



Report No.: GZE160347-P

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-8090M40C-A

Representative (Tested) Model: LED-8090M40C-A

Model Different :N/A

Test & Report By:

Jack Luo

Engineer: Jack Luo

Date: Apr.28,2016

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 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	Apr.28,2016
Test Report No.	GZE160347-P
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	LIGHT EFFICIENT DESIGN		
Brand Name	N/A		
Model Number	LED-8090M40C-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	--	119.1	W
Input Current	--	0.5595	A
Input Voltage (ac)	--	220.0	V
Power Factor	--	0.9675	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	12293	lm
Initial Lumen Efficacy	--	103.22	lm/w
Correlated color temperature / CCT	3995	--	K
Color rendering index / CRI	73.7	--	
R9 Value	0	--	
Duv	-0.0001	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)		4356	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	: Apr.24,2016
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-8090M40C-A
Luminaire Type	LED Lamp
Rated Voltage / Frequency	220~347 Vac, 50/60Hz
Nominal Power	120W
Rated Initial Lamp Lumen	--
Declared CCT	4000K
LED Manufacturer	N/A
LED Model	N/A
Sample Receipt Date	Apr.01,2016
Sample Number	GZE160347-P1(4000K)

Photo



2.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2016-04-24	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED-8090M40C-A		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE160347	220.0	60	0.5595	119.1	0.9675	13.30
-P1	347.0	60	0.3775	119.3	0.9107	18.34

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	220.0
Frequency (Hz)	60
Color Rendering Index (CRI)	73.7
R9	0
CCT (K)	3995
Chromaticity (x, y)	x=0.3806 y=0.3766
Chromaticity (u', v')	u'=0.2253 v'=0.5015
Duv	-0.0001

Special Color Rendering Indices			
R1	73	R9	0
R2	78	R10	48
R3	82	R11	71
R4	75	R12	46
R5	72	R13	73
R6	70	R14	89
R7	81	R15	68
R8	60	--	--

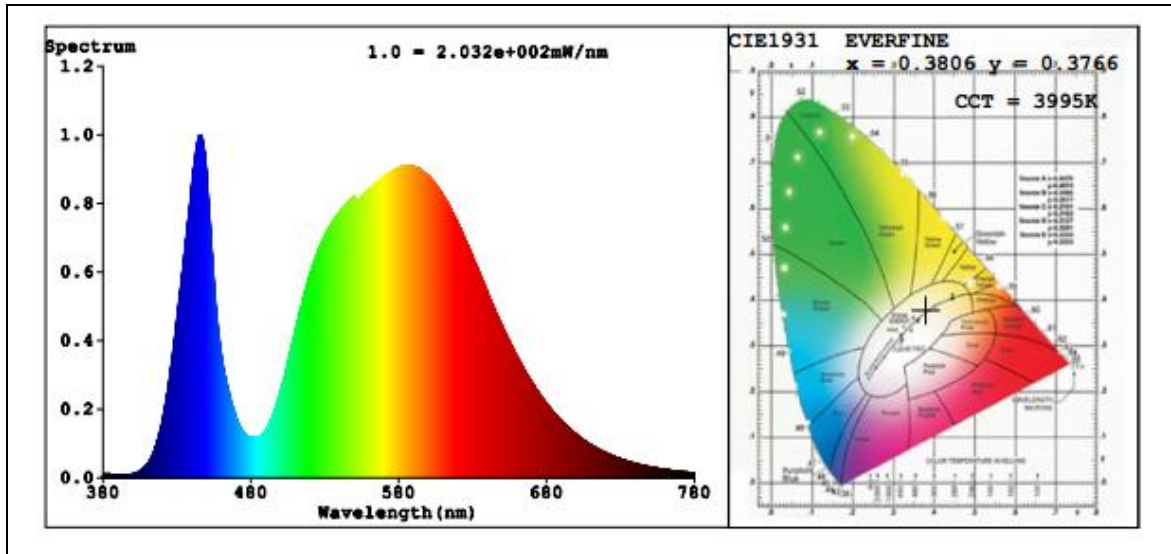
Goniophotometer Method :

Parameter	Result
Test Voltage (V)	220.0
Frequency (Hz)	60
Total Luminous (lm)	12293
Luminous Efficacy (lm/W)	103.22
Beam Angle°	113.1
Center Beam Candle Power (cd)	4356

