ELECTRONICS REGIONAL TEST LABORATORY (SOUTH)
MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY
THIRUVANANTHAPURAM

TEST REPORT ON: CUTE

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1. Indenter
   (Name & address of the
   Organisation)

   : M/s CDAC
     Vellayambalam
     Trivandrum-33

2. Indenter's Reference

   : SRFNo.6144 dt. 9-2-16

3. Description & Identification
   of the item

   : CUTE (CDAC Urban Traffic Signal Equipment)
     Sl.No. Nil

4. Applicable Specification

   : As per IEC 60068 in conjunction with
     customer specification

5. Test done

   : 1.High temperature Test
     2..Low temperature
     3.Temperature Cycling
     4.Damp heat test
     5. Functional test

6.

Name	Model	Trace ability	Validity
Climatic test chamber Weiss Technik	WK 11 1000	ETDC Bangalore	05-3-2016.
Climatic test chamber Weiss Technik	C 340	ETDC Bangalore	04-3-2016.
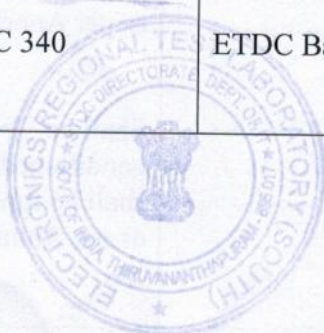
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7.0 Test results :

Sl. No	Test condition	Specification	Qty tested	Result	Remarks
1.0	Functional test	Shall be functional as per Annexure 'A	One	Complied	Nil
2.0	High temperature test Non operational, As per IEC 60068-2-2 Temperature : + 65 ±2 ° C Duration : 16 Hrs	Shall be conditioned	One	Conditioned	Nil
2.1	Functional test	Shall be functional as per Annexure 'A	One	Complied	Nil
2.2	High temperature Operational As per IEC 60068-2-2 Temperature : + 55 ±2 ° C Duration : 16 Hrs	Shall be conditioned and shall be functional as per Annexure 'A'	One	Conditioned & Complied	Nil
3.0	Low temperature test Non operational As per IEC 60068-2-1 Temperature : -20 ±3 ° C Duration : 16 Hr	Shall be conditioned	One	Conditioned	Nil
3.1	Functional test	Shall be functional as per Annexure 'A	One	Complied	Nil
3.2	Low temperature test Operational As per IEC 60068-2-1 Temperature : -10 ±3 ° C Duration : 16 Hr	Shall be conditioned and shall be functional as per Annexure 'A'	One	Conditioned & Complied	Nil

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S L No.	Test & Test condition	Specification	Qty tested	Results	Remarks
4.0	Temperature Cycling Non operational As per IEC 60068-2-14 Low temperature : -20 ±3 ° C High Temperature : +65±2 ° C Rate of change : 2°C/minute temperature Dwell Time : one hour No. Cycle : 3	Shall be conditioned	One	Conditioned	Nil
4.1	Functional test	Shall be functional as per Annexure 'A	One	Complied	Nil
5.0	Damp Heat steady state Non operational As per IEC 60068-2-78 Temperature : +40±2 ° C Humidity : 93±3% Duration : 24 Hrs	Shall be conditioned	One	Conditioned	Nil
5.1	Functional test	Shall be functional as per Annexure 'A	One	Complied	Nil
5.2	Damp Heat tes, Cyclic 12 + 12 Operational As per IEC 60068-2-30 Upper Temperature : +40±2 ° C Humidity : As per IEC 60068-2-30 No.of cycles : 1 Duration : 24 Hr	Shall be conditioned and shall be functional as per Annexure 'A'	One	Conditioned & Complied	Nil
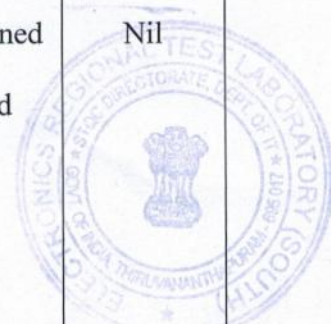
| ELECTRONICS REGIONAL TEST LABORATORY (SOUTH) |
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8. General remarks:

