



NVLAP LAB CODE 201011-0

Report No.: GZE160347-V-R

LM-79-08 Test Report

For

LIGHT EFFICIENT DESIGN

(Brand Name:N/A)

188 S. Northwest Highway Cary, IL 60013

LED Luminaire

Model name(s): LED-8050M50

Representative (Tested) Model: LED-8050M50

Model Different :N/A

Test & Report By:

Jack Luo

Engineer: Jack Luo

Date: Apr.28,2016

Update:Mar.26,2018

Review By:

Univ Xie

Manager: Univ Xie

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

Product Information:

Organization Name	LIGHT EFFICIENT DESIGN		
Brand Name	N/A		
Model Number	LED-8050M50		
SKU (if available)	N/A		
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaire		
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	--	298.2	W
Input Current	--	2.495	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9956	
Off-State Power	--	0	W

Photometric Characteristics

Total Initial Lumen Output	--	34153	lm
Initial Lumen Efficacy	--	114.54	lm/w
Correlated color temperature / CCT	4888	--	K
Color rendering index / CRI	71.7	--	
R9 Value	0	--	
Duv	0.0027	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)		5859	cd
Beam angle (if applicable)		117.4	°
Zonal lumens in the 0°-60° zone		75.1	%
Zonal lumens in the 60°-90° zone	-----	22	%
Zonal lumens in the 90°-120° zone		2.1	%
Zonal lumens in the 120°-180° zone		0.8	%

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Test Specifications:	
Date of Receipt	: Apr.01,2016
Date of Test	: Apr.30,2016
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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, 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, 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	N/A
Model Number	LED-8050M50
Luminaire Type	LED Luminaire
Rated Voltage / Frequency	120~277 Vac, 50/60Hz
Nominal Power	300W
Rated Initial Lamp Lumen	--
Declared CCT	5000K
LED Manufacturer	CREE
LED Model	XTEAWT-00-0000-000000GE3
Sample Receipt Date	Apr.01,2016
Sample Number	GZE160347-V1(5000K)

Photo



2.1 Electrical, Photometric and Chromaticity Measurements (Refer to Work Instruction QD25)	IES LM-79 2008
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Test date	2016-04-30	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED-8050M50		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE160347	120.0	60	2.495	298.2	0.9956	3.93
-V1	277.0	60	1.137	292.3	0.9280	8.52

Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	71.7
R9	0
CCT (K)	4888
Chromaticity (x, y)	x=0.3490 y=0.3601
Chromaticity (u', v')	u'=0.2108 v'=0.4893
Duv	0.0027

Special Color Rendering Indices			
R1	70	R9	0
R2	75	R10	40
R3	78	R11	70
R4	73	R12	41
R5	70	R13	70
R6	66	R14	87
R7	80	R15	66
R8	61	--	--

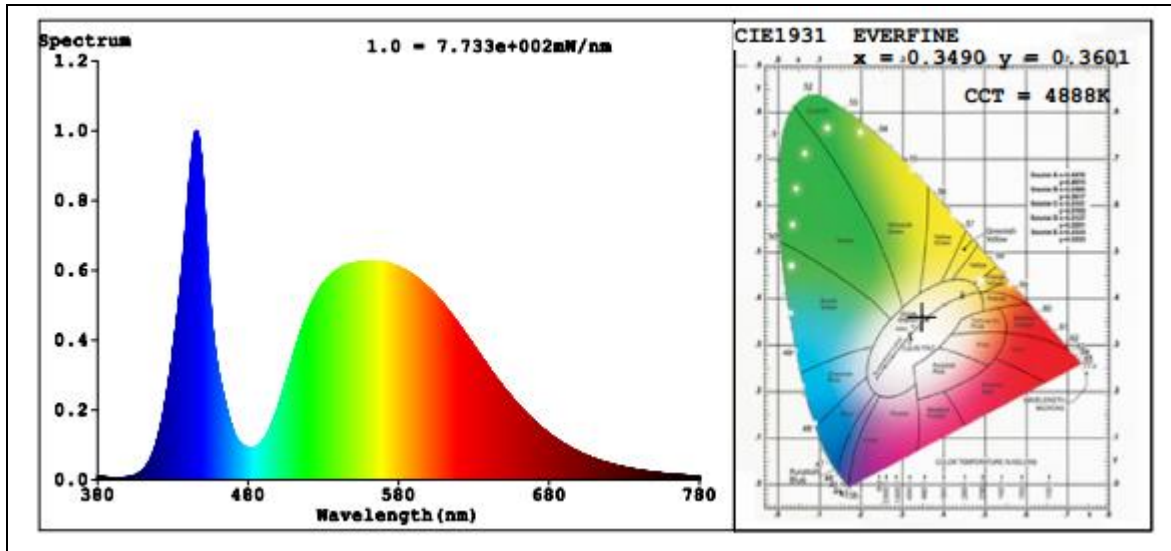
Goniophotometer Method :

