

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>1 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>I. WIRING ACCESSORIES</b>				
<b>1.</b>	<b>Fixed Socket Outlet Range (6A-16A)</b>	Marking	IS 1293: 2005 (Cl. 8) IEC 60884-1 (Cl. 8)	Qualitative
		Protection against electric shock	IS 1293: 2005 (Cl. 10 excluding 10.4) IEC 60884-1 (Cl. 10 excluding 10.4)	40 V to 50 V 10 N to 75 N
		Provision for Earthing	IS 1293: 2005 (Cl. 11) IEC 60884-1 (Cl. 11)	Upto 0.5 Ω
		Terminals(Screw type only)	IS 1293: 2005 (Cl. 12 excluding 12.3) IEC 60884-1 (Cl. 12 excluding 12.3)	0.2 Nm to 2.0 Nm
		Resistance to ageing and humidity	IS 1293: 2005 (Cl. 16 excluding 16.2) IEC 60884-1 (Cl. 16 excluding 16.2)	45 % to 95 % RH
		Insulation Resistance & Electric Strength - HV - IR	IS 1293: 2005 (Cl. 17 excluding 17.1.2) IEC 60884-1 (Cl. 17 excluding 17.1.2)	Upto 5 kV Upto 50 GΩ
		Operation Of Earthing contacts	IS 1293: 2005 (Cl. 18) IEC 60884-1 (Cl. 18)	6 A to 40 A, 180 to 275 V AC
		Temperature Rise	IS 1293: 2005 (Cl. 19) IEC 60884-1 (Cl. 19)	Upto 100°C

**Mallika Gope**  
Convenor

**N. Venkateswaran**  
Program Manager

**Laboratory** Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh

**Accreditation Standard** ISO/IEC 17025: 2005

**Discipline** Electrical Testing **Issue Date** 17.12.2013

**Certificate Number** T-2740 **Valid Until** 16.12.2015

**Last Amended on** 23.12.2014 **Page** 2 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	<b>Fixed Socket Outlet Range (6A-16A)</b>	Making and Braking Capacity	IS 1293: 2005 (Cl. 20) IEC 60884-1 (Cl. 20)	6 A to 16 A, 180 V AC to 275 V AC
		Normal Operation	IS 1293: 2005 (Cl. 21) IEC 60884-1 (Cl. 21)	6 A to 16 A, 180 V AC to 250 V AC
		Screws, Current carrying parts and connections	IS 1293: 2005 (Cl. 26.1) IEC 60884-1 (Cl. 26.1)	0.2 Nm to 2.0 Nm
		Resistance of insulating material to Abnormal Heat, to Fire and to tracking	IS 1293: 2005 (Cl. 28 excluding 28.1.2) IEC 60884-1 (Cl. 28 excluding 28.1.2)	Qualitative (Heat 125°C Fire 25°C to 1000°C Tracking 50 V to 700 V)
		Resistance to Rusting	IS 1293: 2005 (Cl. 29) IEC 60884-1 (Cl. 29)	Qualitative
<b>2. Modular Switch Range(6A-32A) Rocker Type</b>		Marking	IS 3854: 1997 (Cl. 8) IEC 60669-1 (Cl. 8)	Qualitative
		Protection against electric shock	IS 3854: 1997 (Cl. 10) IEC 60669-1 (Cl. 10)	40 V to 50 V 10 N to 70 N
		Provision for Earthing	IS 3854: 1997 (Cl. 11) IEC 60669-1 (Cl. 11)	Upto 0.5 Ω
		Terminals	IS 3854: 1997 (Cl. 12 excluding 12.3) IEC 60669-1 (Cl. 12 excluding 12.3)	0.2 Nm to 2.5 Nm
		Mechanism	IS 3854: 1997 (Cl. 14 excluding 14.6) IEC 60669-1 (Cl. 14 excluding 14.6)	6 A to 32 A 180 V AC to 250 V AC