8.1. This test report is applicable only to the samples identified at Sl.No.3.

8.2. The test setup, and the test procedure used for the functional test was provided by the customer.

ISSUED BY

9/3/16

HEAD, C S C

SHAJI. K. S
Scientist 'E'
ERTL (S), Govt. of India
Ministry of Communications & Information Technology
DeitY, STQC Directorate
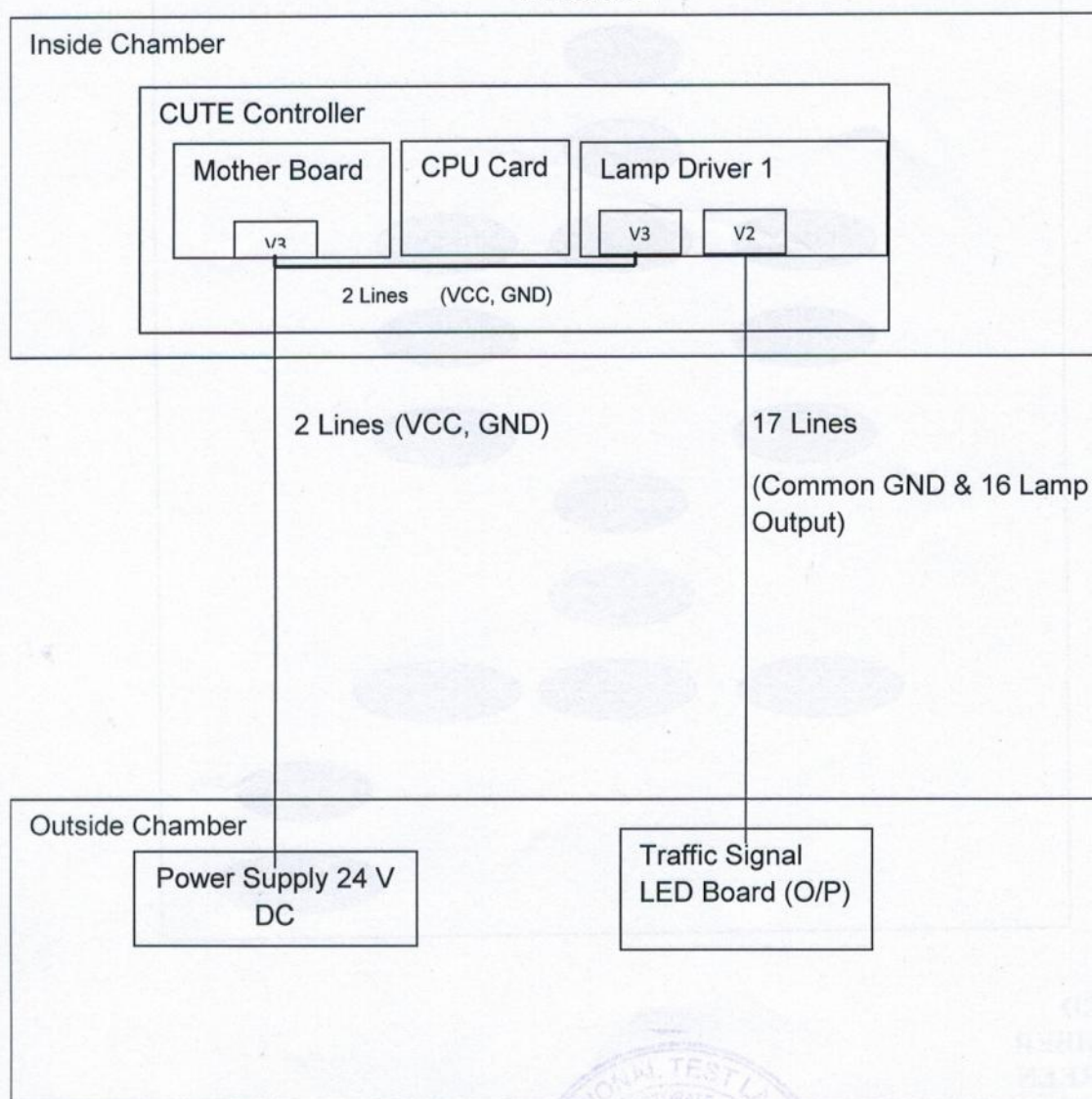Sreekariyam, Thiruvananthapuram-17

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Annexure 1

Inside Chamber

CUTE Controller

Mother Board	CPU Card	Lamp Driver 1
V3		V3 V2

2 Lines   (VCC, GND)

2 Lines (VCC, GND)

17 Lines

(Common GND & 16 Lamp Output)

Outside Chamber

Power Supply 24 V DC

Traffic Signal LED Board (O/P)

