



Report No.: GZE160347-P2

NVLAP LAB CODE 201011-0

LM-79-08 Test Report

For

LIGHT EFFICIENT DESIGN

(Brand Name:N/A)

188 S. Northwest Highway Cary, IL 60013

LED Lamp

Model name(s): LED-8090M50C-A

Representative (Tested) Model: LED-8090M50C-A

Model Different :N/A

Test & Report By:

Jack Luo

Engineer: Jack Luo

Date: May.09,2016

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>

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	May.09,2016
Test Report No.	GZE160347-P2
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	LIGHT EFFICIENT DESIGN		
Brand Name	N/A		
Model Number	LED-8090M50C-A		
SKU (if available)	N/A		
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Lamp		
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	--	119.6	W
Input Current	--	0.5607	A
Input Voltage (ac)	--	220.0	V
Power Factor	--	0.9695	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	12590	lm
Initial Lumen Efficacy	--	105.27	lm/w
Correlated color temperature / CCT	4956	--	K
Color rendering index / CRI	73.8	--	
R9 Value	0	--	
Duv	0.0012	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)		4462	cd
Beam angle (if applicable)		113.1	°
Zonal lumens in the 0°-60° zone		83.9	%
Zonal lumens in the 60°-90° zone	-----	15.9	%
Zonal lumens in the 90°-120° zone		0.1	%
Zonal lumens in the 120°-180° zone		0.1	%

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Test Specifications:	
Date of Receipt	: Apr.01,2016
Date of Test	: May.03,2016
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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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 220 Volts, 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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 220 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.

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1. Product Information:

Brand Name	N/A
Model Number	LED-8090M50C-A
Luminaire Type	LED Lamp
Rated Voltage / Frequency	220~347 Vac, 50/60Hz
Nominal Power	120W
Rated Initial Lamp Lumen	--
Declared CCT	5000K
LED Manufacturer	N/A
LED Model	N/A
Sample Receipt Date	Apr.01,2016
Sample Number	GZE160347-P2(5000K)

Photo



2.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2016-05-03	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED-8090M50C-A		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE160347	220.0	60	0.5607	119.6	0.9695	13.59
-P2	347.0	60	0.3786	119.7	0.9112	18.41

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	220.0
Frequency (Hz)	60
Color Rendering Index (CRI)	73.8
R9	0
CCT (K)	4956
Chromaticity (x, y)	x=0.3466 y=0.3552
Chromaticity (u', v')	u'=0.2110 v'=0.4867
Duv	0.0012

Special Color Rendering Indices			
R1	72	R9	0
R2	78	R10	45
R3	80	R11	71
R4	75	R12	43
R5	72	R13	73
R6	68	R14	89
R7	83	R15	68
R8	62	--	--

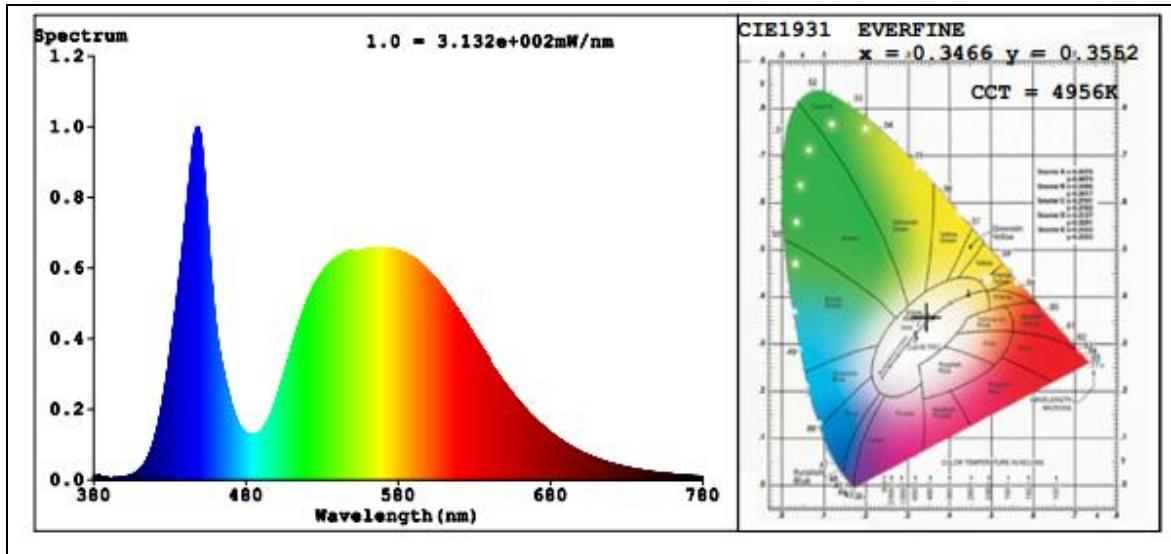
Goniophotometer Method :

