



Report No.: GZE150818-L2

NVLAP LAB CODE 201011-0

LM-79-08 Test Report

For

Premium Quality Lighting, Inc.

(Brand Name: Superior Life®)

2285 Ward Avenue
Simi Valley, CA 93065

Retrofit Kits for Outdoor Pole/Arm-mounted Area and Roadway Luminaires

Model name(s): 83410

Representative (Tested) Model: 83410

Model Different: N/A

Test & Report By:

Peeta Cao

Engineer: Peeta Cao

Date: Sep.09,2015

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: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320

Fax: 8620-32290422

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

U.S. Department of Energy

Lighting Facts™ Uniform LM-79 Reporting Template
Laboratory Information:

Name of Test Laboratory	Standard-Tech Co., Ltd.
Date of Test Report	Sep.09,2015
Test Report No.	GZE150818-L2
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	Premium Quality Lighting	
Brand Name	Superior Life®	
Model Number	83410	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Retrofit Kits for Outdoor Pole/Arm-mounted Area and Roadway Luminaires	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

Integrating Sphere
Goniophotometer
Electrical Measurements:
Output
Output

Input Wattage	--	150.4	W
Input Current	--	0.4408	A
Input Voltage (ac)	--	347.0	V
Power Factor	--	0.9832	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	19952	lm
Initial Lumen Efficacy	--	132.63	lm/w
Correlated color temperature / CCT	4940	--	K
Color rendering index / CRI	75.1	--	
R9 Value	0	--	
Duv	0.0041	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)		7088	cd
Beam angle (if applicable)		114.0	°
Zonal lumens in the 0°-60° zone		81.9	%
Zonal lumens in the 60°-90° zone	----	17.9	%
Zonal lumens in the 90°-120° zone		0.1	%
Zonal lumens in the 120°-180° zone		0.1	%

Laboratory: Standard-Tech Co. Ltd Testing Center
NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

 Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

Test Specifications:	
Date of Receipt	: Aug.08,2015
Date of Test	: Aug.15,2015
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
Reference Standard	IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources CIE 15-2004 Technical Report Colorimetry IESNA LM-16-93 Practical Guide to Colorimetry of Light Source IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

Test Methods

1. Photometric and Electrical measurements – Light Distribution Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, 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 347 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. Photometric and Electrical Measurements – Integrating Sphere Method:

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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 347 Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at least 5 nm intervals over the range of 380 to 780 nm.

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

1. Product Information:

Brand Name	Superior Life®
Model Number	83410
Luminaire Type	Retrofit Kits for Outdoor Pole/Arm-mounted Area and Roadway Luminaires
Rated Voltage / Frequency	347~ 480V, 50/60 Hz
Nominal Power	150W
Rated Initial Lamp Lumen	--
Declared CCT	5000K
LED Manufacturer	Nichia Corporation
LED Model	NF2L757DR (Nominal CCT: 2700 K)
Sample Receipt Date	Aug.08,2015
Sample Number	GZE150818-L21(5000K)

Photo



2.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
--	-----------------------

Test date	2015-08-15	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	83410		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE150818	347.0	60	0.4408	150.4	0.9832	8.35
-L21	480.0	60	0.3378	149.6	0.9226	11.45

Sphere-Spectroradiometer Method in GE M250R2 Roadway Lamp:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	347.0	R1	72	R9	0
Frequency (Hz)	60	R2	81	R10	52
Color Rendering Index (CRI)	75.1	R3	85	R11	69
R9	0	R4	74	R12	39
CCT (K)	4940	R5	72	R13	74
Chromaticity (x, y)	x=0.3477 y=0.3620	R6	72	R14	92
Chromaticity (u', v')	u'=0.2092 v'=0.4901	R7	85	R15	67
Duv	0.0041	R8	60	--	--

