

LM-79-08 Test Report

For

LIGHT EFFICIENT DESIGN**(Brand Name:N/A)**

188 S. Northwest Highway Cary, IL60013

LED Luminaires

Model name(s): LED-8033E57C-A

Representative (Tested) Model: LED-8033E57C-A

Model Different: N/A

Test & Report By:

Garman Mo

Engineer: Garman Mo

Date: Feb.08,2017

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

Fax: 8620-32290422

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

1.1 Product Information:

Organization Name	LIGHT EFFICIENT DESIGN	
Brand Name	N/A	
Model Number	LED-8033E57C-A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaires	
Rated Voltage / Frequency	277-347Vac, 50/60 Hz	
Nominal Power	35W	
Rated Initial Lamp Lumen	--	
Declared CCT	5700K	
LED Manufacturer	Samsung	
LED Model	LM561B	
Sample Number	GZE161214-E1	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Photo

1.2 Test Specifications:

Date of Receipt	Jan 16,2017
Date of Test	Jan 17,2017
Test item	<ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
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 277 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° vertical intervals and 22.5° 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 277 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 277 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.

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

Fax: 8620-32290422

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

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

Test date	2017-01-17	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED-8033E57C-A		

Electrical Measurement :

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
GZE161214-	277.0	60	0.1402	36.80	0.9476
E1	347.0	60	0.1141	36.79	0.9292

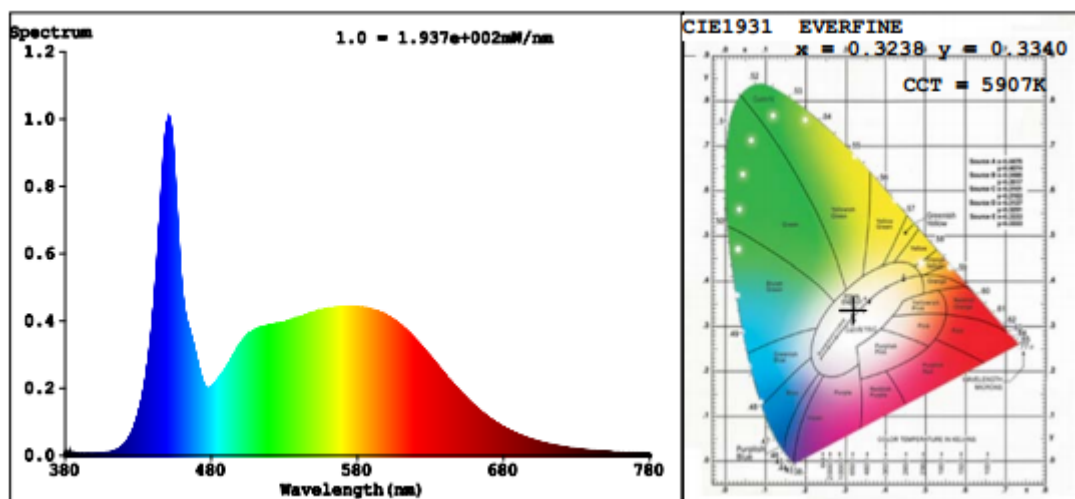
Chromaticity Measurement - Sphere-Spectroradiometer Method :

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	277.0	R1	84	R9	17
Frequency (Hz)	60	R2	90	R10	75
CCT (K)	5907	R3	92	R11	86
Duv	0.0003	R4	86	R12	63
Chromaticity (x, y)	x=0.3238 y=0.3340	R5	85	R13	86
Chromaticity (u', v')	u'=0.2036 v'=0.4726	R6	85	R14	96
Color Rendering Index (CRI)	85.3	R7	88	R15	80
R9	17	R8	72	--	--

Photometric Measurement – Goniophotometer Method :

Parameter	Result	
Test Voltage (V)	277.0	347.0
Frequency (Hz)	60	60
Total Luminous (lm)	5537.5	5450.8
Luminous Efficacy (lm/W)	150.48	148.16
Beam Angle (°)	282.0	--
Center Beam Candle Power (cd)	225	--