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>3 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Modular Switch Range(6A-32A) Rocker Type</b>	Resistance to ageing and humidity	IS 3854: 1997 (Cl. 15 excluding 15.2) IEC 60669-1 (Cl. 15 excluding 15.2)	45 % to 95 % RH
		Insulation Resistance & Electric Strength - HV - IR	IS 3854: 1997 (Cl. 16) IEC 60669-1 (Cl. 16)	Upto 5 kV Upto 50 GΩ
		Temperature Rise	IS 3854: 1997 (Cl. 17) IEC 60669-1 (Cl. 17)	Upto 100 °C
		Making and Braking Capacity	IS 3854: 1997 (Cl. 18) IEC 60669-1 (Cl. 18)	6 A to 40 A, 180 V AC to 275 V AC
		Normal Operation	IS 3854: 1997 (Cl. 19) IEC 60669-1 (Cl. 19)	6 A to 32 A, 180 V AC to 250 V AC
		Screws, Current carrying parts and connections	IS 3854: 1997 (Cl. 22.1) IEC 60669-1 (Cl. 22.1)	0.2 Nm to 2.5 Nm
		Resistance of insulating material to Heat, to Fire and to tracking	IS 3854: 1997 (Cl. 24) IEC 60669-1 (Cl. 24)	Qualitative: Heat:125 °C Fire:25 °C to 1000 °C Tracking: 50 V to 700 V
		Resistance to Rusting	IS 3854: 1997 (Cl. 25) IEC 60669-1 (Cl. 25)	Qualitative

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>4 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>II. LAMPS, LUMINAIRES AND ACCESSORIES</b>				
<b>1.</b>	<b>Electronic Driver</b>	Marking	IS13021(Part 2): 1991(Cl. 5) EN/IEC 60929: 2003 (Cl. 5) EN 60929: 2011 (Cl. 6) IEC 62384 (Cl. 6) IS 16104 (Cl. 6) EN 62384	Qualitative
		Total Circuit Power	IS 13021(Part 2): 1991(Cl. 3.6) EN/IEC 60929: 2011(Cl. 8.2) EN 60929: 2011 (Cl. 6) IEC 62384 (Cl. 8) IS 16104 (Cl. 8) EN 62384	Upto 20 kW
		Total Circuit Power Factor	IS 13021 (Part 2): 1991(Cl. 9.1) EN/IEC 60929: 2011 (Cl. 9) EN 60929: 2011 (Cl. 6) IEC 62384 (Cl. 9) IS 16104 (Cl. 9) EN62384	Upto 1
		Supply Current	IS13021(Pt. II): 1991(Cl. 10.1) EN/IEC60929 : 2011(Cl. 10.1) EN 60929: 2011 (Cl. 6) IEC 62384 (Cl. 10) IS 16104 (Cl. 10) EN62384	Upto 2 A
		Starting Condition	IS13021(Part 2): 1991 (Cl. 7) EN/IEC 60929: 2011 (Cl. 7)	Time: Upto 40 s Current: Upto 15 A Voltage: Upto 28 kV

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>5 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Electronic Driver</b>	Operating Conditions Power and Lumen	IS 13021 (Part 2): 1991 (Cl. 8) EN/ IEC 60929: 2011 (Cl. 8) EN/IEC 62384 (Cl. 7) IS 16104 (Cl. 7)	Upto 20 kW Upto 200000 lumen
		Maximum Current in any lead to cathode	IS 13021(Part 2): 1991 (Cl. 11) EN/IEC 60929:2011 (Cl. 11)	Upto 2 A
		Lamp Operating Current Waveform Crest factor	IS 13021 (Part 2): 1991 (Cl. 12) EN/IEC 60929: 2011 (Cl. 12)	Upto 2
		Operational Test for Abnormal Conditions	IS 13021 (Part 2): 1991 (Cl. 16) EN/ IEC 60929: 2011 (Cl. 14)	Qualitative
		Endurance Test	IS 13021 (Part 2): 1991 (Cl. 17) EN/IEC 60929: 2011 (Cl. 15) EN/IEC 62384 (Cl. 13), IS 16104 (Cl. 13)	Qualitative
		Marking	IS 13021(Part I): 1991 (Cl. 7) EN/IEC 61347-2-3: 2011 (Cl. 7) EN/IEC 61347-2-13(Cl. 7) IS 15885 (Part 2): SEC 13 (Cl. 7)	Qualitative
		Protection against Accidental Contact with Live Parts	IS 13021(Part I): 1991 (Cl. 11) EN/IEC 61347-2-3: 2011 (Cl. 8) IEC 61347-2-13 (Cl. 21) IS 15885(Part 2): SEC 13 (Cl. 8)	Qualitative
		Terminals	IS 13021(Part I): 1991 (Cl. 9) EN/IEC 61347-2-3: 2011 (Cl. 9) IEC 61347-2-13 (Cl. 9) IS 15885 (Part 2): SEC 14 (Cl. 9) EN61347-2-13	Upto 200 mm