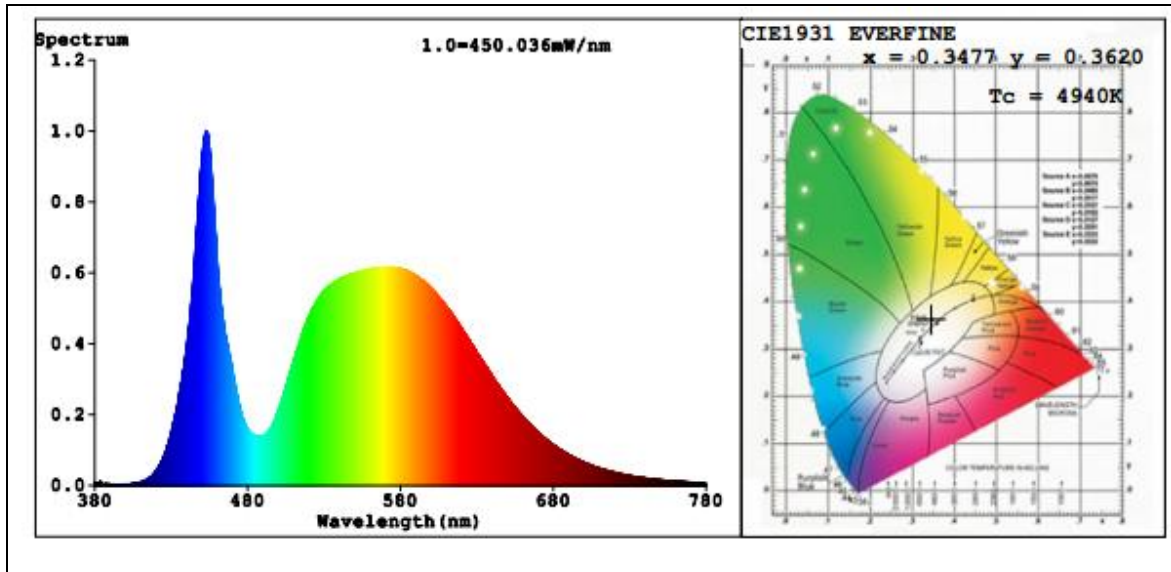
Goniophotometer Method in GE M250R2 Roadway Lamp:

Parameter	Result
Test Voltage (V)	347.0
Frequency (Hz)	60
Total Luminous (lm)	19952
Luminous Efficacy (lm/W)	132.63
Beam Angle °	114.0
Center Beam Candle Power (cd)	7088

Goniophotometer Method in GE M250R2 Roadway Lamp:

Parameter	Result
Test Voltage (V)	480.0
Frequency (Hz)	60
Total Luminous (lm)	19964
Luminous Efficacy (lm/W)	133.45

Spectral Power Distribution & Chromaticity Diagram



Laboratory: Standard-Tech Co. Ltd Testing Center
NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	5,559.1	27.9%
0-40	9,170.5	46%
0-60	16,332.7	81.9%
60-90	3,572.0	17.9%
70-100	1,159.5	5.8%
90-120	12.0	0.1%
0-90	19,904.7	99.8%
90-180	44.7	0.2%
0-180	19,949.4	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	671.3	3.4%	90-100	2.1	0%
10-20	1,931.5	9.7%	100-110	4.3	0%
20-30	2,956.4	14.8%	110-120	5.7	0%
30-40	3,611.4	18.1%	120-130	6.9	0%
40-50	3,779.7	18.9%	130-140	7.5	0%
50-60	3,382.5	17.0%	140-150	7.0	0%
60-70	2,414.6	12.1%	150-160	6.0	0%
70-80	1,062.3	5.3%	160-170	3.9	0%
80-90	95.2	0.5%	170-180	1.5	0%

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

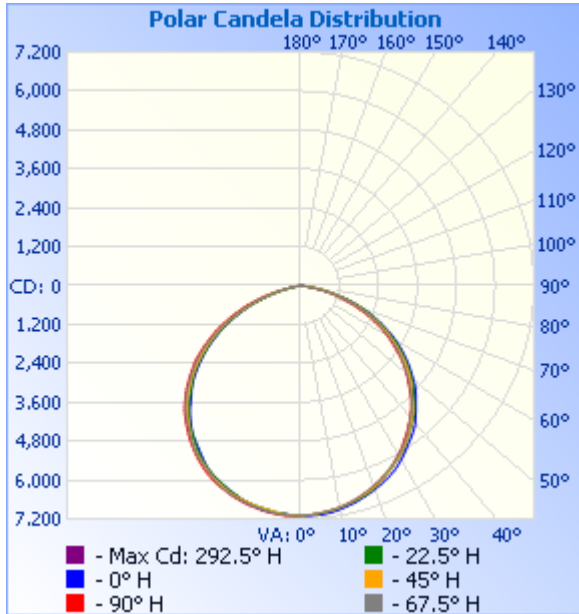
Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320