Spectral Power Distribution & Chromaticity Diagram

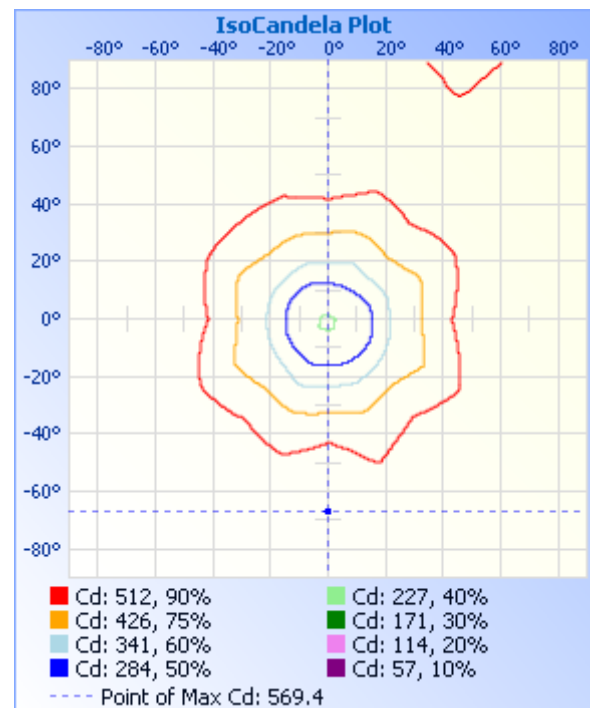
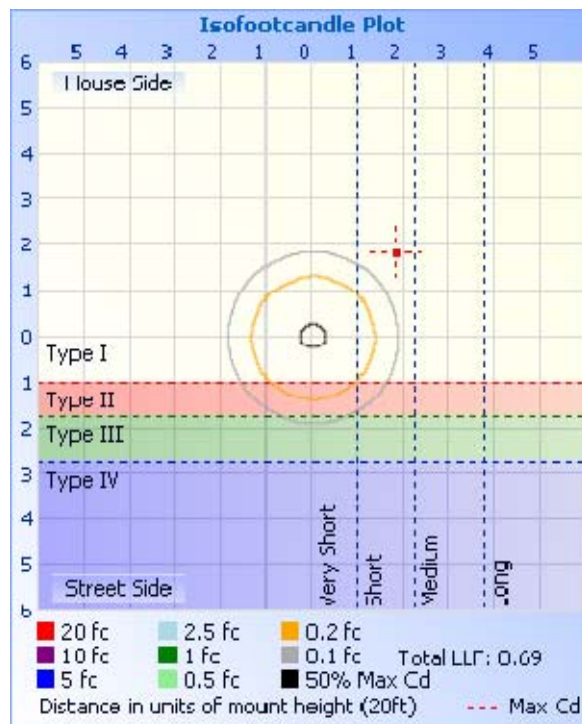
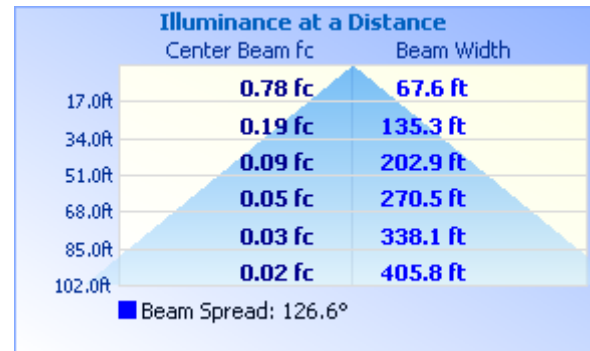
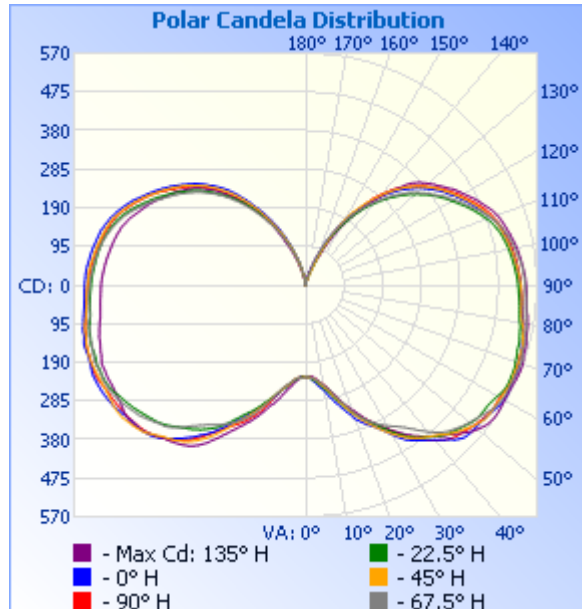


Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	276.4	5%
0-40	557.5	10.1%
0-60	1,438.0	26%
60-90	1,716.2	31%
70-100	1,737.8	31.4%
90-120	1,561.0	28.2%
0-90	3,154.1	57%
90-180	2,383.7	43%
0-180	5,537.9	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	22.8	0.4%	90-100	571.9	10.3%
10-20	82.5	1.5%	100-110	532.7	9.6%
20-30	171.1	3.1%	110-120	456.4	8.2%
30-40	281.1	5.1%	120-130	359.1	6.5%
40-50	393.9	7.1%	130-140	253.3	4.6%
50-60	486.6	8.8%	140-150	143.3	2.6%
60-70	550.3	9.9%	150-160	55.9	1%
70-80	581.5	10.5%	160-170	10.7	0.2%
80-90	584.4	10.6%	170-180	0.5	0%

Photometric Data



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

Fax: 8620-32290422

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

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	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
1	225	225	225	226	225	224	224	225	224	225	226	227	226	225	225	226	225
2	227	227	227	226	226	225	224	225	225	226	227	229	227	227	226	228	227
3	230	230	228	227	226	226	225	226	226	228	228	230	229	228	228	230	230
4	234	232	229	229	228	226	227	228	227	229	228	230	229	229	231	233	234
5	238	234	231	231	230	228	228	230	230	230	229	230	230	232	235	237	238
6	242	238	235	234	232	231	232	233	233	233	230	232	233	235	238	242	242
7	248	242	238	236	236	233	236	236	237	237	236	235	237	239	244	247	248
8	253	246	243	239	240	236	239	240	242	241	240	238	240	244	251	253	253
9	258	252	248	244	243	240	245	244	247	245	245	243	245	248	255	259	258
10	263	258	253	249	248	244	250	248	251	249	250	247	249	253	263	264	263
11	271	262	259	254	253	251	254	253	255	256	254	251	253	258	270	271	271
12	279	270	264	260	258	258	260	259	261	260	260	256	260	263	276	278	279
13	286	276	272	265	267	263	266	262	266	266	265	262	265	271	286	288	286
14	295	284	280	273	274	272	272	269	274	272	271	269	274	280	293	296	295
15	302	292	287	284	283	281	280	276	280	276	278	276	283	287	301	302	302
16	311	298	298	291	293	288	290	280	287	284	285	286	291	295	307	310	311
17	318	307	306	301	300	297	298	287	295	290	294	295	303	303	314	317	318
18	328	316	316	307	310	305	307	294	301	298	304	305	312	314	325	325	328
19	336	326	324	316	317	314	314	302	311	305	312	313	324	321	333	330	336
20	347	333	335	326	327	325	323	308	318	313	320	323	333	330	343	335	347
21	355	341	343	337	335	334	330	313	326	321	327	332	343	337	351	338	355
22	362	347	353	346	345	343	340	320	333	329	337	342	349	345	361	344	362
23	369	355	361	355	353	354	349	326	342	337	345	351	358	355	367	349	369
24	374	363	371	361	361	361	359	334	350	343	355	357	366	362	377	356	374
25	381	370	378	370	368	369	368	340	359	351	362	365	372	370	384	362	381
26	387	379	388	375	377	374	375	349	367	357	372	371	380	376	394	370	387
27	396	386	395	382	385	380	384	357	375	367	381	378	386	383	402	378	396
28	403	396	405	388	394	386	392	368	385	375	392	383	394	389	413	388	403