**Laboratory** Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh

**Accreditation Standard** ISO/IEC 17025: 2005

**Discipline** Electrical Testing **Issue Date** 17.12.2013

**Certificate Number** T-2740 **Valid Until** 16.12.2015

**Last Amended on** 23.12.2014 **Page** 6 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Electronic Driver	Provision for Earthing	IS 13021 (Part I): 1991 (Cl. 9) EN/IEC 61347-2-3: 2011 (Cl. 10) IEC 61347-2-13 (Cl. 23) IS 15885 (Part 2): SEC13 (Cl. 10) EN61347-2-13	Upto 0.5 $\Omega$
		Moisture Resistance & Insulation Resistance - HV - IR	IS 13021 (Part I): 1991 (Cl. 13) EN/IEC 61347-2-3: 2011 (Cl. 11) IEC 61347-2-13 (Cl. 11) IS 15885 (Part 2): SEC 13 (Cl. 11) EN61347-2-13	Upto 5 kV Upto 50 G $\Omega$
		Electric Strength - HV - IR	IS 13021 (Part I): 1991 (Cl. 14) EN/IEC 61347-2-3: 2011 (Cl. 12) IEC 61347-2-13 (Cl. 12) IS 15885 (Part2): SEC 13 (Cl. 12)	Upto 5 kV Upto 50 G $\Omega$
		Fault Condition	IS 13021 (Part 1): 1991 (Cl. 16) EN/ IEC 61347-2-3: 2011 (Cl. 14) IEC 61347-2-13 (Cl. 14), IS 15885 (Part2): SEC 13 (Cl. 14) EN61347-2-13	Qualitative
		Protection of Associated Components	IS1302 (Part 1): 1991(Cl. 15) EN/IEC 61347-2-3: 2011	Qualitative
		Abnormal Conditions	IS 13021 (Part 1): 1991 (Cl. 15) EN/IEC 61347-2-3: 2011(Cl. 16) IEC 62384 (Cl. 12) IS 16104 (Cl. 12) IEC 61347-2-13 (Cl. 16) IS 15885 (Part2): SEC 13 (Cl. 15.2) EN61347-2-13	Qualitative

**Laboratory** Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh

**Accreditation Standard** ISO/IEC 17025: 2005

**Discipline** Electrical Testing **Issue Date** 17.12.2013

**Certificate Number** T-2740 **Valid Until** 16.12.2015

**Last Amended on** 23.12.2014 **Page** 7 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Electronic Driver	Behavior of the ballast at end of lamp life: Asymmetric Pulse test	IS 13021 (Part I): 1991 EN/ IEC 61347-2-3: 2011 (Cl. 17)	Qualitative
		Construction	IS 13021 (Part 1): 1991 EN/IEC 61347-2-3: 2011 (Cl. 18) IEC 61347-2-13 (Cl. 17) , IS 15885(Part 2): SEC 14 (Cl. 17) EN61347-2-13	Qualitative
		Creepage & Clearance	IS 13021 (Part 1): 1991 (Cl. 10) EN/IEC 61347-2-3: 2011 (Cl. 19) IEC 61347-2-13 (Cl. 13) IS 15885 (Part 2): SEC 13 (Cl. 13)	Upto 200 mm
		Screws, current carrying parts and connections	IS 13021 (Part 1): 1991 (Cl. 20) EN/IEC 61347-2-3: 2011 (Cl. 20) IEC 61347-2-13 (Cl. 19) IS 15885 (Part 2): SEC 14 (Cl. 19)	Qualitative
		Resistance to Heat & Fire	IS 13021 (Part 1): 1991 (Cl. 18) EN/IEC 61347-2-3: 2011 (Cl. 21) IEC 61347-2-13 (Cl. 20) IS 15885(Part 2): SEC 13 (Cl. 19) EN61347-2-13	Qualitative
		Resistance to Corrosion	IS 13021 (Part I): 1991 (Cl. 19) EN/IEC 61347-2-3: 2011 (Cl. 22) IEC 61347-2-13 (Cl. 21) IS 15885 (Part 2): SEC 13 (Cl. 20) EN61347-2-13	Qualitative