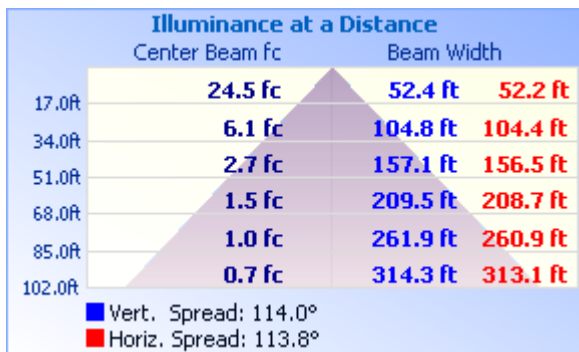
Fax: 8620-32290422

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

Photometric Data



Illuminance Plots



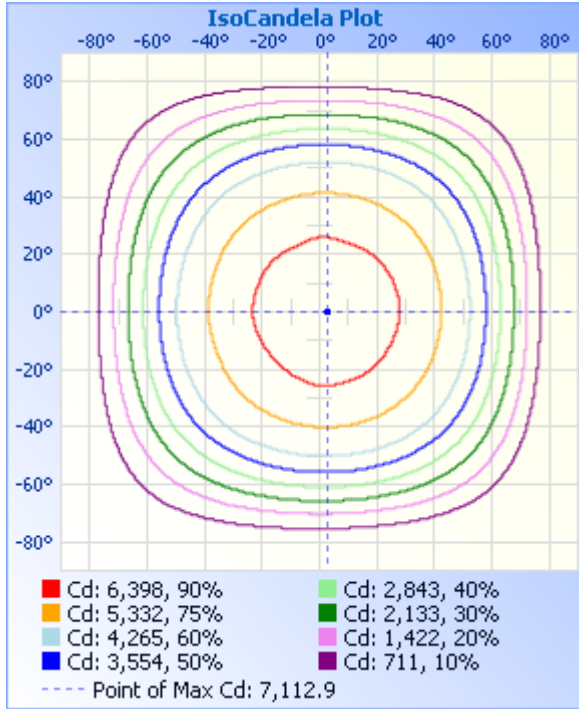
Laboratory: Standard-Tech Co. Ltd Testing Center
 NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

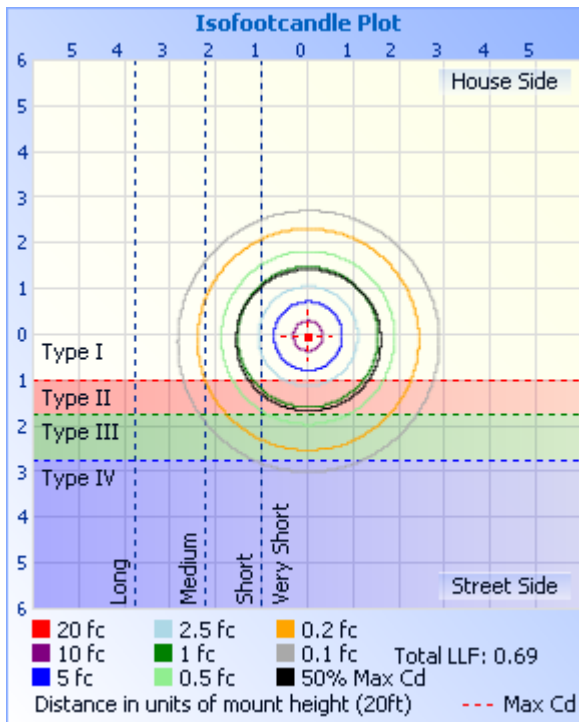
Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

