



Report No.:GZE151229-I

NVLAP LAB CODE 201011-0

LM-79-08 Test Report

For

L-TECH CORPORTION (Brand Name: L-TECH CORP)

Shaogangtou District, Qiaotou Town
Dongguan City, Guangdong, China

LED Lamp

Model name(s): CLED8A/P/R-52 with TCLD852HZ-4080 (CLKT852)

Model differences: N/A

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Date:Dec.11, 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

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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	Dec.11, 2015
Test Report No.	GZE151229-I
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	L-TECH CORPORTION		
Brand Name	L-TECH CORP		
Model Number	CLED8A/P/R-52 with TCLD852HZ-4080 (CLKT852)		
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	

Electrical Measurements:	Integrating Sphere	Goniophotometer	
	Output	Output	
Input Wattage	--	53.76	W
Input Current	--	0.4519	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9913	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	4528.4	lm
Initial Lumen Efficacy	--	84.23	lm/w
Correlated color temperature / CCT	4035	--	K
Color rendering index / CRI	83.6	--	
R9 Value	16	--	
Duv	0.0006	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)	--	2748	cd
Beam angle (if applicable)	--	116.6	°
Zonal lumens in the 0°-60° zone	--	92	%
Zonal lumens in the 60°-90° zone	--	8	%
Zonal lumens in the 90°-120° zone	--	0	%
Zonal lumens in the 120°-180° zone	--	0	%

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Test Specifications:	
Date of Receipt	: Dec.08,2015
Date of Test	: Dec.10,2015
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 120 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.

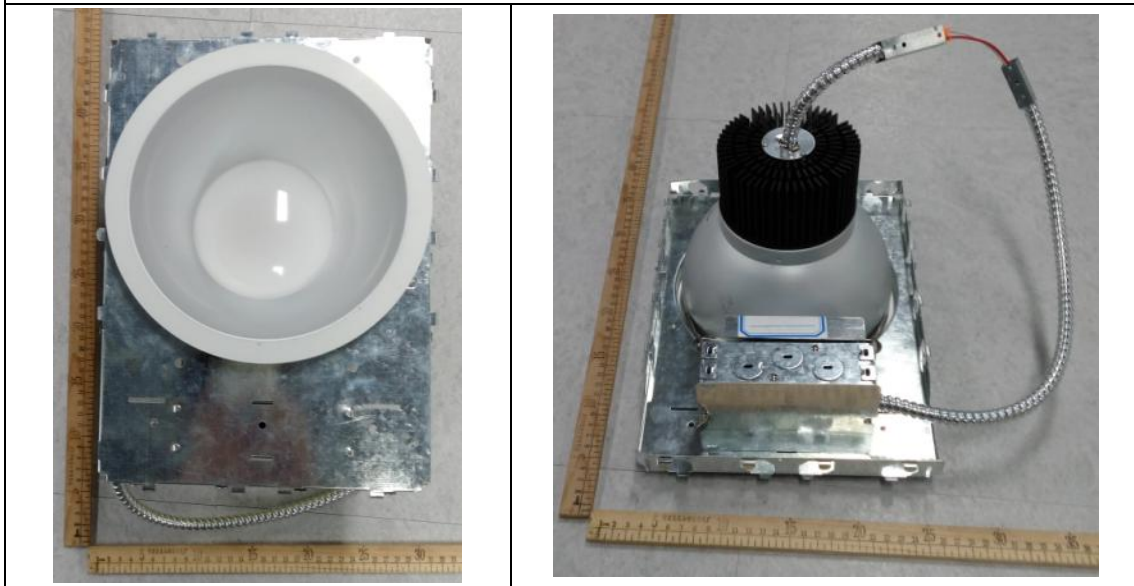
2. Photometric and Electrical Measurements – Integrating Sphere Method:

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 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	L-TECH CORP
Model Number	CLED8A/P/R-52 with TCLD852HZ-4080 (CLKT852)
Luminaire Type	LED Lamp
Rated Voltage / Frequency	120/277Vac, 60Hz
Nominal Power	50W
Rated Initial Lamp Lumen	N/A
Declared CCT	4000K
LED Manufacturer	Seoul Semiconductor Co.,Ltd
LED Model	STWxC2SB
Sample Receipt Date	Dec.08,2015
Sample Number	GZE151229-I1

Photo



2.1 Electrical, Photometric and Chromaticity Measurements <i>(Refer to Work Instruction QD25)</i>	IES LM-79 2008
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Test date	2015-12-10	Test Ambient:	25.1 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	CLED8A/P/R-52 with TCLD852HZ-4080 (CLKT852)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
GZE151229 -I1	120.0	60	0.4519	53.76	0.9913