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

Fax: 8620-32290422

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

29	414	404	412	393	401	391	402	379	394	386	405	389	400	395	423	397	414
30	423	415	421	399	410	397	409	388	405	395	415	394	409	401	435	407	423
31	434	423	430	404	419	402	418	399	414	403	428	400	419	407	445	416	434
32	443	433	437	410	430	407	425	408	425	413	437	405	427	412	457	426	443
33	453	440	445	415	438	411	435	418	433	420	448	409	437	417	466	435	453
34	460	450	452	421	450	416	443	425	443	427	457	415	446	422	475	441	460
35	466	456	459	427	458	421	450	434	450	432	467	419	457	427	482	448	466
36	471	464	464	436	468	427	459	439	459	439	474	426	466	432	488	453	471
37	478	469	471	444	476	434	465	446	469	444	481	431	476	439	493	458	478
38	483	475	475	453	485	440	473	452	476	449	488	439	483	445	498	462	483
39	490	480	480	462	491	448	479	456	485	455	492	446	491	453	501	468	490
40	496	486	484	471	499	454	486	462	491	459	498	454	496	460	505	472	496
41	503	492	490	479	505	462	491	467	500	464	502	463	503	468	508	479	503
42	512	498	495	488	512	468	498	473	506	469	507	470	509	474	511	485	512
43	519	503	502	494	517	475	505	479	515	475	510	478	514	483	514	493	519
44	528	508	508	501	522	481	511	485	521	481	516	485	520	490	518	499	528
45	535	510	515	505	525	488	518	490	527	487	522	491	524	494	524	502	535
46	540	514	519	510	528	495	524	495	531	491	527	494	528	500	528	506	540
47	543	518	524	514	529	500	533	501	535	495	534	497	531	505	532	512	543
48	544	521	528	519	532	506	539	507	538	499	538	502	535	511	536	517	544
49	545	524	534	522	535	510	547	512	540	501	542	506	537	516	540	520	545
50	546	528	539	526	539	515	551	516	541	505	545	511	538	521	542	524	546
51	547	531	543	530	541	520	557	521	542	508	548	515	540	524	545	527	547
52	548	534	547	533	544	524	561	525	544	511	550	520	542	527	547	532	548
53	549	536	550	536	546	527	564	530	546	515	553	523	544	529	547	535	549
54	550	536	552	541	549	529	567	535	547	518	556	526	545	530	547	537	550
55	552	537	553	545	550	531	568	539	551	522	557	529	546	531	546	538	552
56	555	537	554	550	552	532	568	541	553	524	558	532	547	532	543	539	555
57	558	538	554	554	553	534	568	542	556	528	559	536	548	533	542	540	558
58	561	540	553	557	553	537	567	542	559	530	558	539	550	535	539	542	561
59	563	543	554	559	552	541	566	543	561	533	558	541	551	536	539	544	563
60	564	546	555	560	553	545	565	544	563	536	557	544	553	537	538	545	564

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

Fax: 8620-32290422

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

61	565	549	556	561	554	549	564	545	564	540	556	546	553	539	538	545	565
62	564	552	557	561	555	553	565	547	565	543	556	548	554	540	537	545	564
63	564	554	558	561	557	555	565	548	566	545	556	549	556	541	537	545	564
64	563	554	559	561	558	558	566	549	567	547	556	550	558	542	538	546	563
65	562	555	559	561	560	559	567	550	568	548	557	550	560	543	538	548	562
66	562	554	559	562	562	559	568	552	568	548	557	550	562	543	538	547	562
67	563	554	558	562	562	559	569	553	569	548	558	550	562	542	537	546	563
68	563	553	558	563	560	560	569	555	568	548	559	550	563	542	538	545	563
69	561	553	558	564	558	559	569	556	566	550	560	552	563	540	538	545	561
70	560	550	559	564	558	558	569	556	565	550	562	552	562	539	535	545	560
71	558	549	558	565	557	556	568	555	563	547	562	552	561	539	532	544	558
72	558	548	556	561	556	555	565	554	563	547	561	550	560	537	531	544	558
73	557	545	555	559	556	554	563	553	564	547	561	548	562	533	528	542	557
74	555	545	556	558	556	553	564	554	565	549	560	547	560	533	526	541	555
75	552	545	553	560	555	553	562	551	565	548	559	546	559	533	525	538	552
76	550	543	551	558	553	552	561	549	563	546	558	548	557	531	524	537	550
77	550	541	549	556	550	552	559	548	560	545	556	548	555	530	521	536	550
78	548	540	549	554	547	551	558	546	560	544	555	545	553	529	519	532	548
79	546	539	546	554	546	550	557	545	560	543	554	543	554	526	517	532	546
80	545	536	542	553	545	548	556	543	556	540	552	544	551	525	515	530	545
81	541	533	539	550	542	548	553	542	555	538	549	540	548	524	512	528	541
82	539	532	537	549	539	547	552	540	553	536	546	537	547	523	511	527	539
83	537	531	536	548	537	546	549	539	551	535	545	537	545	522	509	527	537
84	536	530	535	546	535	546	547	538	549	534	543	536	543	522	508	526	536
85	535	529	535	545	534	545	546	537	548	533	542	536	542	521	508	525	535
86	534	528	534	544	534	545	546	537	547	532	541	536	542	520	507	524	534
87	533	526	533	543	533	544	545	536	546	532	541	535	540	519	506	523	533
88	532	525	532	542	532	543	545	535	546	531	540	534	539	518	505	521	532
89	531	524	531	541	531	542	544	534	545	530	539	533	538	517	504	520	531
90	530	523	530	541	530	541	543	534	544	529	538	532	536	515	504	519	530
91	528	522	529	540	529	541	542	533	544	528	537	531	535	514	503	518	528
92	527	521	527	539	528	539	541	532	543	527	536	529	534	513	502	516	527