Note: V3 & V2 are connectors

Traffic Signal LED output:
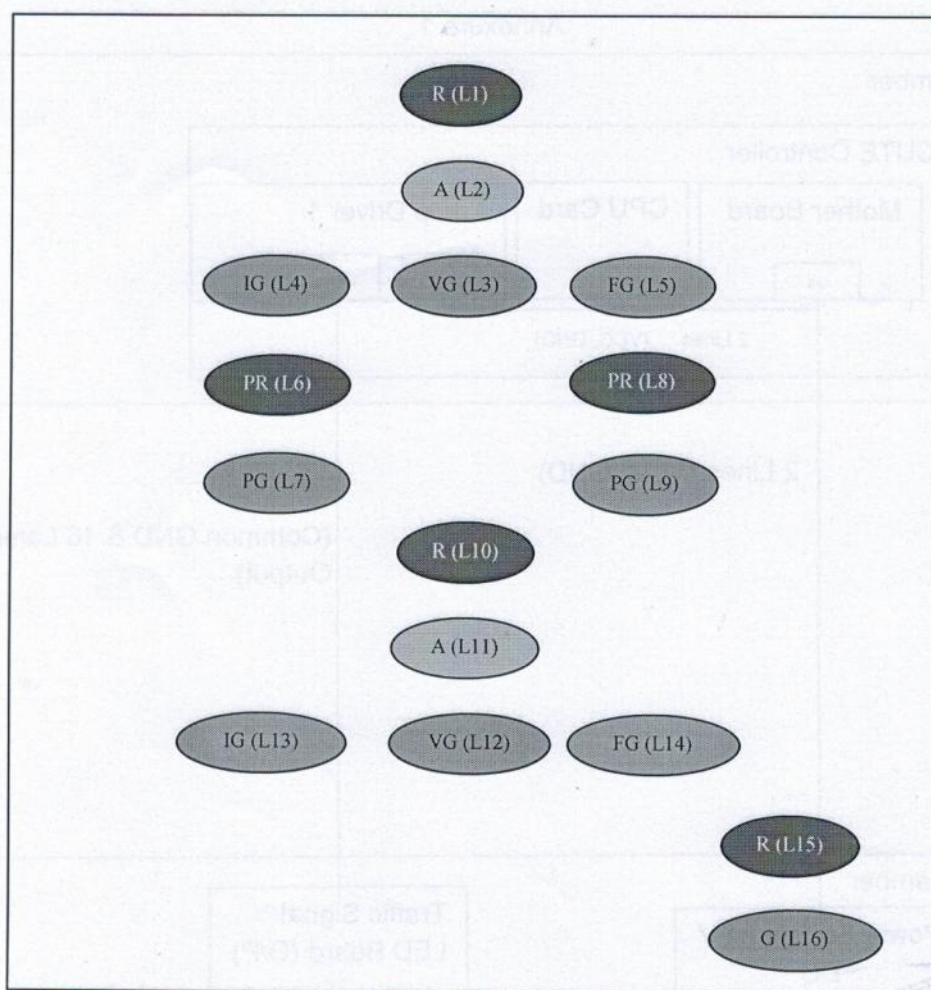
R - RED
A - AMBER
G - GREEN
IG - INDICATIVE GREEN
VG - VEHICULAR GREEN
FG - FILTER GREEN
PR - PEDESTRIAN RED
PG - PEDESTRIAN GREEN

Functional Test Procedure:
CUTE Controller Setup:

1. Connect power supply of 24 V DC to the mother board via V3 of the CUTE Controller by the given cable A.
2. Connect the traffic signal LED board to the Lamp Driver Card via the connector V2 by the given cable B

General procedure:

1. Switch ON power supply and observe the traffic pattern in the Traffic Signal LED Board for the below conditions
   a) Time required for CUTE Controller to startup is around 5 to 10seconds in order to process the background initializations.
   b) All amber (Yellow) LED flashes for approx. 3 sec.
   c) Then all Red LED Glows for approx. 3 sec.
   d) Then the actual signaling works as per the below timing sequences continuously repeating seq1 to seq4.

Seq. No	Traffic Signal LED Board Status (ON)	Time Sec. (approx.)	Colors Glowing
1	Green (L3, L4, L5), Red (L10)	12	IG (L4) VG (L3) FG (L5) R (L10)
2	Amber (L2), Red (L10), Green (L4)	3	A (L2) R (L10) IG (L4)
3	Red (L1), Green (L12, L13, L14)	12	R (L1) VG (L12) IG (L13) FG (L14)
4	Red (L1), Amber (L11), Green (L13)	3	R (L1) A (L11) VG (L13)