Goniophotometer Methodn :

Parameter	Result
Test Voltage (V)	347.0
Frequency (Hz)	60
Total Luminous (lm)	12371
Luminous Efficacy (lm/W)	103.68

Spectral Power Distribution & Chromaticity Diagram



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Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	3,517.3	28.6%
0-40	5,839.1	47.5%
0-60	10,306.9	83.9%
60-90	1,957.1	15.9%
70-100	625.7	5.1%
90-120	6.5	0.1%
0-90	12,264.0	99.8%
90-180	27.7	0.2%
0-180	12,291.7	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	415.7	3.4%	90-100	1.1	0%
10-20	1,213.2	9.9%	100-110	2.2	0%
20-30	1,888.4	15.4%	110-120	3.2	0%
30-40	2,321.8	18.9%	120-130	4.6	0%
40-50	2,411.7	19.6%	130-140	5.0	0%
50-60	2,056.2	16.7%	140-150	4.8	0%
60-70	1,332.4	10.8%	150-160	3.7	0%
70-80	533.4	4.3%	160-170	2.2	0%
80-90	91.3	0.7%	170-180	0.9	0%

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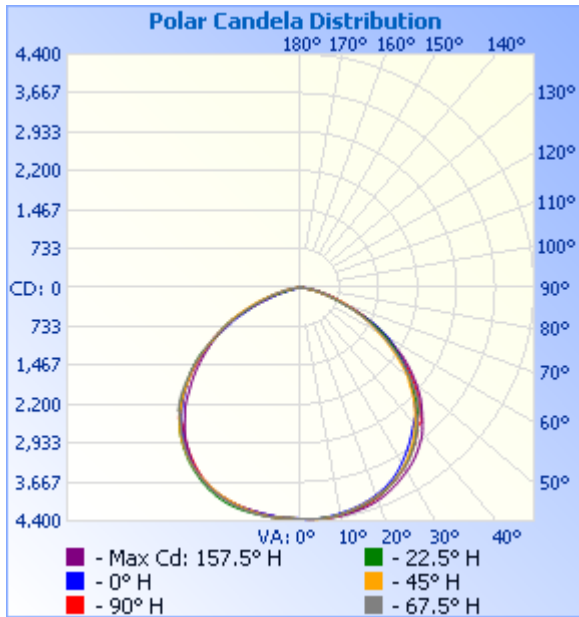
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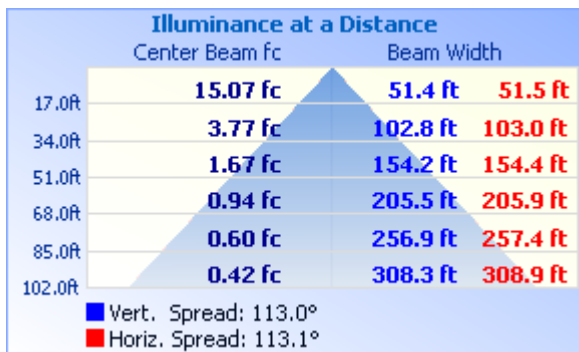
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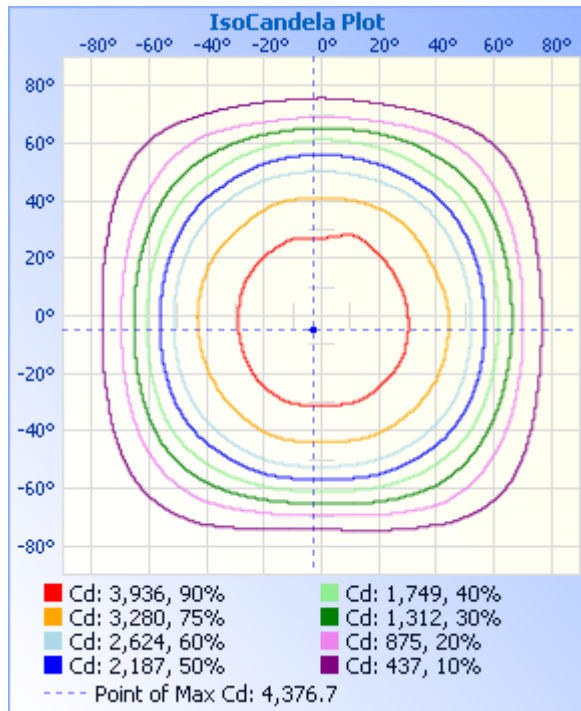
Photometric Data



