



Report No.: GZE160347-K2

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-8036M57-A

Representative (Tested) Model: LED-8036M57-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

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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-K2
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	LIGHT EFFICIENT DESIGN		
Brand Name	N/A		
Model Number	LED-8036M57-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	--	96.37	W
Input Current	--	0.8382	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9581	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	10798	lm
Initial Lumen Efficacy	--	112.05	lm/w
Correlated color temperature / CCT	5496	--	K
Color rendering index / CRI	85.1	--	
R9 Value	15	--	
Duv	0.0025	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)		2891	cd
Beam angle (if applicable)		107.8	°
Zonal lumens in the 0°-60° zone		65.2	%
Zonal lumens in the 60°-90° zone	-----	20.6	%
Zonal lumens in the 90°-120° zone		10.9	%
Zonal lumens in the 120°-180° zone		3.3	%

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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 120 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 120 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.

1. Product Information:

Brand Name	N/A
Model Number	LED-8036M57-A
Luminaire Type	LED Lamp
Rated Voltage / Frequency	120~277 Vac, 50/60Hz
Nominal Power	100W
Rated Initial Lamp Lumen	--
Declared CCT	5700K
LED Manufacturer	N/A
LED Model	N/A
Sample Receipt Date	Apr.01,2016
Sample Number	GZE160347-K2(5700K)

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-8036M57-A		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE160347	120.0	60	0.8382	96.37	0.9581	14.93
-K1	277.0	60	0.3985	99.98	0.9057	17.04

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	85.1
R9	15
CCT (K)	5496
Chromaticity (x, y)	x=0.3326 y=0.3460
Chromaticity (u', v')	u'=0.2051 v'=0.4801
Duv	0.0025

Special Color Rendering Indices			
R1	84	R9	15
R2	91	R10	77
R3	94	R11	83
R4	84	R12	63
R5	84	R13	86
R6	86	R14	97
R7	88	R15	79
R8	70	--	--

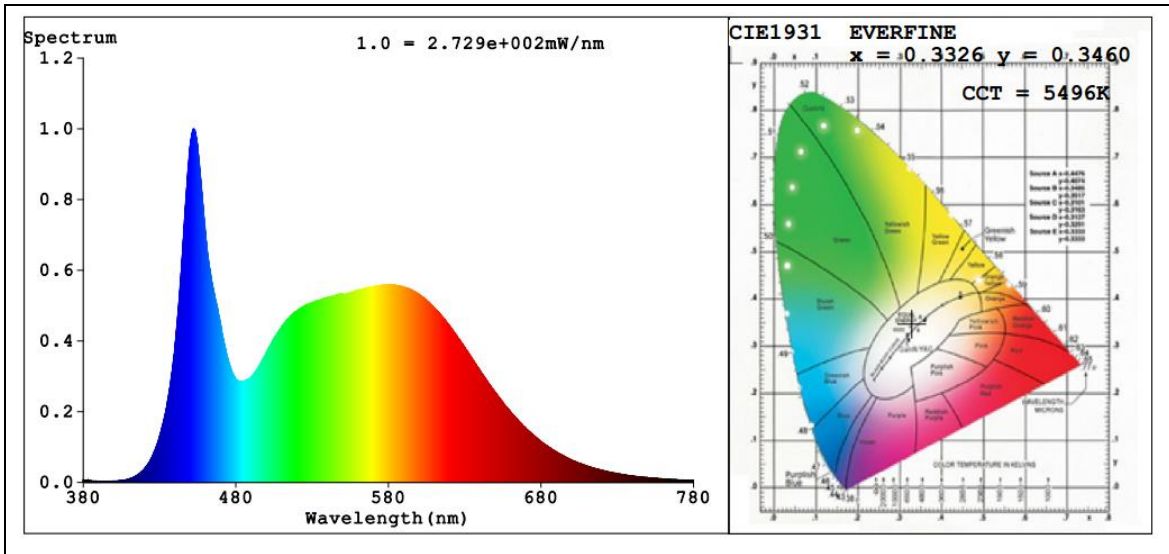
Goniophotometer Method :