Parameter	Result
Test Voltage (V)	220.0
Frequency (Hz)	60
Total Luminous (lm)	12590
Luminous Efficacy (lm/W)	105.27
Beam Angle°	113.1
Center Beam Candle Power (cd)	4462

Goniophotometer Methodn :

Parameter	Result
Test Voltage (V)	347.0
Frequency (Hz)	60
Total Luminous (lm)	12626
Luminous Efficacy (lm/W)	105.48

Spectral Power Distribution & Chromaticity Diagram



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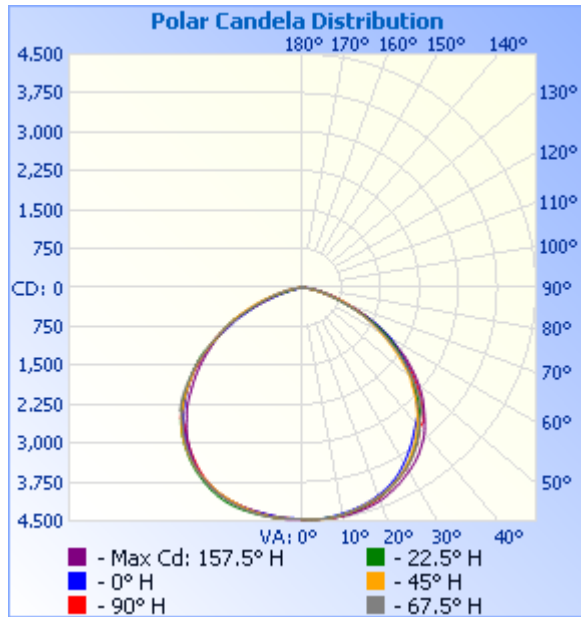
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Zonal Lumen Tabulation

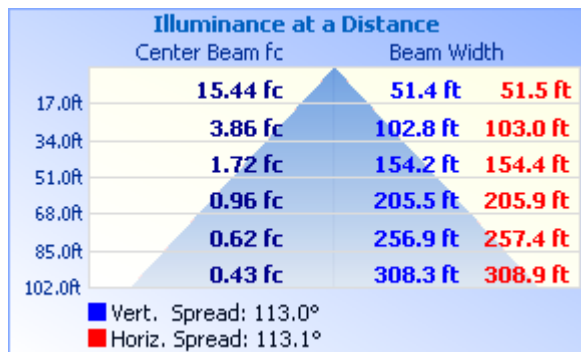
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	3,602.3	28.6%
0-40	5,980.2	47.5%
0-60	10,555.9	83.9%
60-90	2,004.4	15.9%
70-100	640.8	5.1%
90-120	6.7	0.1%
0-90	12,560.3	99.8%
90-180	28.4	0.2%
0-180	12,588.7	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	425.7	3.4%	90-100	1.1	0%
10-20	1,242.5	9.9%	100-110	2.3	0%
20-30	1,934.1	15.4%	110-120	3.3	0%
30-40	2,377.9	18.9%	120-130	4.7	0%
40-50	2,469.9	19.6%	130-140	5.2	0%
50-60	2,105.9	16.7%	140-150	4.9	0%
60-70	1,364.6	10.8%	150-160	3.8	0%
70-80	546.3	4.3%	160-170	2.3	0%
80-90	93.5	0.7%	170-180	0.9	0%