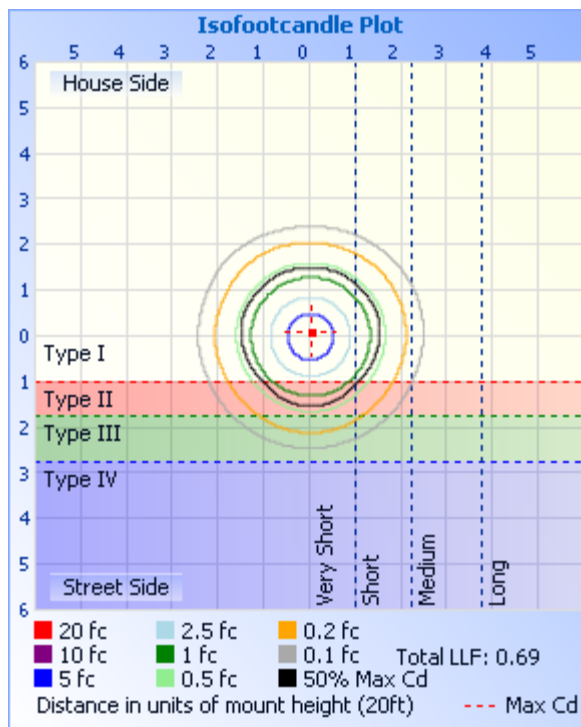
Illuminance Plots



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	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356	4356
1	4362	4359	4360	4358	4358	4356	4355	4355	4351	4354	4353	4354	4354	4358	4356	4358	4362
2	4367	4364	4366	4362	4362	4355	4356	4357	4348	4351	4352	4354	4355	4361	4360	4361	4367
3	4370	4368	4370	4366	4364	4356	4360	4361	4346	4354	4353	4357	4355	4362	4364	4365	4370
4	4370	4366	4374	4368	4367	4355	4365	4366	4348	4358	4354	4359	4353	4364	4365	4367	4370
5	4366	4365	4375	4370	4367	4353	4367	4371	4346	4359	4357	4361	4350	4363	4366	4365	4366
6	4359	4363	4372	4368	4369	4350	4369	4377	4342	4361	4359	4360	4345	4359	4364	4361	4359
7	4351	4361	4367	4366	4368	4344	4371	4375	4333	4362	4357	4362	4338	4354	4358	4359	4351
8	4341	4355	4361	4358	4366	4341	4368	4372	4326	4358	4352	4359	4331	4348	4350	4353	4341
9	4332	4348	4353	4351	4362	4336	4364	4369	4320	4353	4345	4356	4324	4340	4340	4347	4332
10	4320	4339	4343	4341	4357	4330	4358	4365	4315	4351	4337	4352	4314	4332	4336	4341	4320
11	4309	4328	4331	4331	4349	4324	4351	4361	4308	4350	4328	4346	4308	4324	4327	4331	4309
12	4298	4319	4317	4315	4339	4317	4345	4355	4304	4346	4319	4337	4300	4312	4315	4320	4298
13	4285	4308	4302	4301	4328	4310	4338	4349	4297	4342	4308	4329	4293	4300	4303	4309	4285
14	4270	4296	4286	4290	4315	4302	4328	4341	4290	4336	4295	4319	4285	4289	4287	4300	4270
15	4256	4285	4270	4277	4302	4292	4319	4332	4281	4331	4283	4311	4277	4277	4272	4289	4256
16	4241	4270	4253	4263	4287	4280	4308	4325	4271	4323	4270	4299	4266	4264	4258	4277	4241
17	4223	4251	4237	4248	4274	4266	4295	4313	4261	4317	4253	4287	4254	4254	4242	4265	4223
18	4205	4236	4220	4232	4256	4252	4281	4301	4245	4307	4237	4269	4243	4238	4226	4251	4205
19	4184	4218	4203	4215	4236	4237	4269	4285	4232	4293	4222	4253	4229	4219	4208	4238	4184
20	4161	4200	4185	4194	4216	4217	4256	4268	4215	4278	4206	4233	4212	4200	4187	4225	4161
21	4136	4180	4164	4173	4191	4197	4239	4247	4198	4258	4190	4213	4196	4178	4164	4208	4136
22	4113	4159	4143	4149	4164	4174	4223	4225	4179	4236	4169	4193	4177	4156	4139	4189	4113
23	4086	4136	4120	4125	4139	4150	4202	4199	4156	4209	4146	4174	4153	4128	4111	4171	4086
24	4054	4108	4095	4100	4111	4127	4178	4175	4132	4188	4123	4152	4128	4100	4082	4150	4054
25	4022	4077	4066	4074	4078	4098	4151	4149	4105	4160	4099	4126	4098	4068	4051	4124	4022
26	3988	4042	4034	4044	4048	4067	4124	4121	4078	4129	4072	4098	4068	4034	4024	4094	3988
27	3950	4007	4000	4014	4016	4036	4092	4090	4052	4098	4049	4069	4035	4000	3993	4063	3950
28	3908	3972	3965	3982	3984	4003	4060	4059	4023	4064	4023	4037	4003	3966	3960	4032	3908