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	10798
Luminous Efficacy (lm/W)	112.05
Beam Angle°	107.8
Center Beam Candle Power (cd)	2891

Goniophotometer Methodn :

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	11326
Luminous Efficacy (lm/W)	113.28

Spectral Power Distribution & Chromaticity Diagram



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Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	2,510.4	23.3%
0-40	4,152.0	38.5%
0-60	7,037.0	65.2%
60-90	2,227.2	20.6%
70-100	1,778.6	16.5%
90-120	1,178.2	10.9%
0-90	9,264.2	85.8%
90-180	1,533.1	14.2%
0-180	10,797.3	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	285.8	2.6%	90-100	490.0	4.5%
10-20	884.5	8.2%	100-110	392.2	3.6%
20-30	1,340.1	12.4%	110-120	296.0	2.7%
30-40	1,641.6	15.2%	120-130	181.0	1.7%
40-50	1,634.2	15.1%	130-140	107.3	1%
50-60	1,250.8	11.6%	140-150	47.0	0.4%
60-70	938.6	8.7%	150-160	14.8	0.1%
70-80	745.8	6.9%	160-170	3.8	0%
80-90	542.8	5.0%	170-180	1.0	0%

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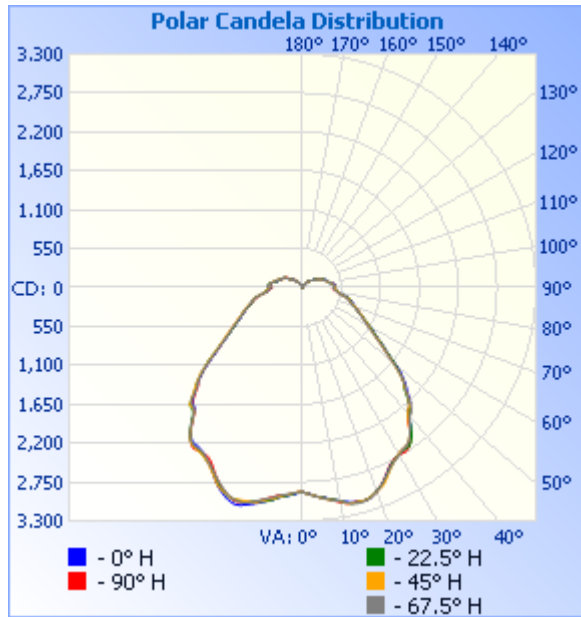
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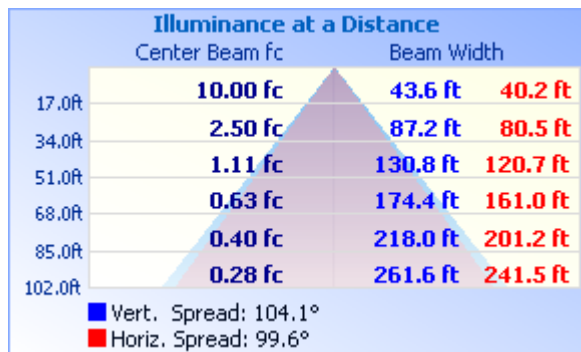
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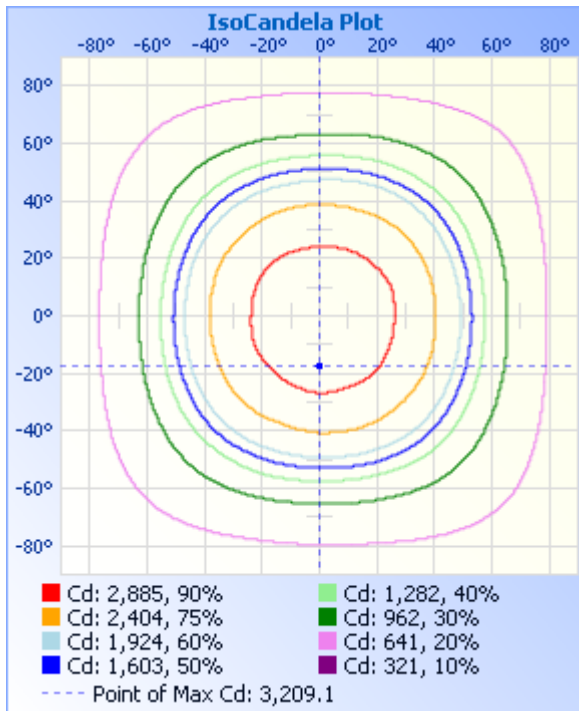
Photometric Data