Photometric Data



Illuminance Plots



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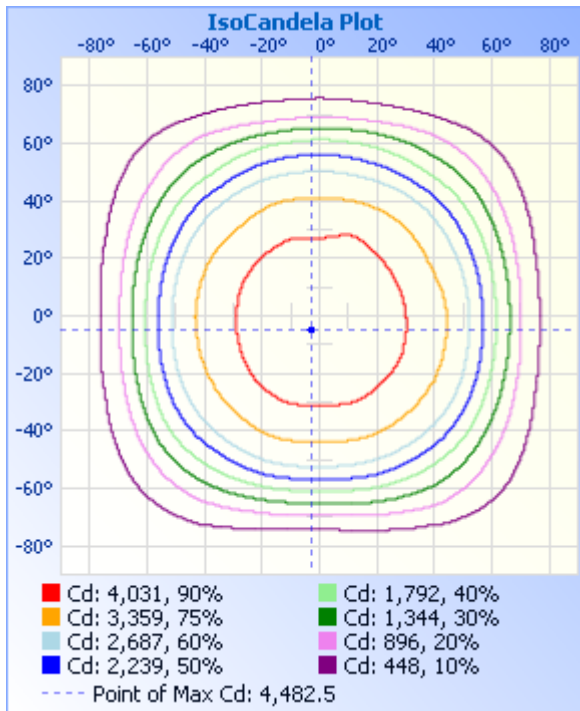
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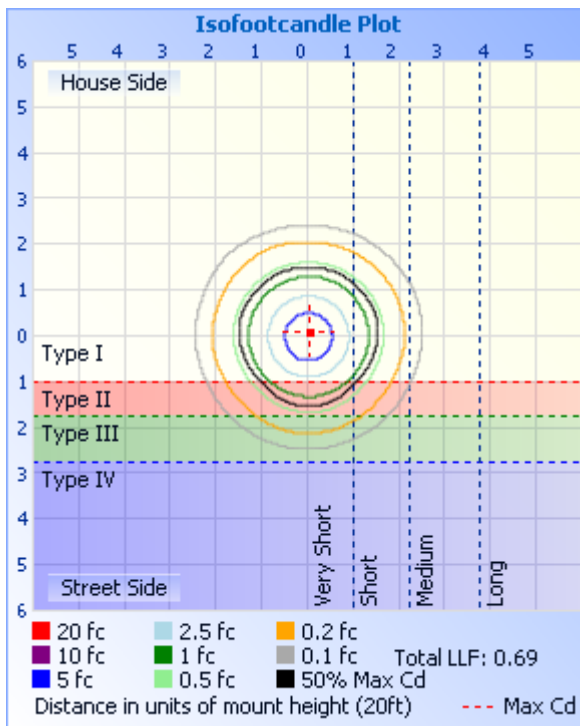
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ISOCANDELA DIAGRAM



