 Hrs.
		Harmonics	Clause 11 as per IEC 60969 (Edition 1.2 2001-03)	1 to 100th harmonic
	Compact Fluorescent Lamps.	Life	IES LM-65-10	0.1 Hrs to 10000 Hrs.
	Single-Ended Compact Fluorescent Lamps.	Lumens and/or candelas and electrical values (volts, amperes, watts), chromaticity co-ordinates and CRI.	IES LM-66-11	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W - 600W Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	44 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Compact Fluorescent Lamps	Marking	Clause 4.2 & 4.3 as per ANSI C78.5-2003	Qualitative
		CRI	Clause 4.5 as per ANSI C78.5-2003	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
		Input Power	Clause 4.6 as per ANSI C78.5-2003	Voltage: 0.01 - 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Starting time	Clause 4.7 as per ANSI C78.5-2003	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1 0.1 s to 60 Min
		Run-up time	Clause 4.8 as per ANSI C78.5-2003	0.1 s to 60 Min

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	45 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Luminous flux, Efficacy	Clause 4.9 & 4.11 as per ANSI C78.5-2003	Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
		Lumen Maintenance and Life Test	Clause 4.10 & 4.12 as per ANSI C78.5-2003	0.1 Hrs to 10000 Hrs. Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm
		Power Quality	Clause 4.13 as per ANSI C78.5-2003	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Lamp current operating frequency	Clause 4.14 as per ANSI C78.5-2003	50 Hz to 2 MHz
	Single-Based Fluorescent Lamps	Product Drawing (Overall length, Tube diameter , Tube length)	Clause 8 as per ANSI C78.901-2005	0.01 -300mm
		Applications of Lamps on More than One Type of Circuit	Clause 9 as per ANSI C78.901-2005	Qualitative
		Lamp Physical and Dimensional Requirements	Clause 10 as per ANSI C78.901-2005	Gauges (As per IEC : 60061-3)

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	46 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lamp Electrical Characteristics	Clause 11 as per ANSI C78.901-2005	Voltage: 0.01 - 600V Current: 0.001 - 2 A Power : 0.01 W - 600W
		Thermal Conditions	Clause 12 as per ANSI C78.901-2005	35 to 300°C
	LED Modules for General Lighting	Marking.	Clause 4 as per IS 16103 – Part 2 : 2012	Qualitative
		Dimensions.	Clause 5 as per IS 16103 – Part 2 : 2012	0.01 to 300mm
		Module Power	Clause 7 as per IS 16103 – Part 2 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W
		Light Output	Clause 8 as per IS 16103 – Part 2 : 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Test distance $\leq$ 8.7m, Field angle $\geq$ 10°, 0.01lx to 100000 lx,
		Chromaticity co-ordinates, Correlated Colour temperature (CCT) and Colour Rendering	Clause 9 as per IS 16103 – Part 2 : 2012	Spectrum : 350nm to 800nm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1 Temperature – 40°C to 180°C 50 to 1200V DC 0.100 to 9999 MΩ
		LED module life.	Clause 10 as per IS 16103 – Part 2 : 2012	0.1 Hrs to 10000 Hrs.

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	47 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Luminaire Performance	Marking	Clause 4 as per IS 16107 (Part 2/Sec 1): 2012	----
		Luminaire Power, Luminous Flux, Lighting Intensity, Angular beam distribution, Luminaire Intensity Distribution, Luminaire efficacy, Chromaticity coordinates and correlated colour temperature (CCT), Photometric and Electric data	Clause 7, 8.1, 8.2, 8.3, 8.4, 8.5, 9.1, 9.2 as per IS 16107 (Part 2/Sec 1): 2012 Clause 2.1., 2.2 and 2.3 as per IS 16107 (Part 1): 2012	Voltage: 0.01 to 600V Current: 0.001 to 2 A Power : 0.01 W to 600W Test distance $\leq$ 8.7m, Field angle $\geq$ 10°, 0.01lx to 100000 lx, Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1
		LED Luminaire Life.	Clause 10, 10.2 as per IS 16107 (Part 2/Sec 1): 2012	0.1 Hrs to 10000 Hrs. Spectrum : 350nm to 800nm Luminous Flux: Up to 100000 lm CCT : Up to 10000K, CRI : Up to 100 Co-ordinates: Up to 1

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	48 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Lamp control gear – Particular requirements for A.C. and/or D.C. supplied electronic control gear for fluorescent lamps/ Particular requirements for D.C. or A.C. supplied electronic control gear for LED modules	Marking.	Clause 7 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 7 as per IEC 61347-2-13 : 2006	Qualitative
		Protection against accidental contact with live parts.	Clause 8 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 8 as per IEC 61347-2-13 : 2006	30N, 50V, Specified gauges
		Terminals.	Clause 9 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 9 as per IEC 61347-2-13 : 2006	0.2 to 1.2 Nm 1Nm to 6 Nm
		Provisions for earthing.	Clause 10 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 10 as per IEC 61347-2-13 : 2006	0Ω to 1.8000Ω
		Moisture resistance and insulation.	Clause 11 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 11 as per IEC 61347-2-13 : 2006	Temperature -40°C to 180°C Humidity: 10 to 95% RH 50 to 1200V DC 0.100 to 9999 MΩ
		Electric Strength.	Clause 12 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 12 as per IEC 61347-2-13 : 2006	0.20 to 5.00 kV AC 0.01 to 10 , 100.0mA
		Fault conditions.	Clause 14 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 14 as per IEC 61347-2-13 : 2006	Qualitative

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	49 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Transformer Heating	Clause 15 as per IEC 61347-2-13 : 2006	Ambient to 300°C
		Abnormal conditions.	Clause 16 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 16 as per IEC 61347-2-13 : 2006	Qualitative
		Behavior of control gear at end of lamp life.	Clause 17 as per IEC 61347-2-3 Edition 2.0 2011-09	Qualitative
		Construction.	Clause 18 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 17 as per IEC 61347-2-13 : 2006	0.01 to 300mm
		Creepage distances and clearances.	Clause 19 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 18 as per IEC 61347-2-13 : 2006	0.01 to 300mm
		Screws, current-carrying parts and connections.	Clause 20 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 19 as per IEC 61347-2-13 : 2006	0.2 to 1.2 Nm 1Nm to 6 Nm
		Resistance to heat fire and tracking.	Clause 21 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 20 as per IEC 61347-2-13 : 2006	35 to 300°C Ball Diameter: 5mm Force I: 20.0N, Vernier caliper: 0.01mm to 300 mm Glow wire test apparatus : Tip Temperature 550°C to 960°C 0.1 s to 60 Min

Laboratory	UL India Pvt. Ltd, 413, Sector 8, IMT Manesar, Gurgaon, Haryana		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Photometry Testing	Issue Date	05.08.2014
Certificate Number	T-2233	Valid Until	04.08.2016
Last Amended on	-	Page	50 of 50

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to corrosion.	Clause 22 as per IEC 61347-2-3 Edition 2.0 2011-09 / Clause 21 as per IEC 61347-2-13 : 2006	Clause 22 as per IEC 61347-2-3 Edition 2.0 2011-05
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