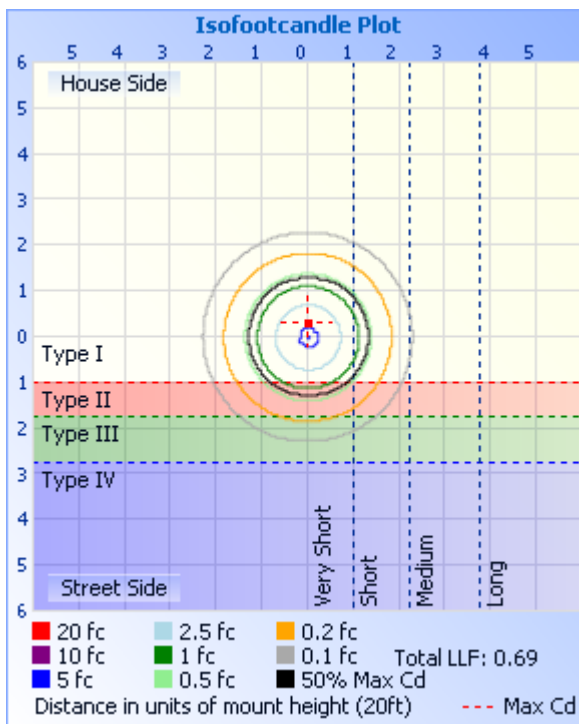
Illuminance Plots



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	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891	2891
1	2905	2907	2907	2907	2906	2906	2904	2901	2897	2891	2887	2888	2890	2897	2898	2900	2905
2	2917	2924	2923	2927	2922	2927	2918	2919	2917	2908	2898	2898	2900	2907	2912	2916	2917
3	2941	2943	2943	2949	2942	2945	2931	2931	2931	2924	2912	2912	2917	2922	2926	2934	2941
4	2959	2962	2960	2965	2962	2962	2947	2946	2946	2943	2933	2924	2932	2936	2942	2944	2959
5	2972	2975	2983	2983	2978	2980	2959	2958	2960	2956	2948	2938	2937	2945	2954	2965	2972
6	2988	2991	3002	3001	2992	2998	2976	2976	2976	2971	2965	2949	2950	2960	2966	2980	2988
7	3006	3008	3019	3017	3011	3018	2994	2994	3000	2997	2990	2970	2964	2983	2980	2990	3006
8	3025	3023	3035	3037	3032	3039	3017	3017	3023	3027	3014	2993	2989	3009	2997	3001	3025
9	3041	3042	3047	3049	3056	3056	3036	3038	3048	3052	3030	3015	3011	3030	3024	3018	3041
10	3062	3061	3066	3066	3081	3077	3047	3059	3069	3064	3049	3034	3031	3051	3051	3041	3062
11	3081	3088	3098	3088	3102	3095	3061	3086	3089	3080	3073	3055	3061	3076	3064	3069	3081
12	3099	3111	3117	3114	3116	3107	3079	3106	3114	3090	3098	3078	3095	3105	3080	3092	3099
13	3115	3125	3123	3136	3120	3112	3100	3128	3135	3103	3114	3105	3111	3129	3098	3101	3115
14	3122	3131	3124	3142	3121	3115	3111	3145	3158	3125	3118	3133	3124	3147	3118	3111	3122
15	3128	3132	3130	3148	3126	3125	3112	3159	3179	3137	3121	3151	3139	3159	3125	3109	3128
16	3135	3134	3134	3146	3132	3128	3117	3167	3198	3140	3127	3156	3153	3173	3124	3117	3135
17	3134	3126	3132	3136	3128	3126	3115	3172	3209	3141	3135	3156	3163	3177	3126	3122	3134
18	3120	3111	3113	3124	3111	3116	3101	3164	3203	3144	3140	3143	3158	3174	3121	3117	3120
19	3096	3087	3093	3097	3091	3109	3083	3140	3183	3138	3135	3129	3140	3162	3109	3102	3096
20	3070	3060	3073	3067	3062	3098	3057	3111	3159	3124	3118	3103	3112	3142	3090	3085	3070
21	3037	3030	3048	3036	3028	3072	3024	3081	3129	3096	3095	3071	3083	3116	3065	3064	3037
22	2998	2999	3021	2996	2991	3031	2990	3038	3093	3064	3079	3037	3052	3089	3035	3034	2998
23	2955	2958	2984	2952	2945	2982	2954	2987	3052	3025	3049	3004	3009	3054	2999	2991	2955
24	2906	2916	2935	2912	2898	2926	2911	2941	3008	2980	3007	2963	2963	3013	2956	2943	2906
25	2858	2869	2885	2873	2849	2872	2872	2902	2954	2937	2957	2922	2917	2965	2911	2894	2858
26	2815	2823	2840	2832	2804	2821	2831	2868	2901	2889	2910	2884	2865	2913	2861	2847	2815
27	2784	2788	2803	2801	2771	2778	2795	2838	2856	2847	2866	2849	2817	2868	2813	2800	2784
28	2762	2761	2772	2775	2750	2744	2760	2808	2823	2816	2825	2812	2777	2822	2766	2761	2762

