



Report No.: GZE160771-N

NVLAP LAB CODE 201011-0

## LM-79-08 Test Report

For

### L-TECH CORPORTION

**(Brand Name: L-TECH CORP)**

SHAOGANGTOU DISTRICT.QIAOTOU TOWN.DONGGUAN  
CITY.GUANGDONG PROVINCE,CHINA

### LED Luminaires

Model name(s): LJKT800S-2790

Test & Report By:

*Johnson Sun*

Engineer: Johnson Sun

Date: Aug.03,2016

Review By:

*Tommy Liang*

Manager: Tommy Liang

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: Standard-Tech Building, No.6 Guanhong Road,Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320

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<http://www.standard-tech.com>

**1.1 Product Information:**

Organization Name	L-TECH CORPORTION	
Brand Name	L-TECH CORP	
Model Number	LJKT800S-2790	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaires	
Rated Voltage / Frequency	120Vac, 60 Hz	
Nominal Power	17W	
Rated Initial Lamp Lumen	--	
Declared CCT	2700K	
LED Manufacturer	N/A	
LED Model	N/A	
Sample Number	GZE160771-N1	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

**Photo**


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### 1.2 Test Specifications:

Date of Receipt	Jul.25,2016
Date of Test	Jul.27,2016
Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>
Reference Work Instruction	QD25

### 1.3 Test Methods

#### 1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  horizontal intervals.

#### 2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

#### 3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

**2.1 Electrical, Photometric and Chromaticity Measurements**
*(Refer to Work Instruction QD25)*

<b>Test date</b>	2016-07-27	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	Horizontal	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	LJKT800S-2790		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
GZE160771-N1	120.0	60	0.1409	16.5	0.9761

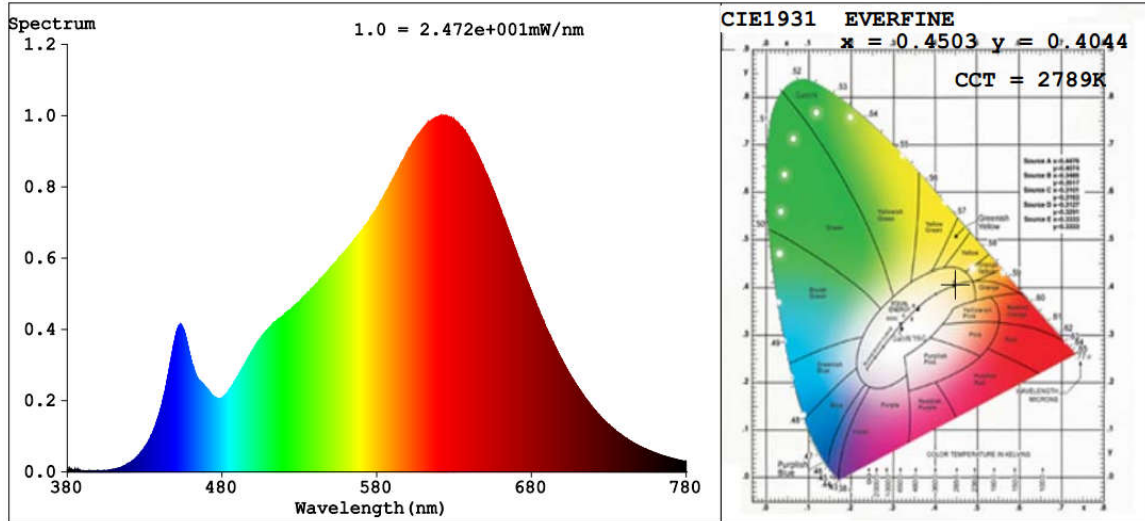
**Chromaticity Measurement - Sphere-Spectroradiometer Method i:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	94	R9	62
Frequency (Hz)	60	R2	98	R10	95
CCT (K)	2789	R3	99	R11	96
Duv	-0.0015	R4	94	R12	88
Chromaticity (x, y)	x=0.4503 y=0.4044	R5	95	R13	96
Chromaticity (u', v')	u'=0.2591 v'=0.5235	R6	97	R14	99
Color Rendering Index (CRI)	93.7	R7	91	R15	90
R9	62	R8	82	--	--

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	1367.9	--
Luminous Efficacy (lm/W)	82.90	--
Beam Angle (°)	107.1	--
Center Beam Candle Power (cd)	497	--