ISOCANDELA DIAGRAM



ISOLUX DIAGRAM



Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, 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	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088	7088
1	7091	7082	7082	7083	7078	7082	7083	7085	7082	7091	7092	7096	7096	7095	7093	7093	7091
2	7099	7077	7075	7077	7073	7075	7076	7082	7077	7089	7090	7098	7105	7101	7095	7089	7099
3	7100	7071	7068	7065	7068	7070	7067	7076	7068	7078	7082	7097	7112	7109	7098	7087	7100
4	7097	7065	7053	7052	7056	7059	7056	7070	7058	7059	7072	7095	7107	7113	7099	7082	7097
5	7094	7054	7036	7036	7041	7042	7041	7059	7052	7043	7058	7087	7098	7107	7092	7075	7094
6	7084	7035	7022	7018	7028	7025	7022	7042	7048	7030	7036	7070	7084	7091	7082	7064	7084
7	7070	7018	7013	7001	7011	7001	7005	7024	7043	7010	7012	7056	7072	7072	7068	7046	7070
8	7053	6999	7000	6981	6997	6977	6985	7010	7034	6987	6994	7042	7059	7051	7046	7025	7053
9	7033	6980	6979	6962	6972	6958	6963	6989	7016	6968	6975	7024	7044	7034	7022	7002	7033
10	7008	6962	6954	6941	6942	6930	6942	6966	7002	6952	6958	7005	7023	7016	7006	6985	7008
11	6981	6935	6925	6916	6911	6904	6914	6939	6978	6937	6939	6980	6999	6998	6988	6969	6981
12	6953	6910	6895	6891	6881	6877	6881	6913	6948	6917	6920	6956	6982	6982	6966	6951	6953
13	6924	6883	6868	6858	6853	6844	6844	6886	6914	6894	6894	6935	6964	6960	6941	6937	6924
14	6902	6856	6838	6825	6819	6803	6807	6859	6884	6869	6870	6909	6937	6942	6915	6924	6902
15	6869	6828	6811	6790	6786	6751	6770	6829	6847	6843	6845	6882	6907	6919	6888	6901	6869
16	6833	6802	6777	6744	6749	6700	6732	6794	6810	6804	6816	6855	6876	6889	6864	6873	6833
17	6795	6769	6742	6701	6714	6652	6693	6747	6766	6760	6791	6825	6849	6857	6834	6840	6795
18	6761	6736	6705	6655	6676	6607	6649	6699	6725	6725	6768	6803	6818	6820	6803	6805	6761
19	6725	6698	6668	6609	6633	6564	6597	6642	6683	6688	6734	6774	6782	6782	6769	6762	6725
20	6688	6652	6627	6565	6584	6517	6537	6585	6640	6649	6693	6736	6744	6742	6733	6712	6688
21	6652	6600	6586	6523	6535	6472	6480	6528	6599	6599	6649	6697	6709	6699	6688	6662	6652
22	6615	6542	6538	6481	6485	6425	6427	6473	6556	6553	6600	6652	6674	6651	6637	6611	6615
23	6568	6485	6478	6432	6437	6387	6371	6422	6512	6514	6557	6603	6634	6600	6587	6556	6568
24	6529	6429	6421	6380	6391	6340	6320	6381	6466	6473	6511	6543	6590	6559	6542	6505	6529
25	6485	6371	6363	6324	6339	6300	6277	6338	6422	6426	6459	6486	6539	6514	6492	6453	6485
26	6437	6312	6302	6270	6286	6253	6231	6290	6371	6375	6405	6432	6488	6473	6442	6400	6437
27	6386	6255	6242	6217	6224	6204	6180	6232	6313	6316	6346	6372	6438	6426	6386	6348	6386
28	6329	6198	6192	6156	6155	6148	6123	6163	6239	6251	6289	6312	6382	6371	6339	6301	6329