Sphere-Spectroradiometer Method:

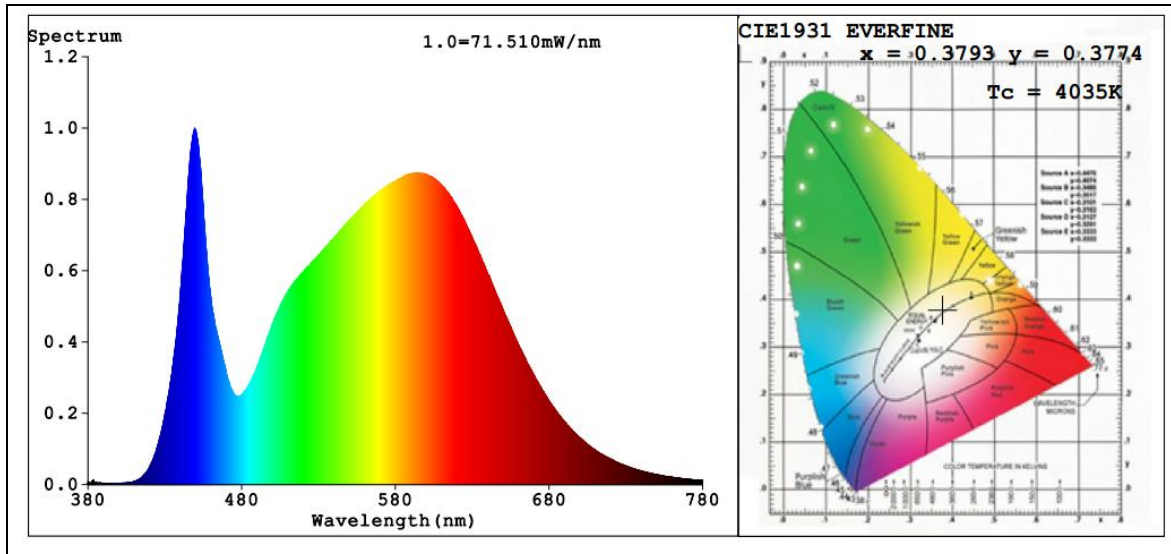
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	83.6
R9	16
CCT (K)	4035
Chromaticity (x, y)	x=0.3793 y=0.3774
Chromaticity (u', v')	u'=0.2241 v'=0.5017
Duv	0.0006

Special Color Rendering Indices			
R1	82	R9	16
R2	89	R10	73
R3	93	R11	82
R4	83	R12	64
R5	82	R13	83
R6	84	R14	96
R7	88	R15	77
R8	68	--	--

Goniophotometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	4528.4
Luminous Efficacy (lm/W)	84.23
Beam Angle °	116.6
Center Beam Candle Power (cd)	2748

Spectral Power Distribution & Chromaticity Diagram



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Zonal Lumen Tabulation:

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	2,022.2	44.7%
0-40	3,114.4	68.8%
0-60	4,166.5	92%
60-90	360.8	8%
70-100	156.0	3.4%
90-120	0.1	0%
0-90	4,527.3	100%
90-180	0.4	0%
0-180	4,527.7	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	258.3	5.7%	90-100	0.0	0%
10-20	721.4	15.9%	100-110	0.0	0%
20-30	1,042.4	23.0%	110-120	0.0	0%
30-40	1,092.3	24.1%	120-130	0.0	0%
40-50	725.7	16.0%	130-140	0.1	0%
50-60	326.4	7.2%	140-150	0.1	0%
60-70	204.8	4.5%	150-160	0.1	0%
70-80	122.7	2.7%	160-170	0.0	0%
80-90	33.2	0.7%	170-180	0.0	0%