ISOLUX DIAGRAM



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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	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462	4462
1	4468	4464	4465	4463	4463	4461	4460	4460	4456	4459	4458	4459	4459	4463	4461	4464	4468
2	4473	4469	4471	4468	4467	4461	4461	4462	4453	4456	4457	4459	4460	4466	4466	4466	4473
3	4475	4474	4476	4471	4469	4462	4465	4466	4451	4459	4458	4462	4460	4467	4469	4471	4475
4	4475	4472	4480	4474	4472	4461	4470	4471	4453	4463	4459	4465	4458	4469	4471	4472	4475
5	4471	4471	4481	4475	4473	4458	4473	4476	4451	4465	4462	4466	4455	4469	4471	4471	4471
6	4464	4469	4477	4474	4475	4455	4475	4482	4447	4466	4464	4465	4450	4465	4469	4467	4464
7	4456	4467	4473	4472	4473	4449	4477	4481	4438	4467	4462	4467	4442	4459	4463	4465	4456
8	4446	4461	4467	4464	4471	4446	4474	4478	4431	4463	4457	4464	4435	4454	4455	4458	4446
9	4436	4453	4458	4457	4468	4440	4469	4474	4425	4458	4450	4461	4429	4445	4445	4452	4436
10	4425	4444	4448	4446	4463	4434	4463	4471	4419	4456	4441	4457	4419	4437	4441	4446	4425
11	4413	4433	4435	4435	4454	4428	4456	4466	4412	4455	4432	4451	4412	4428	4431	4436	4413
12	4402	4423	4422	4419	4444	4422	4450	4460	4408	4450	4423	4442	4404	4416	4419	4425	4402
13	4388	4412	4406	4405	4432	4414	4443	4454	4401	4447	4412	4434	4397	4404	4407	4413	4388
14	4373	4400	4390	4393	4420	4406	4433	4446	4394	4440	4399	4424	4389	4392	4391	4403	4373
15	4359	4388	4374	4380	4406	4395	4423	4437	4384	4436	4387	4415	4380	4381	4375	4393	4359
16	4344	4373	4356	4366	4391	4383	4412	4429	4374	4427	4373	4403	4369	4367	4361	4380	4344
17	4325	4354	4339	4351	4377	4369	4399	4417	4363	4421	4356	4390	4357	4356	4345	4368	4325
18	4306	4338	4322	4334	4359	4355	4385	4405	4348	4411	4339	4372	4345	4340	4328	4354	4306
19	4285	4320	4305	4316	4338	4339	4372	4388	4334	4397	4324	4356	4332	4321	4310	4340	4285
20	4261	4301	4286	4296	4317	4319	4358	4371	4317	4381	4308	4335	4314	4302	4288	4327	4261
21	4236	4281	4265	4274	4292	4298	4341	4350	4300	4361	4291	4315	4297	4279	4265	4310	4236
22	4212	4260	4243	4249	4264	4275	4325	4327	4280	4338	4270	4294	4278	4256	4239	4290	4212
23	4185	4236	4220	4225	4239	4250	4304	4301	4256	4311	4246	4274	4253	4227	4211	4271	4185
24	4152	4207	4194	4199	4210	4226	4279	4276	4232	4289	4222	4252	4228	4200	4181	4250	4152
25	4119	4175	4164	4172	4177	4197	4252	4249	4204	4260	4198	4226	4197	4167	4149	4224	4119
26	4084	4140	4131	4142	4145	4165	4224	4221	4177	4229	4171	4197	4166	4132	4121	4193	4084
27	4046	4104	4097	4111	4113	4133	4191	4189	4150	4197	4146	4167	4132	4096	4089	4161	4046
28	4002	4067	4061	4078	4080	4100	4158	4157	4121	4162	4120	4135	4100	4062	4056	4129	4002

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29	3956	4032	4021	4043	4044	4066	4121	4125	4089	4127	4092	4099	4061	4025	4020	4093	3956
30	3908	3993	3977	4012	4006	4034	4081	4093	4054	4093	4062	4065	4022	3987	3984	4050	3908
31	3859	3953	3934	3973	3964	3998	4040	4061	4015	4052	4030	4027	3978	3946	3948	4005	3859
32	3810	3909	3889	3934	3920	3956	3998	4026	3975	4012	3992	3986	3931	3898	3907	3956	3810
33	3761	3863	3840	3891	3877	3912	3951	3991	3932	3970	3952	3944	3887	3847	3864	3902	3761
34	3712	3817	3792	3843	3832	3866	3903	3950	3886	3927	3911	3897	3840	3794	3821	3846	3712
35	3660	3770	3737	3793	3788	3818	3857	3907	3841	3880	3865	3848	3795	3736	3775	3793	3660
36	3607	3724	3684	3742	3740	3767	3804	3859	3796	3832	3820	3801	3746	3683	3726	3741	3607
37	3553	3670	3625	3689	3688	3717	3753	3810	3744	3782	3778	3751	3696	3629	3675	3684	3553
38	3500	3613	3566	3631	3631	3660	3701	3763	3691	3733	3731	3699	3643	3574	3618	3622	3500
39	3450	3553	3501	3571	3575	3601	3646	3711	3629	3680	3678	3645	3587	3514	3556	3555	3450
40	3404	3485	3437	3508	3519	3538	3583	3653	3566	3624	3623	3586	3533	3451	3491	3483	3404
41	3361	3425	3372	3445	3487	3474	3518	3588	3502	3566	3559	3526	3478	3387	3420	3409	3361
42	3320	3360	3305	3382	3481	3410	3450	3516	3437	3504	3492	3468	3463	3321	3348	3338	3320
43	3256	3313	3237	3343	3406	3359	3380	3445	3371	3436	3420	3409	3449	3254	3278	3276	3256
44	3184	3244	3169	3296	3334	3339	3314	3376	3305	3369	3349	3370	3374	3235	3205	3206	3184
45	3108	3170	3096	3224	3256	3269	3237	3307	3232	3297	3269	3341	3286	3207	3127	3128	3108
46	3039	3085	3018	3148	3177	3200	3160	3238	3158	3226	3188	3263	3203	3100	3045	3041	3039
47	2970	3000	2935	3071	3099	3130	3082	3169	3084	3154	3108	3186	3117	3015	2956	2952	2970
48	2895	2919	2851	2971	3020	3046	3000	3091	3009	3069	3024	3108	3033	2926	2866	2869	2895
49	2821	2839	2774	2876	2938	2962	2910	3009	2932	2978	2938	3013	2943	2825	2775	2791	2821
50	2749	2761	2720	2786	2852	2880	2822	2925	2854	2890	2847	2917	2857	2731	2699	2713	2749
51	2671	2676	2632	2692	2765	2799	2749	2834	2776	2803	2758	2819	2768	2642	2661	2631	2671
52	2595	2586	2524	2596	2679	2720	2673	2745	2697	2719	2691	2724	2679	2553	2535	2549	2595
53	2524	2498	2420	2501	2582	2634	2613	2660	2614	2631	2605	2642	2582	2469	2423	2463	2524
54	2453	2414	2321	2411	2481	2553	2496	2568	2524	2542	2518	2551	2483	2376	2321	2373	2453
55	2378	2334	2226	2306	2387	2463	2390	2471	2404	2453	2414	2450	2381	2285	2220	2289	2378
56	2299	2249	2133	2199	2295	2354	2289	2375	2273	2366	2304	2346	2292	2184	2123	2207	2299
57	2220	2168	2035	2092	2208	2250	2189	2258	2139	2256	2197	2242	2201	2080	2021	2124	2220
58	2139	2082	1937	1996	2124	2155	2096	2121	2053	2126	2095	2129	2113	1984	1922	2040	2139
59	2060	1996	1836	1898	2026	2067	2004	1980	1967	1990	1992	2036	2016	1897	1821	1954	2060
60	1972	1904	1738	1805	1927	1987	1915	1885	1865	1891	1895	1934	1924	1809	1722	1870	1972