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

29	6266	6144	6141	6095	6087	6087	6065	6094	6162	6187	6234	6263	6317	6316	6291	6250	6266
30	6200	6094	6086	6029	6023	6017	6001	6028	6081	6124	6179	6206	6256	6258	6240	6194	6200
31	6135	6038	6024	5967	5956	5953	5936	5959	6010	6058	6126	6146	6190	6195	6178	6134	6135
32	6062	5970	5956	5898	5883	5880	5868	5881	5929	5982	6065	6078	6120	6131	6114	6070	6062
33	5989	5901	5894	5833	5805	5807	5795	5803	5861	5907	5995	6010	6043	6067	6048	6001	5989
34	5921	5832	5826	5763	5725	5718	5726	5722	5791	5829	5918	5935	5973	6003	5987	5940	5921
35	5853	5760	5749	5691	5653	5615	5652	5644	5728	5745	5835	5854	5902	5931	5917	5878	5853
36	5793	5683	5673	5615	5579	5508	5576	5575	5659	5665	5741	5768	5827	5852	5841	5816	5793
37	5727	5608	5595	5525	5496	5416	5490	5503	5575	5592	5651	5688	5749	5771	5764	5743	5727
38	5661	5537	5514	5434	5417	5335	5391	5423	5484	5516	5563	5600	5666	5687	5681	5665	5661
39	5589	5461	5430	5351	5343	5263	5287	5324	5390	5433	5473	5524	5583	5606	5595	5576	5589
40	5501	5392	5351	5272	5264	5189	5190	5227	5299	5340	5386	5451	5503	5528	5507	5486	5501
41	5402	5324	5269	5201	5179	5111	5102	5123	5202	5245	5300	5375	5422	5446	5424	5407	5402
42	5307	5245	5174	5119	5092	5027	5012	5023	5097	5151	5206	5281	5341	5358	5342	5330	5307
43	5216	5151	5072	5025	5001	4940	4919	4925	4983	5054	5112	5188	5251	5266	5258	5248	5216
44	5123	5050	4967	4930	4905	4848	4830	4822	4867	4949	5021	5095	5150	5173	5165	5150	5123
45	5036	4953	4862	4835	4802	4754	4740	4706	4764	4831	4920	5001	5048	5078	5073	5051	5036
46	4950	4850	4770	4735	4693	4647	4637	4595	4681	4711	4812	4906	4941	4988	4977	4950	4950
47	4859	4765	4682	4629	4581	4545	4522	4501	4586	4600	4691	4790	4838	4889	4876	4857	4859
48	4761	4674	4596	4526	4470	4442	4408	4418	4476	4506	4572	4668	4730	4792	4776	4766	4761
49	4660	4576	4508	4414	4372	4333	4305	4314	4361	4405	4461	4552	4616	4680	4679	4672	4660
50	4551	4476	4412	4300	4274	4216	4201	4196	4241	4303	4352	4436	4502	4557	4579	4571	4551
51	4437	4367	4307	4191	4167	4099	4089	4075	4118	4182	4235	4332	4384	4425	4464	4467	4437
52	4326	4260	4196	4083	4058	3971	3963	3951	3991	4046	4102	4215	4264	4303	4351	4358	4326
53	4219	4149	4091	3976	3946	3857	3838	3842	3868	3912	3972	4086	4153	4199	4237	4246	4219
54	4110	4038	3979	3870	3832	3748	3703	3704	3743	3772	3847	3955	4042	4095	4128	4136	4110
55	3990	3927	3859	3755	3705	3626	3569	3566	3607	3640	3711	3831	3920	3983	4009	4023	3990
56	3871	3803	3734	3647	3578	3503	3434	3429	3470	3509	3576	3695	3782	3844	3886	3890	3871
57	3755	3684	3613	3530	3450	3380	3306	3318	3334	3377	3440	3559	3648	3707	3762	3752	3755
58	3640	3584	3491	3409	3322	3233	3177	3189	3194	3253	3299	3423	3503	3587	3642	3639	3640
59	3522	3469	3369	3284	3206	3104	3039	3033	3046	3100	3158	3284	3351	3472	3515	3521	3522
60	3393	3342	3244	3145	3089	2983	2907	2883	2910	2947	3022	3133	3215	3343	3381	3400	3393