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29	2743	2740	2746	2751	2736	2726	2741	2783	2793	2793	2798	2778	2749	2777	2735	2726	2743
30	2722	2724	2717	2729	2727	2709	2726	2757	2759	2771	2775	2748	2733	2743	2710	2698	2722
31	2699	2709	2692	2711	2731	2696	2705	2735	2728	2749	2756	2726	2725	2718	2690	2678	2699
32	2681	2703	2680	2694	2735	2698	2697	2718	2706	2731	2741	2713	2727	2707	2678	2669	2681
33	2674	2704	2670	2679	2726	2697	2690	2709	2695	2721	2734	2712	2742	2712	2671	2676	2674
34	2660	2699	2654	2657	2699	2686	2681	2707	2687	2719	2729	2710	2746	2722	2661	2678	2660
35	2631	2666	2622	2623	2649	2655	2662	2689	2686	2713	2718	2699	2729	2718	2646	2658	2631
36	2588	2618	2574	2573	2586	2598	2625	2643	2665	2688	2690	2676	2690	2691	2625	2616	2588
37	2532	2560	2515	2519	2514	2527	2572	2574	2623	2647	2639	2642	2635	2648	2595	2554	2532
38	2475	2482	2441	2458	2433	2446	2501	2490	2570	2591	2574	2584	2570	2582	2549	2488	2475
39	2404	2400	2373	2398	2358	2372	2420	2403	2497	2510	2493	2511	2495	2494	2474	2409	2404
40	2338	2332	2325	2362	2314	2314	2347	2325	2420	2430	2410	2421	2406	2411	2395	2336	2338
41	2286	2293	2279	2341	2295	2280	2308	2274	2344	2360	2338	2341	2332	2331	2329	2287	2286
42	2260	2257	2258	2301	2255	2260	2297	2262	2284	2321	2304	2298	2295	2289	2287	2278	2260
43	2233	2203	2230	2235	2209	2229	2246	2264	2269	2312	2307	2278	2270	2265	2259	2269	2233
44	2174	2118	2147	2145	2150	2170	2175	2232	2256	2292	2298	2259	2234	2225	2235	2244	2174
45	2098	2046	2066	2071	2059	2113	2109	2153	2195	2223	2228	2215	2173	2161	2170	2170	2098
46	2036	1987	2007	2023	2002	2050	2058	2076	2121	2131	2148	2111	2094	2104	2108	2094	2036
47	1982	1953	1954	1952	1953	1979	2014	2021	2067	2066	2082	2030	2020	2044	2038	2037	1982
48	1908	1880	1884	1883	1882	1907	1945	1971	1995	2015	2019	1993	1992	1978	1983	1986	1908
49	1840	1804	1787	1788	1807	1815	1857	1904	1916	1943	1951	1926	1923	1901	1907	1903	1840
50	1755	1733	1687	1690	1720	1734	1773	1815	1849	1857	1882	1848	1839	1817	1822	1798	1755
51	1645	1643	1608	1599	1617	1640	1684	1724	1753	1776	1779	1761	1759	1722	1724	1698	1645
52	1551	1549	1525	1508	1520	1543	1594	1628	1655	1692	1691	1669	1665	1640	1618	1604	1551
53	1479	1469	1444	1437	1450	1467	1509	1538	1554	1598	1601	1571	1564	1553	1526	1518	1479
54	1420	1409	1389	1374	1380	1406	1425	1466	1478	1512	1509	1481	1483	1463	1441	1439	1420
55	1352	1345	1320	1303	1320	1346	1352	1403	1415	1435	1435	1410	1412	1395	1370	1382	1352
56	1283	1279	1256	1242	1263	1276	1290	1338	1342	1361	1379	1349	1352	1334	1309	1321	1283
57	1229	1223	1200	1187	1211	1218	1243	1281	1277	1293	1317	1290	1292	1271	1255	1268	1229
58	1186	1178	1154	1142	1166	1169	1191	1233	1228	1226	1267	1234	1237	1216	1211	1217	1186
59	1141	1137	1115	1094	1121	1122	1148	1189	1183	1178	1217	1186	1194	1174	1171	1175	1141
60	1094	1095	1077	1052	1074	1078	1106	1142	1139	1142	1170	1150	1152	1136	1126	1129	1094