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61	1874	1809	1652	1704	1827	1889	1819	1798	1736	1805	1800	1829	1825	1713	1634	1784	1874
62	1770	1714	1566	1612	1714	1779	1731	1700	1622	1724	1707	1717	1716	1615	1545	1690	1770
63	1669	1601	1481	1520	1606	1679	1641	1587	1524	1639	1617	1611	1629	1516	1457	1591	1669
64	1553	1488	1393	1410	1515	1570	1546	1474	1435	1552	1535	1500	1542	1417	1372	1491	1553
65	1437	1374	1306	1310	1424	1461	1446	1365	1318	1460	1454	1394	1454	1323	1288	1385	1437
66	1302	1254	1219	1214	1323	1366	1336	1269	1185	1336	1371	1293	1345	1234	1202	1278	1302
67	1165	1132	1138	1124	1215	1273	1225	1179	1098	1188	1287	1202	1226	1135	1121	1162	1165
68	1040	1018	1054	1024	1110	1174	1115	1076	1012	1087	1195	1109	1101	1021	1037	1049	1040
69	941	912	971	929	999	1062	1035	953	902	1002	1108	1013	976	900	953	930	941
70	862	815	897	828	910	950	951	853	797	917	1018	919	886	792	867	818	862
71	795	731	823	740	839	830	873	769	670	833	930	822	809	714	781	729	795
72	730	662	737	673	767	734	801	677	584	756	844	746	730	648	681	652	730
73	666	597	643	614	700	667	734	570	521	670	762	679	658	584	576	577	666
74	595	534	551	565	642	606	656	495	436	579	670	613	605	531	485	507	595
75	523	477	479	531	584	548	571	434	327	468	578	561	541	482	418	451	523
76	455	432	414	475	497	493	498	383	269	380	498	537	447	409	364	400	455
77	395	368	354	411	420	432	439	337	220	312	443	459	377	339	329	349	395
78	342	312	298	370	380	357	378	302	158	275	394	378	347	294	270	299	342
79	297	259	245	350	377	319	324	263	123	244	350	347	330	286	202	246	297
80	248	222	201	304	325	305	271	219	75	202	318	330	267	224	178	203	248
81	200	179	172	223	221	274	237	161	51	167	236	308	194	159	163	164	200
82	161	138	129	172	167	200	222	127	26	140	187	207	163	129	103	131	161
83	124	106	90	137	150	154	186	102	16	111	185	177	154	114	74	99	124
84	97	79	62	95	113	139	135	79	8	90	160	151	99	75	53	74	97
85	78	59	43	76	90	120	92	62	4	67	116	111	81	59	33	56	78
86	64	45	27	46	70	94	74	44	2	43	98	89	59	33	20	43	64
87	51	36	17	24	44	61	41	26	1	23	41	52	33	14	13	34	51
88	41	28	12	6	7	10	13	7	0	7	13	8	3	3	9	27	41
89	29	20	8	3	0	0	1	0	0	0	1	0	1	2	6	18	29
90	18	10	5	2	0	0	0	0	0	0	0	0	0	1	2	6	18
91	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
95	0	0	0	0	0	1	2	0	0	0	3	3	1	1	0	0	0
96	0	0	0	2	2	3	3	0	0	1	3	3	2	2	0	0	0
97	0	0	0	2	2	3	3	0	0	1	3	3	2	2	0	0	0
98	0	0	1	3	2	2	2	1	0	1	3	3	2	2	1	0	0
99	0	0	2	3	2	2	2	1	1	1	2	3	2	2	2	0	0
100	0	1	3	3	2	2	2	1	1	1	2	2	2	2	3	1	0
101	0	1	3	3	1	2	2	1	1	1	2	2	2	2	4	1	0
102	1	1	4	3	1	2	2	1	1	1	2	2	2	2	4	2	1
103	1	2	3	3	1	2	2	1	1	1	2	2	2	3	4	2	1
104	1	2	3	3	2	2	2	1	1	2	2	2	2	3	4	2	1
105	1	2	3	3	2	2	2	2	1	2	2	2	2	3	4	2	1
106	1	2	3	3	2	2	2	2	2	2	2	2	2	3	4	2	1
107	1	2	3	2	2	2	2	2	2	2	2	2	2	3	4	2	1
108	2	2	3	3	2	2	2	2	2	2	2	3	2	3	4	2	2
109	2	2	3	3	3	2	2	2	2	2	3	3	3	3	4	2	2
110	2	2	3	3	3	2	2	2	2	2	3	3	3	3	4	2	2
111	2	2	3	3	3	3	2	2	2	2	3	3	3	3	4	2	2
112	2	2	3	4	3	3	3	2	2	2	3	3	3	3	4	2	2
113	3	2	3	4	3	3	3	2	3	3	3	3	3	4	4	2	3
114	3	3	3	5	3	3	3	2	3	3	3	3	3	5	4	3	3
115	3	3	3	5	3	3	3	3	3	3	3	3	4	5	4	3	3
116	3	3	4	6	3	3	3	3	3	3	3	3	4	6	4	3	3
117	4	3	4	6	3	3	3	3	3	3	4	3	4	6	4	3	4
118	4	3	4	6	4	4	3	3	3	3	4	3	4	6	4	3	4
119	4	4	4	6	4	4	4	3	3	3	4	4	4	6	4	4	4
120	4	4	4	6	4	4	4	4	4	4	4	4	5	6	4	4	4
121	5	5	4	6	4	4	4	4	4	4	4	4	5	7	4	5	5
122	5	5	4	6	5	4	4	4	4	4	4	4	5	7	5	5	5
123	6	6	5	7	5	4	4	4	5	5	4	4	5	7	5	5	6
124	6	6	5	7	5	4	4	4	5	5	4	4	6	7	5	5	6