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

61	3263	3199	3124	3006	2958	2854	2786	2739	2772	2814	2886	2982	3090	3201	3229	3251	3263
62	3133	3058	3010	2871	2825	2726	2654	2595	2618	2668	2738	2842	2950	3051	3098	3125	3133
63	3000	2926	2874	2755	2681	2595	2514	2456	2475	2513	2582	2699	2795	2901	2968	2997	3000
64	2861	2804	2732	2632	2539	2450	2367	2308	2329	2349	2435	2539	2637	2758	2822	2864	2861
65	2726	2666	2610	2506	2417	2299	2222	2183	2180	2199	2284	2376	2495	2616	2679	2725	2726
66	2597	2526	2475	2359	2285	2169	2071	2030	2019	2057	2123	2227	2350	2466	2549	2590	2597
67	2454	2413	2323	2223	2133	2024	1942	1884	1872	1906	1957	2067	2189	2306	2397	2436	2454
68	2307	2283	2180	2096	1985	1877	1784	1736	1715	1739	1806	1913	2025	2158	2250	2303	2307
69	2166	2134	2051	1948	1853	1726	1642	1587	1560	1591	1657	1765	1885	2005	2099	2161	2166
70	2018	1979	1915	1814	1722	1591	1496	1429	1416	1423	1492	1607	1727	1859	1941	2014	2018
71	1877	1838	1780	1680	1573	1446	1360	1286	1262	1272	1353	1455	1569	1713	1798	1867	1877
72	1736	1697	1645	1546	1438	1313	1227	1152	1120	1133	1199	1298	1423	1568	1655	1719	1736
73	1595	1556	1512	1419	1310	1175	1081	1020	972	992	1056	1147	1262	1405	1512	1571	1595
74	1444	1436	1375	1274	1167	1045	956	881	846	856	906	978	1110	1254	1368	1426	1444
75	1271	1289	1241	1149	1046	919	831	754	709	721	755	814	934	1104	1225	1286	1271
76	1124	1150	1108	1013	913	791	703	626	570	584	611	655	774	964	1072	1118	1124
77	961	995	978	889	780	654	569	498	446	454	473	510	619	801	940	971	961
78	813	841	855	772	634	509	442	380	335	340	344	376	470	646	804	812	813
79	659	706	731	638	498	383	326	279	240	241	240	261	339	503	667	662	659
80	512	566	605	505	370	274	223	191	165	159	156	169	227	369	523	524	512
81	390	436	484	380	262	182	144	124	106	102	95	100	141	257	387	399	390
82	283	317	361	269	174	111	87	75	65	64	57	58	80	165	271	280	283
83	188	222	251	179	105	64	54	49	46	45	42	44	48	97	179	195	188
84	114	141	163	108	60	48	41	38	36	35	32	35	39	56	106	119	114
85	59	77	98	60	46	36	29	26	25	21	19	23	30	38	61	64	59
86	31	37	54	42	35	25	17	15	13	11	9	11	18	29	35	31	31
87	18	21	30	30	23	14	10	9	9	7	5	6	6	17	20	17	18
88	9	10	15	16	13	8	8	6	3	5	3	3	3	4	9	8	9
89	4	5	6	6	6	3	7	3	2	2	2	2	1	2	3	4	4
90	2	2	2	1	2	2	5	3	2	2	2	2	1	1	1	1	2
91	1	1	2	1	2	2	3	3	2	2	2	2	1	1	1	1	1
92	1	1	2	1	2	2	2	3	2	3	2	2	1	1	1	1	1

Laboratory: Standard-Tech Co. Ltd Testing Center
 NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