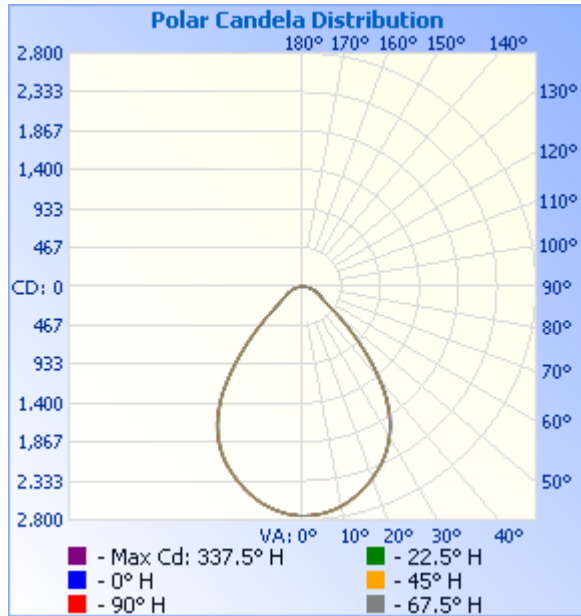
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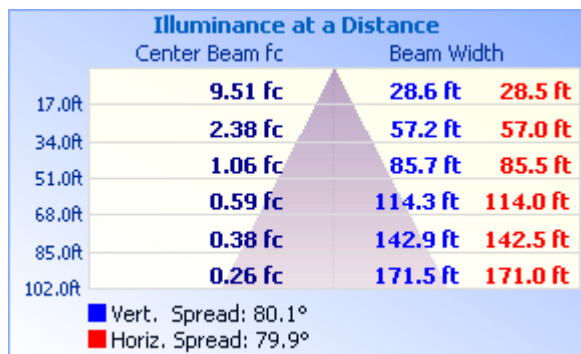
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Photometric Data



Illuminance Plots



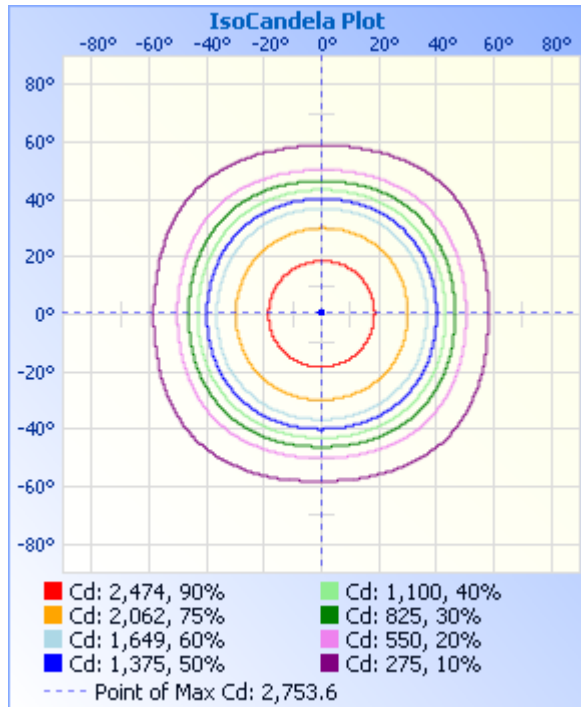
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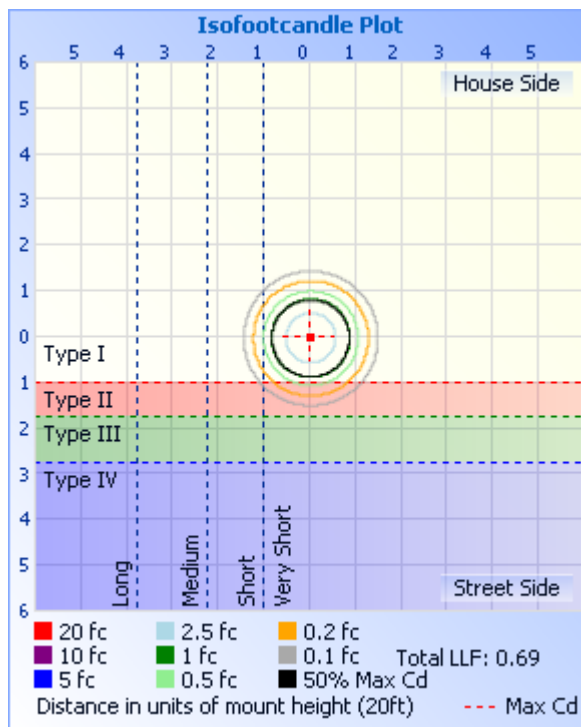
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ISOCANDELA DIAGRAM