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125	6	6	5	7	5	4	4	4	5	5	4	4	6	7	5	6	6
126	6	6	5	7	5	5	4	5	5	5	4	5	6	8	5	6	6
127	7	6	6	7	5	5	4	5	5	5	5	5	6	8	5	6	7
128	6	6	7	8	5	5	4	5	5	5	5	5	6	8	6	6	6
129	7	6	8	8	6	5	4	5	5	5	5	5	7	8	8	6	7
130	7	6	8	8	6	5	4	5	5	5	5	5	4	8	8	6	7
131	7	6	9	8	6	5	4	5	6	6	5	5	6	8	9	6	7
132	7	6	9	8	6	5	5	5	6	6	5	5	7	8	9	6	7
133	7	7	9	8	6	5	5	5	6	6	5	5	7	8	9	7	7
134	7	7	9	8	6	5	5	5	6	6	5	5	7	8	9	7	7
135	7	7	9	8	6	5	5	6	6	6	5	5	7	8	9	7	7
136	7	8	9	8	6	5	5	6	6	6	5	5	7	8	9	9	7
137	7	9	9	8	6	6	5	6	6	6	5	6	7	8	9	9	7
138	9	8	9	8	6	6	5	6	6	6	5	6	7	8	9	8	9
139	10	8	9	8	6	6	5	6	6	7	6	6	7	8	9	7	10
140	8	11	9	8	7	6	5	6	6	7	6	6	7	8	9	11	8
141	8	11	9	8	7	6	5	6	6	7	6	6	7	8	9	11	8
142	10	11	9	8	7	6	5	6	6	7	6	6	7	8	9	12	10
143	10	12	9	8	7	6	5	6	6	7	6	6	7	8	9	11	10
144	10	12	9	8	7	6	5	6	7	7	6	6	7	8	8	12	10
145	10	12	9	8	7	7	6	6	7	7	7	6	7	8	8	12	10
146	10	12	9	8	7	7	6	7	7	7	7	6	7	8	8	12	10
147	10	12	8	8	7	7	6	7	7	7	7	7	7	8	8	12	10
148	11	12	8	8	7	7	6	7	7	8	8	7	7	8	8	12	11
149	11	12	8	8	7	7	6	7	7	8	8	7	7	8	8	12	11
150	11	12	8	8	7	7	6	7	7	8	8	7	7	8	8	12	11
151	11	12	8	8	7	7	6	7	7	8	8	7	7	8	9	12	11
152	11	12	8	8	7	7	6	7	7	8	8	7	7	8	9	11	11
153	11	11	9	8	7	7	6	7	7	8	8	7	7	8	9	11	11
154	11	11	9	8	7	7	7	7	7	8	8	7	7	8	10	11	11
155	11	11	9	8	7	7	7	7	7	8	8	7	6	7	10	11	11
156	10	11	10	8	7	7	7	7	7	7	8	7	6	7	10	11	10