93	1	1	1	1	2	2	2	3	2	3	2	2	1	1	1	1	1
94	1	1	1	1	2	2	2	4	3	3	2	2	1	1	1	1	1
95	1	1	1	1	2	2	2	4	3	3	2	2	1	1	1	1	1
96	1	1	1	1	2	2	3	4	3	3	2	2	1	1	1	1	1
97	1	1	1	1	2	3	3	4	3	4	3	2	1	1	1	1	1
98	1	1	1	1	3	3	3	4	4	4	3	3	1	1	1	1	1
99	1	1	2	1	3	3	3	4	6	4	3	3	2	1	1	1	1
100	1	2	2	2	3	3	3	4	16	4	3	3	2	2	2	1	1
101	2	2	2	2	3	3	4	4	22	4	3	3	2	2	2	2	2
102	2	2	2	2	3	4	4	4	25	4	4	3	2	2	2	2	2
103	2	2	2	3	4	4	4	4	24	4	4	4	3	2	2	2	2
104	2	2	3	3	4	4	4	4	6	4	4	4	3	3	2	2	2
105	3	3	3	3	4	4	4	4	5	4	4	4	3	3	3	2	3
106	3	3	3	3	4	5	5	5	5	5	5	4	4	3	3	3	3
107	3	3	4	4	5	5	5	5	5	5	5	5	4	4	3	3	3
108	4	4	4	4	5	5	5	5	5	5	5	5	4	4	3	3	4
109	4	4	4	4	5	5	5	5	5	5	5	5	4	4	4	4	4
110	4	4	4	5	6	5	5	5	6	5	5	6	5	4	4	4	4
111	4	4	5	5	6	6	5	5	6	5	6	6	5	5	4	4	4
112	5	4	5	5	6	6	6	5	6	6	6	6	5	5	4	4	5
113	5	4	5	6	7	6	6	5	6	6	6	6	5	5	4	4	5
114	5	5	6	6	7	6	6	6	6	6	6	6	6	5	5	4	5
115	5	5	6	6	7	7	6	5	6	6	6	6	6	6	5	4	5
116	5	5	6	6	7	7	6	5	6	6	6	6	6	6	5	5	5
117	5	5	6	7	7	7	7	6	6	6	6	6	6	6	5	5	5
118	6	5	7	7	7	7	7	6	6	6	6	6	6	6	5	5	6
119	6	5	7	7	7	7	7	6	6	6	7	6	6	6	6	6	6
120	6	6	7	7	7	7	7	6	6	6	7	6	7	6	6	6	6
121	7	7	7	7	7	7	7	7	6	7	7	6	7	6	6	7	7
122	8	7	7	8	7	8	7	7	7	7	7	6	7	6	6	7	8
123	8	8	7	8	7	8	8	7	7	7	7	6	7	7	6	7	8
124	9	8	7	8	8	8	8	8	8	8	7	7	7	7	6	8	9

Laboratory: Standard-Tech Co. Ltd Testing Center
 NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

125	9	9	7	8	8	8	8	8	8	8	7	7	7	7	6	8	9
126	9	9	8	9	8	9	8	8	8	8	7	8	7	6	8	9	
127	9	9	8	9	8	9	8	8	8	8	8	8	8	6	8	9	
128	9	9	8	9	9	9	8	8	8	8	8	8	8	8	6	9	9
129	10	10	8	9	9	9	9	8	8	8	9	8	9	8	7	9	10
130	10	10	9	9	10	9	9	8	9	8	9	8	9	8	7	9	10
131	10	10	9	9	10	9	9	9	9	9	9	8	9	8	7	9	10
132	10	10	9	9	10	10	10	9	9	9	10	8	9	8	7	9	10
133	10	10	10	9	10	10	10	9	9	10	10	9	9	8	8	10	10
134	10	11	10	9	10	10	10	10	9	11	10	9	9	8	8	10	10
135	10	11	10	10	11	10	10	11	10	11	10	9	9	8	8	10	10
136	10	11	10	10	11	10	10	11	10	11	10	10	9	8	8	10	10
137	10	11	10	10	11	10	10	11	10	12	10	10	9	8	8	10	10
138	10	11	10	10	11	11	10	12	10	12	10	10	9	9	8	10	10
139	10	11	10	10	12	11	10	12	10	12	10	11	10	9	8	10	10
140	10	11	10	10	12	11	10	12	10	12	10	11	10	9	8	11	10
141	11	11	10	10	12	12	10	12	10	12	10	11	10	9	8	11	11
142	11	12	10	10	12	12	11	12	10	12	10	12	10	9	9	11	11
143	11	12	10	10	13	12	11	12	10	12	10	12	10	9	9	11	11
144	11	12	10	10	13	12	11	12	10	12	10	12	10	9	9	11	11
145	11	12	10	11	13	12	11	12	11	12	11	12	10	9	9	11	11
146	12	13	10	11	13	12	11	13	11	12	11	12	10	9	10	12	12
147	12	13	11	11	13	12	11	13	11	12	12	12	10	9	10	12	12
148	12	13	11	11	13	13	12	13	11	12	12	12	11	9	10	12	12
149	12	13	11	11	14	13	12	13	11	12	13	13	11	9	11	12	12
150	13	13	12	11	14	13	13	13	12	12	13	13	11	9	11	13	13
151	13	13	12	11	14	13	13	14	12	12	14	13	11	9	11	13	13
152	13	13	12	11	14	14	14	14	12	12	14	13	10	10	12	13	13
153	13	13	12	11	14	14	14	14	12	12	14	13	10	10	12	13	13
154	13	13	13	11	14	14	14	14	12	12	14	14	11	10	12	13	13
155	14	13	13	12	14	14	15	14	12	12	14	14	11	10	12	13	14
156	14	13	13	12	14	15	15	14	12	12	14	14	11	11	12	14	14