**Spectral Power Distribution & Chromaticity Diagram**

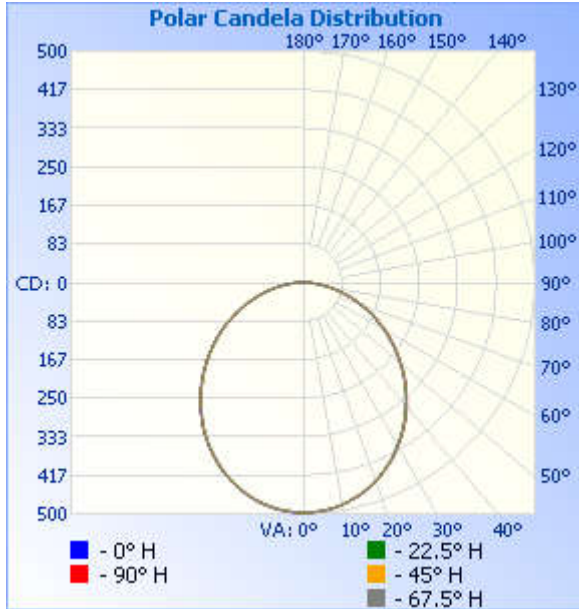


**Zonal Lumen Tabulation**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	379.9	27.8%
0-40	615.9	45%
0-60	1,068.2	78.1%
60-90	293.2	21.4%
70-100	133.7	9.8%
90-120	3.4	0.3%
0-90	1,361.4	99.5%
90-180	6.4	0.5%
0-180	1,367.8	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	46.9	3.4%	90-100	2.3	0.2%
10-20	133.5	9.8%	100-110	0.6	0%
20-30	199.6	14.6%	110-120	0.6	0%
30-40	236.0	17.3%	120-130	0.5	0%
40-50	239.5	17.5%	130-140	0.8	0.1%
50-60	212.7	15.6%	140-150	0.7	0.1%
60-70	161.8	11.8%	150-160	0.5	0%
70-80	96.3	7.0%	160-170	0.3	0%
80-90	35.1	2.6%	170-180	0.1	0%

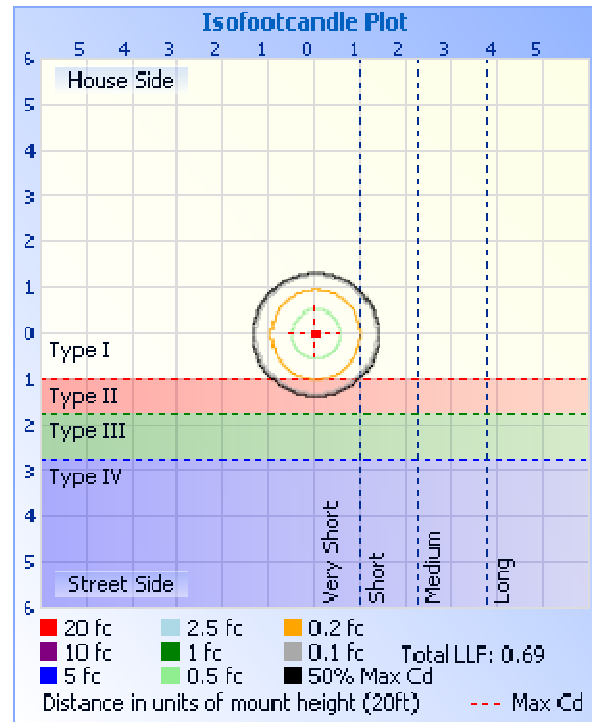
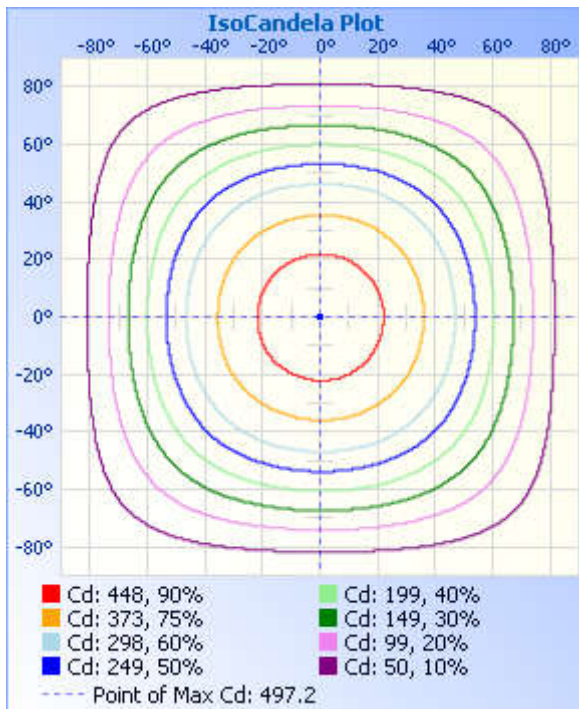
**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
17.0ft	1.72 fc	46.0 ft	46.2 ft
34.0ft	0.43 fc	92.0 ft	92.5 ft
51.0ft	0.19 fc	138.0 ft	138.7 ft
68.0ft	0.11 fc	184.0 ft	184.9 ft
85.0ft	0.07 fc	229.9 ft	231.1 ft
102.0ft	0.05 fc	275.9 ft	277.4 ft