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157	10	11	10	8	6	7	7	7	7	7	7	7	6	7	10	11	10
158	10	11	10	8	6	7	7	7	7	7	7	7	6	7	10	11	10
159	10	11	10	8	6	7	7	7	7	7	7	7	6	7	10	11	10
160	10	11	10	8	6	7	7	7	7	7	7	7	6	7	10	11	10
161	10	11	10	8	7	7	7	7	7	7	7	7	6	7	10	10	10
162	10	10	10	8	7	7	7	7	7	7	7	7	6	7	10	10	10
163	10	10	9	8	7	7	7	7	7	7	7	7	7	8	10	10	10
164	10	10	9	8	7	7	7	7	7	7	7	7	7	8	9	10	10
165	9	10	9	8	7	7	7	7	7	7	7	7	7	8	9	10	9
166	9	10	9	8	7	7	7	7	7	7	7	7	7	8	9	9	9
167	9	10	9	8	8	7	7	8	7	8	8	8	7	8	9	9	9
168	9	10	10	8	8	8	8	8	8	9	9	8	7	8	10	10	9
169	9	11	10	8	8	8	8	9	9	9	9	9	7	8	10	10	9
170	10	11	10	8	9	8	8	9	9	10	9	9	8	8	10	10	10
171	10	10	10	8	9	8	9	9	9	10	9	10	8	8	10	10	10
172	10	10	10	8	9	8	9	9	9	11	9	10	8	8	10	10	10
173	10	10	10	8	9	8	9	9	9	11	10	10	8	8	10	10	10
174	10	10	10	8	9	8	9	9	9	11	10	10	8	8	10	10	10
175	11	10	10	8	9	8	9	9	9	11	10	10	8	8	10	10	11
176	11	10	10	9	9	8	9	9	9	10	10	10	8	9	10	10	11
177	10	10	10	9	8	8	9	9	9	10	10	10	8	9	10	10	10
178	10	10	10	9	8	8	8	9	9	10	10	9	8	9	10	9	10
179	10	10	10	9	7	7	8	9	9	10	10	9	8	9	9	9	10
180	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

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 *******