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>8 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
2.	<b>Electromagnetic Fluorescent Ballast</b>	Marking	IEC 60921(Cl. 5) IS 1534(Part 1): 1977 (Cl. 8)	Qualitative
		Voltage at terminations of starter or Lamp	IEC 60921 Cl. 6.1(a) & Cl. 6.2 (a),(c)	Upto 2 kV
		Circuit Power Factor	IEC 60921 (Cl. 9)	Upto 1
		Supply Current	IEC 60921 (Cl. 10)	Upto 20 A
		Marking	IEC 61347-2-8 (Cl. 7)	Current Upto 20 A
		Protection against accidental contact with live parts	IEC 61347-2-8 (Cl. 8) IS 1534 (Part 1): 1977 Cl. 9.5	Qualitative
		Moisture Resistance and Insulation - HV - IR	IEC 61347-2-8 (Cl. 11) IS 1534 (Part 1): 1977 Cl. 9.7)	Upto 5 kV Insulation Upto 50 GΩ
3.	<b>Luminaires Fixed general Purpose Luminaires Recessed Luminaires Luminaires for the road and street lights Flood Lights LED Luminaire</b>	Marking (Test with Hexane) Torque test of screw terminals	EN / IEC60598-1 (Cl. 3.4) IS 10322 (Part 1): (Cl. 3.4) EN / IEC 60598-1 (Cl. 4.12.1) IS10322 (Part 2): 1982 (Cl. 12.1.1)	Qualitative (0.01 Nm to 0.5Nm; 5 Nm to 33 Nm)
		Glass Fragmentation Test	EN / IEC60598-2-5 (Cl. 5.6.8) IEC60598-2-3 (Cl. 3.6.5.1)	Qualitative
		Mechanical Load Test (Impact Test)	EN/ IEC 60598-1 (Cl. 4.13.1) IS10322 (Part 4): 1984 (Cl. 5.2)	0.2Nm,0.35Nm, 0.5Nm 0.7Nm

**Mallika Gope**  
Convenor

**N. Venkateswaran**  
Program Manager



<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>9 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Luminaires Fixed general Purpose Luminaires Recessed Luminaires Luminaires for the road and street lights Flood Lights LED Luminaire</b>	Mechanical Strength Test for Rough Service Luminaires (IP54 & above)	EN / IEC 60598-1 (Cl. 4.13.4(a))	Qualitative
		Resistance To Corrosion(rust-resistant)	EN / IEC 60598-1 (Cl. 4.18.1) IS10322 (Part 4): 1984 (Cl. 8.1)	Qualitative (6.5 J)
		Static Load Test	EN/ IEC 60598-2-3 (Cl. 3.6.3.1) IEC 60598-2-5 (Cl. 5.6.5)	Qualitative (100 °C ) 0 to 60 kg 0° to 90°
		Protection against Electric Shock (compliance with standard test finger)	EN / IEC 60598-1 (Cl. 7.2.3)  EN / IEC 60598-1 (Cl. 8.2.5)  EN / IEC 60598-1 (Cl. 9.2.0)  EN / IEC 60598-1 (Cl. 9.2.1 & 9.2.2) IS10322 (Part 4): 1984 (Cl. 2.1.1 & 2.1.2)	Qualitative  Qualitative (IP3X & 4X)  Qualitative (IP5X)  Qualitative (IP6X)
		Rain Proof Luminaire	EN / IEC 60598-1 (Cl. 9.2.4) IS10322 (Part 4): 1984 (Cl. 2.1.4)	Qualitative (IPX3)
		Splash Proof Luminaire	EN / IEC 60598-1 (Cl. 9.2.5) IS10322 (Part 4): 1984 (Cl. 2.1.5)	Qualitative (IPX4)