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

Fax: 8620-32290422

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

93	525	520	526	538	527	539	540	531	543	526	535	528	533	511	500	515	525
94	524	518	524	537	525	537	538	530	542	524	535	527	532	510	499	514	524
95	522	517	522	535	524	536	537	528	540	523	533	525	530	509	498	513	522
96	521	515	521	533	523	533	535	527	538	521	531	523	528	508	496	511	521
97	520	513	519	531	522	531	533	526	536	520	529	522	526	506	495	509	520
98	518	512	518	528	520	529	531	524	535	519	527	520	524	504	494	508	518
99	516	510	516	526	519	527	530	523	533	517	525	518	523	502	491	506	516
100	514	508	514	524	517	525	528	521	532	516	524	516	521	500	490	504	514
101	513	506	512	522	515	523	526	519	529	514	522	514	520	498	488	502	513
102	511	504	510	519	513	521	524	517	527	512	519	512	517	496	486	499	511
103	509	502	508	516	511	518	521	515	526	510	517	508	515	494	485	497	509
104	506	499	505	513	509	515	519	513	524	507	515	505	513	491	483	494	506
105	503	497	503	509	506	512	516	510	522	504	513	502	511	487	481	491	503
106	501	493	500	506	504	509	514	508	518	502	511	499	508	485	478	488	501
107	498	489	498	501	502	505	511	505	515	499	508	495	505	481	476	483	498
108	495	485	496	497	498	500	509	502	512	495	505	490	502	477	473	480	495
109	491	481	491	492	495	496	506	498	508	492	502	487	499	472	469	474	491
110	485	476	488	485	491	491	503	495	504	487	498	482	496	467	466	470	485
111	481	470	483	480	488	486	498	489	499	482	492	477	491	462	462	464	481
112	475	464	477	473	484	480	494	484	494	476	488	471	486	457	457	458	475
113	470	458	474	467	480	475	488	478	490	471	483	465	480	452	452	453	470
114	465	453	469	459	474	468	483	472	485	464	478	459	476	446	448	447	465
115	459	446	464	453	468	462	478	465	479	459	472	453	470	441	443	442	459
116	455	441	458	446	463	455	473	459	474	452	467	446	465	435	440	435	455
117	449	434	452	439	457	450	467	452	467	446	461	440	459	429	436	430	449
118	444	427	448	434	452	443	461	447	461	439	456	434	454	425	430	424	444
119	437	421	441	428	446	436	455	440	454	434	449	429	448	419	426	418	437
120	432	415	437	421	441	431	449	435	449	427	444	421	442	414	420	412	432
121	427	409	431	414	436	423	444	428	443	421	437	413	436	407	416	406	427
122	420	403	426	409	429	417	439	422	437	414	430	407	430	400	410	402	420
123	415	396	420	402	424	410	434	414	431	408	426	400	423	395	405	395	415
124	410	391	414	394	417	404	425	407	425	403	418	395	416	387	401	388	410

