



# Test Data Report

## TESTING RECORD REPORT

PROJECT NUMBER: 1830901

REPORT NUMBER: 1830901-1

PREPARED FOR:

Pure Spectrum Inc.  
P.O. Box 664  
Richmond Hill, GA 31324

PREPARED BY:

CSA International  
2210 Justin Trail  
Alpharetta, GA 30004

**INTRODUCTION:** This report contains test results for the fixtures as specified on the following pages.

**PURPOSE:** The testing conducted in this report is for design purposes

**AUTHORIZATION:** The testing performed was authorized by: Lee Vanatta

**STANDARDS USED:** The following ANSI and IESNA documents were used during testing where applicable:

1. IESNA LM 54-99: IESNA Guide to Lamp Seasoning
2. ANSI C82.11 (2002): High Frequency Fluorescent Lamp Ballasts
3. IESNA LM 9-99: IESNA Approved Method for Electrical and Photometric Measurements of Fluorescent Lamps

Project Handler:

Project Reviewer:

  
Tim Gentry  
Certifier

  
Jesse Whalen  
Certifier

*The applicant agrees not to make any references to CSA International when using the results, data, or any other part of this investigation or report for the purpose of advertising, promotion, litigation or any other use, without the prior written consent of CSA International. The results and data contained in this report are contingent upon the characteristics of the actual samples used in the investigation. In the absence of a continuing inspection service, CSA International provides no assurance, expressed or implied that the contents of this report are applicable to reproductions of these samples. Quotations from this report or the use of the name of CSA International or its registered trademark, in any way, is not permitted without prior written consent of CSA International. This report contains test data only and may not be used by the client to claim product certification, approval, or endorsement by CSA International.*

**Contents**

List of Tests Conducted - Page 2  
Lamp Seasoning - Page 3  
Initial System Measurements - Page 4

**List of Tests Conducted**

TESTS CONDUCTED		
Test No.	Test Name	Notes
1	Seasoning	Conducted on three samples of the 12" and three samples of the 16-3/4"
2	Initial System Measurements	Conducted on three samples of the 12" and three samples of the 16-3/4"

**Table 1 – Tests Conducted**

**Lamp Seasoning  
IESNA LM-54-99**

**Method**

The fixtures were installed into the Seasoning Rack in the lamp base horizontal position. The Seasoning Rack and fixtures were located in a 25°C± 5°C draft free, temperature controlled environment for the duration of the test. The lamp pins were marked to correspond to the ballast output wires to which they were connected. The fixtures were energized at rated input voltage and frequency and allowed to operate for a time period greater than 100 hours. The input voltage was regulated within 2% of the nominal rated input voltage with a THD not exceeding 3% of the fundamental nominal wave shape by means of a Constant Voltage Source Regulation Transformer.

The ballast/lamp wiring configuration, the ballast/ lamp grouping as identified by the sample numbers in the Data Section, and the lamp base horizontal lamp position were maintained constant for all tests conducted in this report. Following the Lamp Seasoning test, the lamp was transported without being tilted or shaken and was allowed to cool to room temperature before being transported.

**Data**

- Rated Input Voltage - 120 V
- Rated Input Frequency - 60 Hz

Fixture Sample Number	Seasoning Duration (Hours)	Fixture Description
132800-3	100	16-3/4" portable under-cabinet Fixture using electronic ballast and one T-4 Linear Fluorescent Lamp.
132800-4	100	16-3/4" portable under-cabinet Fixture using electronic ballast and one T-4 Linear Fluorescent Lamp.
132800-5	100	16-3/4" portable under-cabinet Fixture using electronic ballast and one T-4 Linear Fluorescent Lamp.
132800-1	100	12" portable under-cabinet Fixture using electronic ballast and one T-4 Linear Fluorescent Lamp.
132800-2	100	12" portable under-cabinet Fixture using electronic ballast and one T-4 Linear Fluorescent Lamp.
132800-6	100	12" portable under-cabinet Fixture using electronic ballast and one T-4 Linear Fluorescent Lamp.