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	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748	2748
1	2748	2748	2750	2750	2746	2750	2748	2750	2748	2746	2751	2748	2747	2748	2748	2754	2748
2	2747	2748	2748	2749	2745	2748	2745	2746	2744	2744	2745	2746	2739	2743	2744	2746	2747
3	2744	2745	2745	2746	2739	2744	2739	2742	2739	2741	2740	2737	2734	2742	2741	2747	2744
4	2736	2740	2743	2740	2736	2739	2736	2736	2733	2732	2733	2728	2728	2734	2736	2739	2736
5	2733	2734	2735	2733	2730	2729	2724	2728	2719	2721	2722	2726	2721	2725	2728	2735	2733
6	2724	2724	2728	2724	2720	2722	2716	2714	2708	2711	2712	2713	2711	2717	2721	2725	2724
7	2715	2715	2714	2713	2711	2706	2704	2704	2699	2698	2700	2699	2701	2706	2706	2715	2715
8	2701	2706	2706	2704	2700	2697	2695	2690	2685	2684	2686	2689	2685	2691	2695	2703	2701
9	2689	2689	2692	2693	2685	2684	2676	2676	2670	2668	2670	2671	2670	2679	2682	2690	2689
10	2673	2675	2677	2678	2671	2670	2661	2662	2655	2651	2657	2653	2655	2663	2665	2675	2673
11	2656	2655	2662	2661	2653	2651	2644	2642	2637	2632	2635	2638	2637	2644	2649	2659	2656
12	2639	2642	2643	2640	2634	2633	2628	2622	2616	2611	2615	2619	2619	2627	2631	2639	2639
13	2619	2617	2621	2620	2615	2612	2602	2602	2595	2591	2597	2596	2597	2605	2613	2618	2619
14	2599	2598	2603	2598	2595	2590	2581	2579	2570	2567	2573	2572	2576	2585	2593	2597	2599
15	2575	2575	2581	2576	2571	2568	2561	2555	2549	2545	2545	2549	2551	2561	2570	2574	2575
16	2552	2552	2554	2554	2546	2545	2537	2533	2524	2520	2522	2523	2527	2536	2542	2552	2552
17	2526	2527	2532	2530	2524	2519	2511	2506	2494	2491	2496	2498	2500	2513	2518	2528	2526
18	2500	2503	2502	2500	2496	2492	2484	2479	2469	2464	2467	2471	2476	2484	2495	2499	2500
19	2474	2474	2477	2476	2471	2467	2457	2451	2442	2437	2439	2446	2447	2457	2470	2471	2474
20	2447	2446	2449	2446	2440	2438	2428	2423	2412	2411	2414	2417	2417	2429	2435	2445	2447
21	2417	2417	2420	2417	2414	2410	2398	2393	2381	2378	2380	2387	2388	2401	2409	2416	2417
22	2386	2386	2387	2385	2383	2379	2370	2364	2353	2349	2349	2354	2357	2371	2379	2388	2386
23	2357	2359	2360	2354	2356	2351	2338	2335	2322	2318	2320	2326	2330	2342	2350	2360	2357
24	2324	2326	2325	2326	2322	2315	2305	2297	2287	2282	2284	2294	2295	2310	2317	2326	2324
25	2290	2289	2291	2285	2285	2280	2270	2263	2250	2245	2247	2257	2258	2273	2284	2292	2290
26	2257	2252	2250	2249	2247	2243	2229	2222	2214	2209	2210	2216	2221	2237	2250	2258	2257
27	2218	2211	2213	2209	2208	2201	2194	2182	2171	2165	2170	2175	2181	2199	2211	2218	2218
28	2175	2172	2174	2166	2166	2160	2148	2140	2129	2121	2128	2133	2140	2157	2167	2176	2175