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>10 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Luminaires Fixed general Purpose Luminaires Recessed Luminaires Luminaires for the road and street lights Flood Lights LED Luminaire</b>	Jet Proof Luminaries	EN / IEC 60598-1 (Cl. 9.2.6) IS 10322 (Part 4): 1984 (Cl. 2.1.6)	Qualitative (IPX5)
		Powerful Water Jet Proof Luminaries	EN / IEC 60598-1 (Cl. 9.2.7)	Qualitative (IPX6)
		Watertight Luminaries	EN / IEC 60598-1 (Cl. 9.2.7) IS 10322 (Part 4): 1984 (Cl. 2.1.7)	Qualitative (IPX7)
		Humidity Test	EN / IEC 60598-1 (Cl. 9.3.1) IS 10322 (Part 4): 1984 (Cl. 2.2.1)	Qualitative (95 % RH)
		Insulation Resistance	EN / IEC 60598-1 (Cl. 10.2.1) IS 10322 (Part 4): 1984 (Cl. 3.2.1)	Qualitative (0.1 MΩ to 50 GΩ)
		Electric Strength	EN / IEC 60598-1 (Cl. 10.2.2) IS10322 (Part 4):1984 (Cl. 3.3.1)	Qualitative (0.1 mA to 100 mA)
		Touch Current Test	EN / IEC 60598-1 (Cl. 10.3)	Qualitative
		Creepage Distances & Clearances	EN / IEC 60598-1 (Cl. 11.1) IS10322 (Part 4): 1984 (Cl. 4.2)	0 to 200 mm
		Endurance Test	EN / IEC 60598-1 (Cl. 12.3) IS10322 (Part 4): 1984 (Cl. 6.2.1)	Qualitative (35 °C, 45 °C)
		Thermal Test	EN / IEC 60598-1 (Cl. 12.4) IS10322 (Part 4): 1984 (Cl. 6.3.1)	30 °C to 250 °C
		Resistance to Heat	EN / IEC 60598-1 (Cl. 13.2) IS10322 (Part 4): 1984 (Cl. 7.1.1)	Qualitative (125 °C)

**Mallika Gope**  
Convenor

**N. Venkateswaran**  
Program Manager

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>11 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Luminaires Fixed general Purpose</b>	Resistance to Flame	EN / IEC 60598-1 (Cl. 13.3.1) IS10322 (Part 4): 1984 (Cl. 7.2.1)	Qualitative. (25 °C to 1000 °C)
	<b>Luminaires Recessed</b>	Resistance to Ignition	EN/IEC 60598-1 (Cl. 13.3.2)	Qualitative. (25 °C to 960 °C)
	<b>Luminaires for the road and street lights</b>	Resistance Tracking	EN / IEC 60598-1 (Cl. 13.4) IS10322 (Part 4): 1984 (Cl. 7.3.1)	Qualitative (50 V to 700 V)
	<b>Flood Lights</b>	Power	IS 16107 (Part 2/Sec 1): 2012 (Cl. 7)	< 1000 W
	<b>LED Luminaire</b>	Lumen Maintenance	IS 16107 (Part 2/Sec1): 2012 (Cl. 10.2)	Qualitative (25 °C to 100 °C)
		Temperature Cycling(energized)	IS 16107 (Part 2/Sec1): 2012 (Cl. 10.3.2)	Qualitative (-40 °C to 180 °C)
		Supply Voltage switching	IS 16107 (Part 2/Sec1): 2012 (Cl. 10.3.3)	Qualitative (1 s to 999 minute)
		Accelerated Operation Life	IS 16107 (Part 2/Sec1): 2012 (Cl. 10.3.4)	Qualitative (25 °C to 100 °C)
		IK Test	IEC 62262 (2002)	Qualitative (IK07 to IK10)

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>12 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Self Ballasted Lamp</b>	Marking	IS16102 (Part 1): 2012 IS 15111 (Part 1): 2002	Qualitative
		Cap Interchangeability	IS16102 (Part 1): 2012 IS15111 (Part 1): 2002	Qualitative
		Protection against Accidental Contact with Live Parts	IS16102 (Part 1): 2012 IS 15111 (Part 1): 2002	Qualitative
		Insulation Resistance and Electric Strength after Humidity	IS16102 (Part 1): 2012 IS 15111 (Part 1): 2002	0.1 MΩ to 50 GΩ 0.1m A to 100m A, 0 to 5 kV
		Mechanical Strength- Axial Pull Bending moment Torsion Resistance	IS 16102 (Part1): 2012 IS 15111 (Part 1): 2002	0 to 150 N 0 to 4 Nm 0 to 4 Nm
		Cap Temperature Rise	IS 16102 (Part 1): 2012 IS 15111 (Part 1): 2002	0 to 200 °C
		Resistance to Heat	IS 16102 (Part 1): 2012 IS 15111 (Part 1): 2002	0 to 125°C
		Resistance to Flame	IS 16102 (Part 1): 2012 IS 15111 (Part 1): 2002	25 °C to 1000 °C
		Resistance to Ignition	IS 16102 (Part 1): 2012 IS 15111 (Part 1): 2002	25°C to 960°C
		Fault Conditions	IS 16102 (Part 1): 2012 IS 15111 (Part 1): 2002	0 to 450 V