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29	3862	3937	3926	3948	3949	3970	4023	4028	3992	4030	3995	4002	3965	3930	3926	3996	3862
30	3815	3899	3884	3918	3912	3938	3985	3996	3959	3996	3966	3969	3927	3893	3890	3955	3815
31	3768	3860	3842	3880	3871	3904	3945	3965	3920	3956	3935	3932	3884	3853	3855	3911	3768
32	3720	3816	3797	3841	3828	3863	3904	3931	3881	3918	3898	3892	3838	3806	3815	3862	3720
33	3672	3772	3749	3799	3785	3820	3858	3897	3839	3877	3858	3851	3795	3756	3773	3810	3672
34	3624	3727	3702	3752	3741	3774	3811	3857	3795	3834	3819	3805	3749	3704	3731	3755	3624
35	3574	3682	3649	3703	3699	3728	3766	3815	3750	3788	3774	3758	3705	3648	3686	3703	3574
36	3522	3636	3597	3654	3652	3679	3715	3768	3707	3741	3730	3711	3657	3597	3638	3653	3522
37	3469	3584	3540	3602	3601	3629	3664	3721	3656	3693	3689	3663	3609	3544	3589	3597	3469
38	3418	3527	3482	3546	3545	3574	3614	3674	3604	3645	3643	3612	3557	3490	3532	3536	3418
39	3369	3469	3418	3487	3491	3516	3560	3624	3543	3593	3591	3559	3502	3431	3473	3471	3369
40	3324	3403	3356	3425	3436	3455	3499	3566	3482	3538	3537	3501	3450	3369	3409	3401	3324
41	3281	3344	3292	3363	3405	3392	3435	3504	3419	3482	3475	3443	3396	3308	3339	3329	3281
42	3242	3281	3227	3302	3399	3330	3369	3433	3356	3421	3409	3386	3381	3243	3269	3259	3242
43	3179	3235	3161	3264	3326	3280	3300	3364	3292	3355	3340	3329	3368	3177	3201	3198	3179
44	3109	3167	3094	3218	3256	3260	3236	3296	3227	3289	3270	3290	3294	3158	3129	3130	3109
45	3035	3095	3023	3148	3179	3192	3160	3229	3155	3219	3192	3262	3208	3132	3053	3055	3035
46	2968	3012	2947	3074	3102	3124	3085	3162	3083	3149	3113	3186	3127	3027	2973	2969	2968
47	2900	2929	2866	2998	3026	3056	3010	3094	3011	3080	3034	3111	3043	2944	2887	2882	2900
48	2827	2850	2783	2901	2949	2974	2929	3018	2938	2996	2952	3035	2962	2857	2799	2801	2827
49	2755	2772	2709	2808	2868	2893	2842	2938	2863	2908	2868	2942	2874	2758	2710	2725	2755
50	2684	2696	2656	2720	2785	2812	2756	2856	2787	2822	2780	2848	2789	2666	2636	2649	2684
51	2608	2613	2570	2628	2699	2733	2684	2767	2710	2737	2693	2752	2703	2580	2598	2569	2608
52	2534	2525	2464	2535	2616	2656	2610	2681	2634	2655	2627	2660	2616	2493	2475	2489	2534
53	2464	2439	2363	2442	2521	2572	2551	2597	2552	2569	2544	2579	2521	2411	2366	2405	2464
54	2395	2357	2267	2354	2422	2493	2437	2507	2464	2482	2458	2491	2425	2320	2266	2317	2395
55	2322	2279	2174	2252	2331	2405	2333	2413	2347	2395	2357	2392	2325	2231	2168	2235	2322
56	2244	2196	2083	2147	2241	2299	2235	2319	2220	2310	2250	2291	2238	2132	2073	2155	2244
57	2167	2117	1987	2043	2156	2197	2137	2205	2088	2202	2145	2189	2149	2030	1974	2074	2167
58	2089	2033	1892	1949	2074	2104	2047	2071	2004	2076	2045	2078	2063	1937	1877	1992	2089
59	2012	1949	1793	1854	1978	2018	1957	1933	1921	1943	1945	1988	1969	1852	1778	1908	2012
60	1926	1859	1697	1762	1881	1940	1870	1840	1821	1846	1850	1889	1879	1766	1682	1826	1926