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29	2133	2129	2128	2123	2122	2113	2102	2091	2082	2076	2082	2089	2093	2112	2129	2134	2133
30	2086	2082	2078	2077	2074	2067	2054	2044	2033	2029	2030	2038	2046	2066	2081	2089	2086
31	2037	2032	2031	2026	2026	2017	2002	1994	1981	1977	1979	1985	1993	2015	2033	2042	2037
32	1985	1982	1979	1972	1971	1961	1950	1939	1927	1918	1924	1932	1941	1963	1978	1990	1985
33	1931	1928	1923	1915	1916	1904	1892	1879	1866	1860	1863	1871	1878	1906	1923	1933	1931
34	1875	1867	1863	1855	1855	1843	1830	1813	1799	1793	1795	1804	1816	1843	1862	1873	1875
35	1811	1806	1798	1791	1787	1774	1760	1748	1733	1727	1727	1737	1746	1776	1798	1811	1811
36	1742	1738	1730	1719	1720	1705	1690	1682	1666	1660	1659	1670	1672	1705	1727	1743	1742
37	1671	1663	1657	1647	1652	1636	1619	1603	1586	1581	1581	1593	1594	1625	1652	1669	1671
38	1596	1590	1580	1569	1574	1555	1537	1520	1505	1497	1497	1510	1513	1546	1572	1592	1596
39	1514	1509	1499	1486	1491	1473	1455	1434	1418	1410	1414	1427	1429	1461	1487	1509	1514
40	1430	1424	1415	1403	1405	1386	1367	1346	1329	1321	1326	1340	1340	1372	1400	1422	1430
41	1343	1342	1330	1316	1317	1300	1278	1256	1237	1229	1237	1254	1253	1283	1310	1332	1343
42	1254	1254	1243	1226	1229	1211	1186	1165	1144	1139	1147	1165	1165	1193	1219	1242	1254
43	1168	1166	1153	1138	1140	1122	1098	1075	1056	1050	1060	1079	1078	1103	1127	1152	1168
44	1076	1077	1065	1049	1055	1033	1010	988	969	966	974	992	990	1016	1039	1063	1076
45	989	989	982	966	966	946	922	902	885	879	890	908	908	931	952	977	989
46	903	904	894	882	883	862	838	818	804	801	810	828	837	850	869	891	903
47	825	826	817	807	804	781	757	741	727	726	734	748	758	777	795	814	825
48	746	747	741	732	726	704	683	668	656	655	662	676	678	703	720	737	746
49	668	668	665	657	654	631	612	598	590	589	595	608	609	630	646	661	668
50	600	600	598	591	587	566	548	538	530	531	534	545	548	567	582	595	600
51	538	537	535	530	526	508	492	482	477	477	480	490	492	509	523	533	538
52	483	482	481	475	472	455	442	435	431	430	433	441	442	458	470	480	483
53	436	435	433	428	426	411	401	395	391	389	392	398	400	414	426	433	436
54	396	395	392	387	386	375	366	362	357	355	358	363	365	377	387	395	396
55	363	361	359	353	353	344	338	334	328	327	328	333	334	345	354	361	363
56	335	332	330	326	325	320	314	310	305	303	304	307	309	319	327	333	335
57	312	309	307	303	303	298	294	291	286	283	283	286	288	297	305	310	312
58	292	289	287	285	285	281	278	275	270	266	266	269	270	278	285	291	292
59	275	274	271	271	272	269	266	264	259	255	253	255	257	264	270	275	275

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60	265	262	261	260	261	258	256	254	249	245	243	246	247	253	259	264	265
61	254	252	250	249	250	248	245	244	239	235	234	236	238	244	249	253	254
62	244	242	240	239	240	237	235	234	230	226	224	227	228	234	239	243	244
63	234	232	230	229	229	227	225	224	220	216	215	217	219	224	229	234	234
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66	206	203	200	199	200	198	197	196	192	189	189	191	192	197	202	206	206
67	196	194	191	190	191	189	187	186	183	181	180	182	183	188	193	196	196
68	187	184	182	180	181	179	178	177	174	171	171	174	174	179	184	187	187
69	178	175	172	171	172	170	169	168	165	163	163	165	166	170	174	178	178
70	169	166	163	161	162	161	159	159	156	154	154	156	157	162	165	169	169
71	160	157	154	152	153	151	150	150	147	145	145	147	148	153	156	160	160
72	150	148	145	143	144	142	141	140	138	136	137	139	139	144	148	151	150
73	141	138	136	134	134	133	132	131	129	128	128	130	131	135	139	141	141
74	132	130	127	125	125	124	123	122	120	119	119	122	122	126	130	133	132
75	123	120	118	116	116	115	114	113	112	110	111	113	114	118	121	124	123
76	114	112	109	107	107	106	105	104	103	102	102	105	105	109	112	115	114
77	106	103	100	98	99	97	96	96	94	93	94	96	97	100	104	106	106
78	97	94	91	89	89	88	87	87	86	85	86	88	88	92	95	97	97
79	88	85	83	81	81	79	78	78	77	76	77	80	80	84	86	88	88
80	79	76	74	72	72	70	69	69	68	68	69	71	72	75	77	79	79
81	70	68	66	63	63	61	60	59	59	59	60	62	63	66	68	70	70
82	61	59	56	54	53	52	51	50	49	50	51	53	54	57	60	61	61
83	51	50	47	45	44	42	41	40	40	40	42	44	45	48	50	52	51
84	42	40	37	35	35	33	32	31	31	31	33	35	36	38	41	42	42
85	32	31	29	27	27	25	25	24	24	24	25	28	27	30	31	33	32
86	24	23	21	19	19	18	17	17	17	17	18	21	20	22	23	24	24
87	16	15	14	12	12	11	10	9	9	10	11	14	13	15	16	17	16
88	10	9	8	8	6	5	4	4	4	4	5	7	9	8	10	10	10
89	7	5	4	4	1	1	0	0	0	0	1	2	4	4	5	7	7
90	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3

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91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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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 *******