**Mallika Gope**  
Convenor

**N. Venkateswaran**  
Program Manager

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>13 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Self Ballasted Lamp</b>	Creepage Distance and Clearances	IS 16102 (Part 1): 2012	0 to 200 mm
		Marking Requirement	IS 16102 (Part 2): 2012	Qualitative
		Dimensions requirement	IS 16102 (Part 2): 2012 IS 15111 (Part 2): 2002	0 to 200 mm, 0 to 25 mm
		Lamp Power/Wattage	IS16102-(Part 2): 2012 IS 15111 (Part 2): 2002	0 to 50W
		Starting time & run-up test	IS 15111 (Part 2): 2002	Qualitative
		Harmonics	IS16102-(Part 2): 2012 IS 15111 (Part 2):2002	Upto 39 <sup>th</sup> order
		Power factor	IS16102 (Part 2): 2012 IS 15111 (Part 2): 2002	Upto 1
		EMI	IS16102 (Part 2) IEC 62612 IS 15111 (Part 2): 2002	Peak: 56 to 110, Avg:46 to 56 dB
		Luminous Flux	IS16102 (Part 2): 2012 IS 15111 (Part 2): 2002	10 lm to 200 Klm
		Center Beam Intensity	IS16102 (Part 2): 2012	1cd/Klm -20000cd/Klm
		Beam Angle	IS16102 (Part 2): 2012	max: 25 % rated value

**Mallika Gope**  
Convenor

**N. Venkateswaran**  
Program Manager

<b>Laboratory</b>	<b>Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electrical Testing</b>	<b>Issue Date</b>	<b>17.12.2013</b>
<b>Certificate Number</b>	<b>T-2740</b>	<b>Valid Until</b>	<b>16.12.2015</b>
<b>Last Amended on</b>	<b>23.12.2014</b>	<b>Page</b>	<b>14 of 15</b>

<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Self Ballasted Lamp</b>	Chromaticity Coordinates (x,y)	IS16102 (Part 2): 2012 IS 15111 (Part 2): 2002	Measurement in the visible spectrum of 350 nm to 850 nm (1nm resolution)
		Colour Rendering Index	IS16102 (Part 2): 2012	Upto 100
		Lumen Maintenance (Hrs)	IS16102 (Part 2): 2012 IS 15111 (Part 2): 2002	0 to 9999 Hrs
		Correlated Colour	IS16102 (Part 2): 2012 IS 15111 (Part 2): 2002	Upto 8000 K
		Endurance Test 1. Temperature cycling 2. Supply Voltage switching 3. Accelerated Operational Life Test	IS16102 (Part 2): 2012 IS 15111 (Part 2): 2002	(-)10 °C to 50 °C Rated Voltage 220 V to 240 V 45 °C 6000 Hr

### III ENVIRONMENT TEST FACILITY

<b>1. Light Emitting Diode Driver, Solar Charger and Luminaries and its accessories</b>	Cold Test (Simulation)	EN 60068-2-1(2007) IEC 60068-2-1 Ed 6.0 (Cl. 5.2)	Min (-)40 °C Max +55 °C
	Dry Heat Test (Simulation)	EN 60068-2(2007) IEC 60068-2-2Ed 5.0 (Cl. 5.2)	Min (-)40 °C Max 55 °C

**Laboratory** Philips Lighting Laboratory, Philips Electronics India Ltd., C-47, Sector-57, Noida, Uttar Pradesh

**Accreditation Standard** ISO/IEC 17025: 2005

**Discipline** Electrical Testing **Issue Date** 17.12.2013

**Certificate Number** T-2740 **Valid Until** 16.12.2015

**Last Amended on** 23.12.2014 **Page** 15 of 15

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Photovoltaic systems, Power conditioners	Change of Temperature (Simulation)	EN 60068-2-14 (2009) IEC 60068-2-14 Ed6.0 (Cl. 8)	Min (-)40 °C Max 55 °C
		Damp Heat, +12hr to +12hr Cyclic (Simulation) Temperature Humidity	EN 60068-2-30 IEC 60068-2-30 Ed3.0 (Cl. 7.3.3) Variant2	25 °C to 55 °C 75% to 95%
		Measurement of output Efficiency	IS/IEC 61683:1999 (Cl. 5.1) IEC 61683 Ed 1.0 (Cl. 5.1)	Upto 80 W

-X-X-X-X-X-X-X-X-X-X-X-X-