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61	1046	1054	1044	1019	1038	1041	1073	1096	1093	1097	1122	1106	1108	1090	1082	1085	1046
62	1006	1017	1004	990	1007	1007	1042	1057	1052	1060	1083	1063	1070	1054	1045	1049	1006
63	968	977	968	957	971	973	1009	1021	1016	1028	1046	1033	1036	1022	1012	1013	968
64	934	943	938	926	940	945	971	982	981	995	1012	998	1000	983	975	976	934
65	904	914	913	898	914	916	942	951	955	965	976	965	962	948	945	941	904
66	878	883	889	876	887	887	915	924	933	941	949	941	936	921	914	909	878
67	855	854	862	851	860	863	883	897	909	917	927	919	914	898	884	875	855
68	832	825	837	827	829	839	857	875	885	893	905	890	885	869	853	848	832
69	809	800	814	799	802	814	831	850	869	866	879	863	858	846	826	826	809
70	791	779	790	767	777	791	799	820	844	837	856	843	833	822	799	803	791
71	774	758	763	742	755	766	772	789	817	808	833	816	806	796	778	782	774
72	754	738	740	723	734	738	753	768	792	783	806	793	781	775	757	763	754
73	737	724	720	706	719	718	733	748	772	768	784	772	761	751	738	747	737
74	720	709	703	685	702	700	717	734	754	748	756	751	742	733	720	732	720
75	706	695	692	671	687	682	700	719	739	733	737	731	723	719	702	711	706
76	689	683	679	657	671	666	684	702	723	717	722	711	706	701	685	693	689
77	668	665	656	635	649	645	665	683	708	701	705	694	689	684	666	674	668
78	642	635	626	609	618	618	638	655	684	684	684	672	667	658	644	647	642
79	608	600	591	578	581	583	606	624	656	656	659	647	637	627	617	616	608
80	573	565	557	546	549	547	573	593	624	625	629	618	611	594	584	582	573
81	543	536	532	521	523	520	545	562	586	587	596	585	577	566	552	553	543
82	521	517	519	506	506	503	522	536	554	554	564	554	548	539	523	531	521
83	506	504	504	494	493	494	507	516	532	530	541	528	526	517	504	515	506
84	498	497	492	484	484	488	495	503	517	517	523	510	510	505	491	505	498
85	496	490	482	475	475	478	486	492	507	513	509	499	497	496	483	496	496
86	489	482	475	465	463	464	476	482	502	511	500	491	486	486	478	487	489
87	478	467	466	454	447	449	461	472	492	504	494	484	473	474	469	478	478
88	464	453	457	442	434	434	446	462	480	491	486	474	458	460	458	469	464
89	449	441	449	434	427	425	434	451	467	475	477	463	444	447	448	460	449
90	447	443	452	438	435	435	436	450	459	460	470	452	434	438	438	456	447
91	446	447	459	445	442	448	449	463	469	457	468	445	433	441	439	460	446
92	449	449	463	450	446	455	461	472	479	466	472	450	443	448	441	459	449