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

Fax: 8620-32290422

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

125	404	384	409	388	412	396	420	401	418	395	413	388	410	382	396	382	404
126	398	378	403	381	405	390	413	395	413	389	406	382	402	375	392	375	398
127	391	370	397	375	398	382	407	389	406	381	401	374	396	370	385	370	391
128	385	362	390	368	392	376	402	382	399	376	394	369	389	363	380	364	385
129	377	356	385	361	385	368	396	375	393	369	388	362	384	355	375	358	377
130	372	347	377	355	379	361	390	367	385	363	381	356	376	348	369	350	372
131	364	341	369	347	372	352	383	360	380	355	374	348	370	340	364	342	364
132	355	332	363	339	364	345	377	351	373	348	365	341	362	333	356	336	355
133	348	325	354	330	356	333	369	344	367	339	359	333	355	323	350	327	348
134	339	316	347	321	347	323	361	336	358	331	351	325	345	314	341	320	339
135	331	306	338	313	340	312	349	328	351	322	344	318	338	306	332	310	331
136	322	299	328	304	331	300	334	319	342	313	335	309	329	296	325	299	322
137	311	289	319	296	324	291	322	311	335	305	326	302	321	289	315	291	311
138	303	281	308	286	313	277	309	302	326	296	319	292	310	279	306	281	303
139	292	271	300	276	302	268	296	294	318	289	308	283	299	270	295	272	292
140	283	262	289	267	292	254	283	283	309	279	300	273	290	262	284	262	283
141	271	253	277	257	281	242	268	273	300	271	289	264	279	252	275	251	271
142	261	243	267	249	270	226	253	264	288	262	281	254	270	244	263	243	261
143	249	234	256	239	256	215	241	253	278	254	270	245	259	234	254	233	249
144	237	222	246	229	241	199	227	244	266	243	261	234	249	223	243	224	237
145	228	213	235	221	228	183	215	234	257	235	248	226	238	215	231	214	228
146	217	202	223	210	213	172	201	225	245	224	238	215	230	204	222	203	217
147	205	190	214	201	201	155	191	214	232	214	226	204	219	196	211	194	205
148	196	180	202	190	187	144	175	206	223	205	217	196	209	185	203	183	196
149	185	167	189	178	174	130	164	196	212	194	205	185	200	174	192	172	185
150	177	155	174	169	164	116	149	187	203	184	194	177	189	166	179	164	177
151	164	147	158	158	152	105	136	176	191	173	184	167	179	155	169	154	164
152	150	136	149	147	143	94	121	166	182	165	173	159	168	145	155	146	150
153	139	126	131	139	131	83	108	155	171	154	164	149	160	136	143	136	139
154	124	112	114	128	119	74	94	144	162	146	153	141	148	126	132	124	124
155	114	98	100	119	109	65	82	135	150	136	143	130	135	117	119	114	114
156	102	86	84	106	97	57	72	124	139	129	131	119	126	107	110	104	102

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 Fax: 8620-32290422 <http://www.standard-tech.com>

157	91	71	71	93	86	49	64	116	128	118	122	110	114	97	101	93	91
158	81	55	55	84	78	39	59	106	116	108	110	99	105	90	91	85	81
159	72	47	41	73	68	35	51	97	106	100	99	92	95	81	82	78	72
160	62	38	31	64	62	30	47	87	95	90	91	83	88	72	73	72	62
161	53	31	24	52	53	25	42	77	87	83	81	76	78	66	65	63	53
162	45	24	19	39	44	18	37	70	77	73	72	67	67	57	55	52	45
163	40	19	17	31	36	13	33	62	69	65	63	58	60	49	47	45	40
164	35	19	15	23	28	11	28	55	60	57	56	51	51	41	41	37	35
165	30	20	13	15	21	9	25	47	50	50	48	43	43	35	34	33	30
166	25	18	10	10	14	9	21	41	44	43	40	38	37	30	27	26	25
167	20	14	8	6	9	8	17	33	36	36	33	32	31	23	22	20	20
168	16	13	6	3	6	6	15	27	31	30	28	25	26	20	18	17	16
169	12	10	3	2	3	6	12	23	25	25	23	21	20	15	14	13	12
170	9	6	2	2	2	4	10	16	19	19	18	17	16	11	11	10	9
171	7	4	2	2	2	4	9	13	16	15	14	12	12	8	7	7	7
172	5	3	2	2	2	3	7	10	12	12	11	10	8	5	4	5	5
173	3	2	1	1	1	2	6	7	9	9	8	7	5	3	3	3	3
174	2	2	1	1	1	2	3	5	6	7	6	5	3	2	2	2	2
175	2	1	1	1	1	2	2	4	4	5	4	3	3	2	1	2	2
176	1	1	1	1	1	1	2	3	3	3	3	2	2	1	1	1	1
177	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1
178	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
179	1	1	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

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 *******