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61	1830	1766	1613	1664	1784	1844	1777	1755	1695	1763	1758	1786	1782	1673	1595	1742	1830
62	1729	1674	1529	1574	1673	1737	1690	1660	1584	1683	1667	1676	1676	1576	1509	1650	1729
63	1630	1563	1446	1484	1569	1639	1602	1550	1488	1601	1579	1573	1590	1480	1422	1553	1630
64	1516	1453	1360	1377	1479	1533	1509	1440	1401	1515	1499	1465	1505	1383	1340	1456	1516
65	1403	1342	1275	1279	1390	1427	1412	1333	1287	1425	1419	1362	1420	1291	1258	1352	1403
66	1271	1224	1190	1186	1291	1334	1305	1239	1157	1305	1339	1263	1313	1205	1173	1248	1271
67	1137	1105	1111	1098	1187	1243	1196	1151	1072	1160	1256	1173	1198	1108	1095	1134	1137
68	1015	994	1029	1000	1084	1147	1089	1051	988	1061	1166	1082	1075	997	1013	1024	1015
69	918	891	949	907	976	1037	1011	931	881	978	1081	989	953	879	930	908	918
70	842	796	876	809	888	927	928	833	778	895	994	897	865	773	846	799	842
71	776	714	804	723	819	811	852	750	654	813	908	802	789	697	763	712	776
72	713	647	720	657	749	717	782	661	570	738	825	728	713	632	665	637	713
73	650	583	628	599	684	651	716	557	508	654	744	663	643	570	562	563	650
74	581	521	538	551	626	592	641	483	426	565	654	599	590	518	474	495	581
75	510	466	467	519	570	535	558	424	319	457	564	548	529	471	409	440	510
76	444	422	404	464	485	482	487	374	262	371	486	525	436	400	356	390	444
77	386	359	346	401	410	422	429	330	215	305	432	448	368	331	321	341	386
78	334	305	291	361	371	349	369	295	154	268	385	369	338	287	264	292	334
79	290	253	239	341	368	311	316	257	120	238	342	339	323	280	197	240	290
80	242	217	196	297	317	298	264	214	73	198	311	322	261	219	174	199	242
81	195	174	168	218	216	268	232	157	50	163	230	301	190	156	159	160	195
82	158	135	126	168	163	195	217	124	25	137	183	202	159	126	101	128	158
83	121	103	88	134	146	151	182	99	15	109	180	172	150	111	72	96	121
84	95	77	61	93	110	136	132	77	8	88	156	148	97	73	52	72	95
85	76	58	42	74	88	117	90	60	4	65	113	108	79	58	32	55	76
86	62	44	26	45	68	92	72	43	2	42	95	86	58	32	20	42	62
87	50	35	16	24	43	59	40	25	1	22	40	51	32	13	12	34	50
88	40	28	12	6	7	10	13	7	0	6	12	8	3	3	9	26	40
89	28	20	8	2	0	0	1	0	0	0	1	0	1	2	6	18	28
90	17	10	4	2	0	0	0	0	0	0	0	0	0	1	2	6	17
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
94	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
95	0	0	0	0	0	1	2	0	0	0	3	3	1	1	0	0
96	0	0	0	1	2	3	3	1	0	1	3	3	2	2	0	0
97	0	0	0	2	2	3	3	1	0	1	3	3	2	2	0	0
98	0	0	1	3	2	2	2	1	0	1	3	3	2	2	1	0
99	0	0	2	3	2	2	2	1	1	1	2	2	2	2	2	0
100	0	1	3	3	2	2	2	1	1	1	2	2	2	2	3	1
101	0	1	3	3	1	2	2	1	1	1	2	2	2	2	3	1
102	1	1	3	2	1	1	2	1	1	1	2	2	2	2	4	2
103	1	2	3	2	1	1	2	1	1	1	2	2	2	2	4	2
104	1	2	3	2	2	2	2	1	1	2	2	2	2	2	4	2
105	1	2	3	2	2	2	2	1	1	2	2	2	2	2	4	2
106	1	2	3	2	2	2	2	2	2	2	2	2	2	2	4	2
107	1	2	3	2	2	2	2	2	2	2	2	2	2	2	4	2
108	2	2	3	3	2	2	2	2	2	2	2	2	2	3	3	2
109	2	2	3	3	2	2	2	2	2	2	2	3	2	3	3	2
110	2	2	3	3	3	2	2	2	2	2	2	3	3	3	3	2
111	2	2	3	3	3	2	2	2	2	2	3	3	3	3	3	2
112	2	2	3	4	3	3	3	2	2	2	3	3	3	3	3	2
113	3	2	3	4	3	3	3	2	3	2	3	3	3	4	3	2
114	3	3	3	5	3	3	3	2	3	2	3	3	3	5	3	3
115	3	3	3	5	3	3	3	2	3	2	3	3	4	5	4	3
116	3	3	4	5	3	3	3	2	3	2	3	3	4	6	4	3
117	3	3	4	6	3	3	3	3	3	2	3	3	4	6	4	3
118	3	3	4	6	4	3	3	3	3	3	4	3	4	6	4	3
119	4	4	4	6	4	3	4	3	3	3	4	4	4	6	4	4
120	4	4	4	6	4	4	4	4	3	4	4	4	4	6	4	4
121	5	5	4	6	4	4	4	4	4	4	4	4	5	6	4	5
122	5	5	4	6	4	4	4	4	4	4	4	4	5	6	5	5
123	5	5	5	7	5	4	4	4	5	4	4	4	5	7	5	5
124	6	5	5	7	5	4	4	4	5	4	4	4	6	7	5	5