■ Vert. Spread: 107.0°  
■ Horiz. Spread: 107.3°



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**Candela Table - Type C**

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	497	497	497	496	497	497	497	496	497	497	497	496	497	497	497	496	497
1	497	497	497	497	496	496	496	496	497	497	497	496	497	496	496	496	497
2	497	497	496	496	496	496	496	496	497	496	496	496	496	496	496	496	497
3	496	496	496	496	496	496	496	495	496	496	495	495	496	496	496	496	496
4	496	495	496	495	495	495	495	495	495	495	495	494	495	495	495	495	496
5	495	494	495	494	494	494	494	494	494	494	494	493	494	494	494	494	495
6	493	494	494	493	493	493	493	493	493	493	493	492	493	493	493	493	493
7	492	492	492	492	492	492	491	491	492	492	491	491	491	491	491	491	492
8	491	491	491	491	490	490	490	490	490	489	489	489	489	490	490	490	491
9	489	489	489	489	489	488	488	488	488	487	487	487	487	488	488	488	489
10	487	487	487	487	487	486	486	486	486	485	485	486	486	485	486	486	487
11	485	485	485	485	485	484	484	483	484	484	483	483	483	483	484	484	485
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16	471	471	471	471	471	470	470	470	470	469	469	469	469	470	470	470	471
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24	439	438	439	440	439	439	438	437	437	437	436	437	438	438	438	439	439
25	434	434	435	435	434	434	434	432	433	433	432	431	433	434	434	434	434
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27	425	424	424	425	424	425	424	422	423	423	422	421	423	424	424	424	425
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29	413	414	414	415	414	413	413	411	412	411	411	410	412	413	414	414	413
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43	326	325	325	327	326	326	324	323	324	324	323	324	324	325	326	327	326
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61	193	194	194	196	195	192	193	192	192	193	191	192	192	193	193	195	193
62	185	186	187	187	188	186	185	184	184	185	185	184	186	187	187	187	185
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89	15	16	15	16	16	15	15	16	15	16	15	15	16	15	15	16	15
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92	4	4	1	3	3	1	0	1	1	1	1	1	2	1	1	3	4

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93	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	0
94	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	0
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97	0	1	0	1	1	1	1	0	1	1	1	1	1	1	1	0
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103	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0
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107	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0
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111	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0
112	0	0	0	1	1	1	0	0	0	1	0	1	1	1	0	0
113	0	1	0	1	1	1	0	0	0	1	0	1	1	1	0	0
114	0	0	0	1	1	1	0	0	1	1	0	1	1	1	0	0
115	0	0	0	1	1	1	0	0	0	1	0	1	1	1	0	0
116	0	1	0	1	1	1	0	0	0	1	0	1	1	1	0	0
117	0	0	0	1	1	1	0	0	0	1	0	1	1	1	0	0
118	1	0	0	1	1	1	0	0	1	0	0	1	1	1	0	1
119	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0
120	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0
121	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	0
122	0	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0
123	0	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0
124	0	0	1	0	1	0	0	0	0	0	1	1	0	1	0	0

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125	0	0	1	1	1	0	1	0	0	0	1	1	1	0	1	0	0
126	0	0	1	0	1	0	1	0	0	0	1	1	0	0	1	0	0
127	0	0	1	0	1	0	1	0	0	0	1	1	0	0	1	1	0
128	0	1	1	1	1	0	1	0	0	0	1	1	0	0	1	1	0
129	0	0	1	0	0	1	1	0	0	0	1	1	0	0	1	1	0
130	1	1	1	1	0	1	1	0	0	0	1	1	0	1	1	0	1
131	0	1	1	1	0	1	1	0	0	0	1	1	0	1	1	1	0
132	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0
133	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1
134	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
135	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
136	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
137	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
138	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
139	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
140	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
141	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
142	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
143	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
144	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
145	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
146	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
147	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
148	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
149	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
150	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
151	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
152	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
153	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
154	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
155	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
156	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2

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 NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

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157	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
158	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
159	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
160	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
161	1	0	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
162	1	0	1	0	1	1	1	2	1	1	1	2	1	1	1	1	1
163	1	0	0	1	1	1	1	2	1	1	1	2	1	1	1	1	1
164	1	1	0	1	1	1	1	2	1	1	1	2	1	1	1	1	1
165	1	1	0	1	1	1	1	2	1	0	1	1	1	1	1	1	1
166	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
167	1	1	0	0	1	1	1	1	1	0	1	1	1	1	1	1	1
168	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
169	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1
170	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
171	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
172	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
173	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
174	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
175	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
176	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
177	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1
178	0	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0
179	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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### 3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2016-07-01	2017-06-30
ST-R-331	Spectral analysis system HAAS-2000	2016-07-01	2017-06-30
D204	Standard Lamp	2016-07-01	2017-06-30
PF2010	Power Meter for Integrating Sphere	2016-07-01	2017-06-30
EE-09	Goniophotometer system	2016-07-01	2017-06-30
D908S	Standard Lamp	2016-07-01	2017-06-30
PF210	Power Meter for Goniophotometer	2016-07-01	2017-06-30
ST-R-181A	Temperature Tester	2016-07-01	2017-06-30
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

**\*\*\*\*\* END OF REPORT \*\*\*\*\***