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93	454	447	459	452	449	458	467	475	483	474	477	455	449	453	446	457	454
94	457	443	450	452	449	459	471	474	480	480	479	460	455	459	453	455	457
95	453	440	440	449	449	456	468	466	475	482	476	464	456	461	458	455	453
96	446	436	432	443	447	451	461	456	470	477	470	462	454	456	457	454	446
97	440	428	426	436	438	439	451	445	463	471	463	459	453	451	448	449	440
98	431	418	423	427	425	428	444	434	456	458	456	454	450	446	437	440	431
99	417	405	417	414	410	416	436	427	449	446	450	443	440	438	428	429	417
100	400	390	404	403	398	409	423	422	433	430	444	432	429	425	419	420	400
101	384	379	392	394	388	397	406	411	413	413	432	422	418	413	409	407	384
102	375	368	382	384	380	384	393	398	395	399	419	414	406	404	399	393	375
103	371	363	371	376	369	370	382	384	382	386	409	404	394	391	389	381	371
104	368	361	364	368	361	360	376	375	376	379	398	396	383	378	382	374	368
105	363	358	359	361	354	354	372	371	373	378	390	389	374	366	375	369	363
106	358	350	354	356	346	351	361	367	369	374	386	381	367	358	367	362	358
107	349	341	348	345	342	349	359	357	366	379	372	358	355	360	353	349	
108	341	337	338	335	336	331	334	351	349	357	367	366	349	349	354	347	341
109	339	335	328	324	331	323	328	344	340	351	359	355	344	342	348	339	339
110	335	329	321	315	324	320	325	334	332	350	352	343	342	336	338	332	335
111	330	324	313	311	317	315	318	322	330	345	344	336	338	333	327	328	330
112	324	317	303	308	311	306	316	309	329	336	332	326	331	329	320	323	324
113	320	309	292	301	303	303	312	299	325	330	319	317	324	321	313	313	320
114	312	299	284	288	294	298	302	292	323	326	305	311	319	314	305	303	312
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116	289	287	275	274	285	283	285	288	304	307	295	304	306	303	284	292	289
117	283	282	269	266	275	272	276	281	291	302	291	301	299	295	279	278	283
118	276	271	261	254	266	263	270	273	280	292	283	301	296	287	278	267	276
119	267	260	248	243	258	254	258	264	271	282	279	294	288	281	275	258	267
120	254	247	236	230	247	245	242	254	262	274	276	281	282	277	266	247	254
121	241	231	221	213	234	229	229	243	251	261	266	268	278	269	249	235	241
122	227	217	209	201	214	212	216	229	237	246	250	256	269	254	230	224	227
123	215	208	197	199	200	197	204	215	223	232	233	236	256	241	218	213	215
124	205	202	186	197	190	185	196	200	213	221	215	224	236	226	209	202	205