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

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157	10	11	9	8	6	7	6	7	7	7	7	6	6	7	10	11	10
158	10	11	10	8	6	7	7	7	7	7	7	6	6	7	10	11	10
159	10	11	10	7	6	7	7	7	7	7	7	6	5	7	10	10	10
160	10	10	10	7	6	6	7	7	7	7	7	6	6	7	10	10	10
161	10	10	10	7	6	6	7	7	7	7	7	7	6	7	10	10	10
162	10	10	9	7	7	6	7	7	7	7	7	7	6	7	9	10	10
163	10	10	9	7	7	6	7	7	7	7	7	7	6	7	9	10	10
164	9	10	9	7	7	6	7	7	7	7	7	7	6	7	9	10	9
165	9	10	9	7	7	7	7	7	7	7	7	7	6	7	9	9	9
166	9	10	9	7	7	7	7	7	7	7	7	7	6	7	9	9	9
167	9	10	9	7	7	7	7	8	7	8	8	7	7	7	9	9	9
168	9	10	9	7	8	8	8	8	8	8	8	8	7	7	9	10	9
169	9	10	10	7	8	8	8	9	8	9	9	9	7	7	10	10	9
170	9	10	10	8	8	8	8	9	9	9	9	9	8	7	10	10	9
171	10	10	10	8	9	8	9	9	9	10	9	9	8	7	10	10	10
172	10	10	10	8	8	8	9	9	9	10	9	9	8	7	10	10	10
173	10	10	10	8	8	8	9	9	9	10	9	9	8	8	10	10	10
174	10	10	9	8	8	8	9	9	9	10	9	10	8	8	9	10	10
175	10	10	9	8	8	8	8	9	9	10	9	9	8	8	9	10	10
176	10	10	9	8	8	8	9	9	9	10	9	10	8	8	9	10	10
177	10	10	9	8	8	8	8	9	9	10	9	9	8	9	9	10	10
178	10	10	9	8	8	8	8	9	9	10	9	9	8	9	9	9	10
179	10	9	9	8	7	7	8	9	9	10	9	9	8	9	9	9	10
180	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

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 *******