**Table 2 – Seasoning Test Data**

**Initial System Measurements**  
**IESNA LM-9**  
**ANSI C82.11**

**Method**

Measurements were made using one sample at a time in a draft free, temperature controlled environment. The temperature was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The ambient temperature during testing was measured by means of a 30 AWG type J thermocouple located inside the sphere, on the same horizontal plane as the test sample, within three feet of the test sample. The thermocouple was shielded from any radiant heat that was produced by the test sample. The seasoned lamp of the Seasoning Test was allowed to cool to room temperature then removed from the fixture and mounted into the integrating sphere in the lamp base horizontal position by means of the appropriate lamp mounting jig. The fixture ballast was then placed connected to the stabilized lamp. During this connection, each ballast output wire was connected to the correct lamp terminal as marked and defined in the Seasoning Test. The ballast was then energized at rated input voltage and frequency. The input voltage was regulated within 0.1% of the nominal rated input voltage with a THD not exceeding 3% of the fundamental nominal wave shape. The lamps were allowed to stabilize before any electrical, color, or photometric measurements were made. A lamp was considered stable when it was allowed to operate continuously for a minimum time period of 15 minutes and stable photometric measurements were made as specified by LM-9. The photometric and color measurements were made on the lamp outside of the fixture by means of an integrating sphere with an auxiliary lamp correction function. The X and Y correlated color temperature coordinates were inserted into the 7-step ANSI Ellipse template. The Electrical measurements were made by means of a power analyzer capable of performing all the required electrical measurements in the Data Section. The Efficacy was calculated for each sample by dividing the measured lumens by the measured wattage. The averages were calculated for the Input Wattage, Luminous Flux, Efficacy, CRI and Power Factor measurements. The measurements specified in the Data Section Tables 3 and 4 were made simultaneously.

**Initial System Measurements (Continued)**

IESNA LM-9

ANSI C82.11

**DATA**

Fixture Description	Fixture Sample Number	Lamp Base Position	Input Voltage (V)	Input Current (mA)	Input Power (W)	Input Power Factor	Input THD (%)	Stabilization Time (min)	Ambient (°C)
16-3/4"	132800-4	LBH	120.00	194.29	10.986	0.471	0.237	14	24.0
16-3/4"	132800-3	LBH	119.96	195.96	11.012	0.468	0.236	14	24.1
16-3/4"	132800-5	LBH	120.00	199.67	11.342	0.473	0.252	13	24.1
<b>AVERAGE</b>					11.113	0.471			
12"	132800-1	LBH	120.02	146.58	9.652	0.549	0.208	14	24.0
12"	132800-2	LBH	120.02	146.30	9.623	0.549	0.227	14	24.0
12"	132800-6	LBH	120.01	145.56	9.578	0.548	0.239	13	24.0
<b>AVERAGE</b>					9.618	0.549			

**Table 3 – Electrical Data**

Fixture Description	Fixture Sample Number	Lamp Base Position	CCT (K)	X	Y	CRI	Luminous Flux (lumens)	System Efficacy (Lumens/W)	Stabilization Time (min)	Ambient (°C)
16-3/4"	132800-4	LBH	5836	0.3245	0.3489	84.58	671.7	61.14	14	24.0
16-3/4"	132800-3	LBH	5835	0.3245	0.3493	84.56	676.3	61.41	14	24.1
16-3/4"	132800-5	LBH	5833	0.3246	0.3246	84.79	702.2	61.91	13	24.1
<b>AVERAGE</b>						84.64	683.4	61.49		
12"	132800-1	LBH	5683	0.3279	0.32479	83.79	503.5	52.17	14	24.0
12"	132800-2	LBH	5697	0.3276	0.3276	83.62	488.6	50.77	14	24.0
12"	132800-6	LBH	5677	0.3281	0.3281	84.06	498.6	52.06	13	24.0
<b>AVERAGE</b>						83.82	496.9	51.67		

**Table 4 – Photometric Data**

-----END OF REPORT-----