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4909-A/2

Address: 8th floor, Block B, No. 11 Caipin Road, Guangzhou Science City, Tianhe, Guangzhou 510663, China

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

157	14	13	13	12	14	15	15	14	12	12	14	14	11	11	12	14	14
158	14	13	13	12	14	15	15	14	12	12	14	14	12	11	13	14	14
159	14	13	13	12	14	15	15	14	13	12	14	14	12	11	13	14	14
160	14	14	13	12	14	15	15	14	13	12	14	14	12	11	13	14	14
161	14	14	13	12	14	15	14	14	13	12	14	14	13	11	13	14	14
162	14	14	13	12	14	15	15	14	13	12	14	15	13	11	13	14	14
163	14	14	13	12	14	15	14	14	13	12	14	15	13	11	13	14	14
164	14	14	13	12	15	15	14	14	13	12	14	15	13	11	13	14	14
165	14	14	13	12	15	14	14	14	13	12	14	15	13	11	14	14	14
166	14	14	13	12	15	14	14	14	13	13	14	15	13	12	14	14	14
167	14	15	14	13	15	14	14	14	13	13	14	16	14	12	14	14	14
168	14	15	15	13	15	15	14	15	14	13	15	16	14	13	14	15	14
169	14	15	15	13	15	15	15	15	14	14	15	16	14	13	14	15	14
170	15	16	15	13	15	15	15	15	15	15	16	16	14	13	15	15	15
171	15	16	15	14	16	16	15	15	15	15	16	16	14	13	15	16	15
172	15	16	16	14	16	16	15	15	16	15	16	16	14	14	15	16	15
173	15	16	16	14	17	17	15	16	16	15	16	16	14	14	15	16	15
174	16	16	16	14	17	17	15	16	16	15	16	17	15	14	15	16	16
175	16	16	16	15	17	17	15	16	16	15	17	17	15	15	16	16	16
176	16	16	17	15	17	17	15	16	16	16	17	17	15	15	16	16	16
177	16	16	17	15	17	17	15	16	16	16	16	17	15	15	15	16	16
178	16	16	17	15	17	17	15	15	16	16	16	17	15	15	15	15	16
179	16	16	16	15	17	17	15	15	15	16	16	17	16	15	15	15	16
180	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-336	2 meter Integrating Sphere	2015-07-01	2016-06-30
ST-R-331	Spectral analysis system HAAS-2000	2015-07-01	2016-06-30
D204	Standard Lamp	2015-07-01	2016-06-30
PF2010	Power Meter for Integrating Sphere	2015-07-01	2016-06-30
EE-09	Goniophotometer system	2015-07-01	2016-06-30
D908S	Standard Lamp	2015-07-01	2016-06-30
PF210	Power Meter for Goniophotometer	2015-07-01	2016-06-30
ST-R-181A	Temperature Tester	2015-07-01	2016-06-30
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K Photometric Measurement(Goniophotometer):1.62%			

******* END OF DATASHEET PACKAGE *******