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125	197	195	177	190	179	174	189	191	207	211	202	212	221	211	199	191	197
126	185	184	174	181	172	164	183	186	197	200	190	201	205	194	188	181	185
127	177	174	171	172	169	159	179	177	186	190	180	190	190	180	179	172	177
128	171	167	166	166	166	158	172	170	178	179	171	179	179	169	176	165	171
129	164	161	161	164	161	159	167	166	174	172	164	173	173	163	174	160	164
130	160	158	156	161	160	159	161	163	169	167	159	170	169	158	169	157	160
131	158	156	155	155	158	155	158	161	165	164	157	169	164	156	165	156	158
132	154	151	153	149	153	148	156	158	162	163	158	167	160	156	161	153	154
133	147	143	148	147	143	138	154	152	157	160	160	166	159	152	158	147	147
134	139	139	136	144	136	131	147	141	148	151	157	160	156	146	151	139	139
135	132	134	128	139	130	126	139	131	141	144	149	155	148	140	145	131	132
136	127	128	124	132	126	124	131	128	136	137	139	149	138	135	140	127	127
137	122	122	121	123	121	119	122	126	132	131	131	142	133	129	132	123	122
138	116	113	114	111	115	114	113	120	125	125	126	135	127	123	125	116	116
139	109	103	107	103	107	108	107	113	119	119	122	126	120	114	118	110	109
140	101	95	99	97	98	98	101	107	110	112	117	116	114	107	109	104	101
141	92	89	93	92	91	91	95	98	100	105	110	107	106	101	101	95	92
142	86	84	86	86	86	86	88	90	93	97	102	98	97	92	94	89	86
143	81	79	80	78	80	80	81	84	88	90	93	92	90	86	87	83	81
144	74	73	74	72	73	75	75	79	81	84	87	86	84	81	80	77	74
145	67	67	69	66	67	69	69	74	74	79	83	79	78	75	74	71	67
146	61	61	63	61	63	63	63	67	68	72	77	73	71	68	68	65	61
147	57	57	58	56	58	59	58	62	62	66	69	67	65	63	62	59	57
148	53	52	53	51	53	54	53	58	57	61	63	61	60	58	57	55	53
149	49	48	49	47	49	49	49	53	53	56	58	56	55	53	52	51	49
150	45	44	45	43	45	46	45	49	49	51	54	51	51	49	47	46	45
151	41	40	42	39	41	42	41	45	45	47	49	47	47	45	43	42	41
152	37	36	38	35	37	39	37	41	42	43	45	43	43	41	39	39	37
153	34	33	34	32	34	35	34	38	38	39	41	39	39	37	35	36	34
154	31	30	31	29	31	32	31	34	35	35	38	36	36	34	32	32	31
155	28	27	28	26	28	29	28	31	31	31	34	32	32	31	29	29	28
156	25	25	26	24	26	27	26	28	29	29	30	29	29	28	26	26	25

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157	23	23	24	23	24	25	24	26	27	26	28	27	26	26	24	24	23
158	21	21	22	21	22	22	23	24	24	24	26	25	24	24	22	22	21
159	19	19	20	20	20	20	21	22	23	22	24	23	22	22	21	20	19
160	18	18	19	18	18	19	19	20	21	21	22	22	21	20	19	19	18
161	17	16	17	16	16	17	17	18	19	19	20	20	19	19	18	18	17
162	15	15	16	15	15	15	15	16	17	17	18	18	18	17	16	16	15
163	14	13	14	13	13	14	14	14	15	15	16	17	16	16	15	15	14
164	12	12	12	12	12	12	12	12	14	13	14	15	14	14	13	13	12
165	11	11	11	11	10	10	10	11	11	11	12	14	13	13	12	9	11
166	11	10	10	10	10	10	10	10	10	11	11	14	11	11	11	10	11
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179	10	10	10	11	10	10	10	10	10	10	10	10	10	10	10	10	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 *******