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	34153
Luminous Efficacy (lm/W)	114.54
Beam Angle °	117.4
Center Beam Candle Power (cd)	5859

Goniophotometer Methodn :

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	33769
Luminous Efficacy (lm/W)	115.52

Spectral Power Distribution & Chromaticity Diagram



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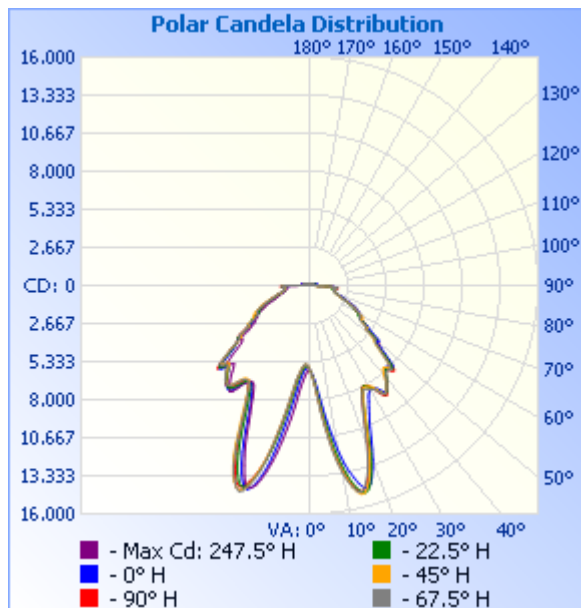
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Zonal Lumen Tabulation

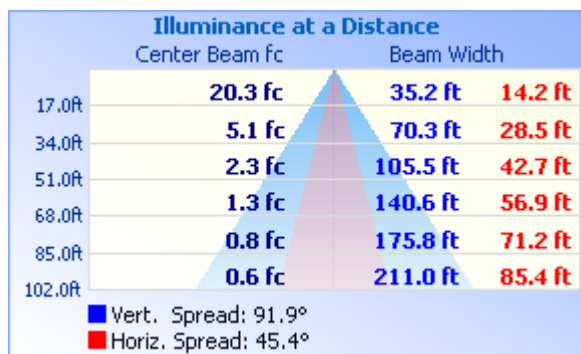
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	9,434.5	27.6%
0-40	14,858.8	43.5%
0-60	25,650.1	75.1%
60-90	7,520.9	22%
70-100	4,351.1	12.7%
90-120	722.3	2.1%
0-90	33,171.0	97.1%
90-180	980.5	2.9%
0-180	34,151.5	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	807.2	2.4%	90-100	306.0	0.9%
10-20	3,877.3	11.4%	100-110	218.9	0.6%
20-30	4,750.0	13.9%	110-120	197.4	0.6%
30-40	5,424.3	15.9%	120-130	123.8	0.4%
40-50	6,114.2	17.9%	130-140	70.6	0.2%
50-60	4,677.2	13.7%	140-150	34.9	0.1%
60-70	3,475.8	10.2%	150-160	17.8	0.1%
70-80	2,209.5	6.5%	160-170	8.2	0%
80-90	1,835.6	5.4%	170-180	2.9	0%

Photometric Data



Illuminance Plots



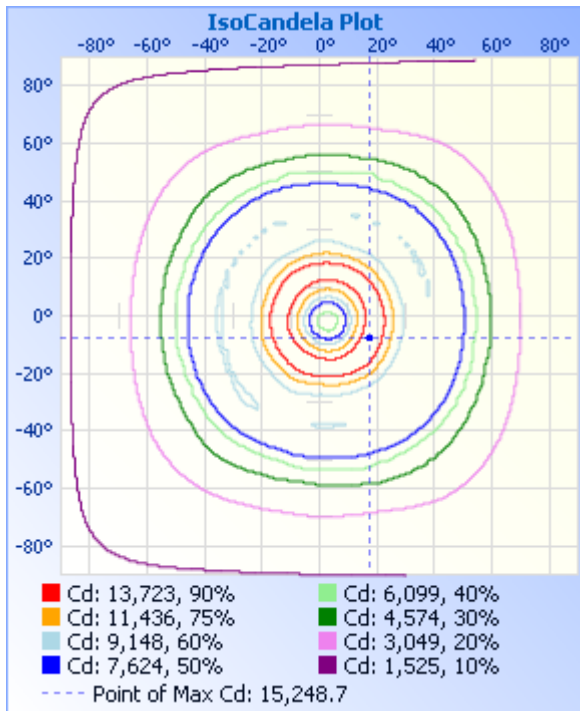
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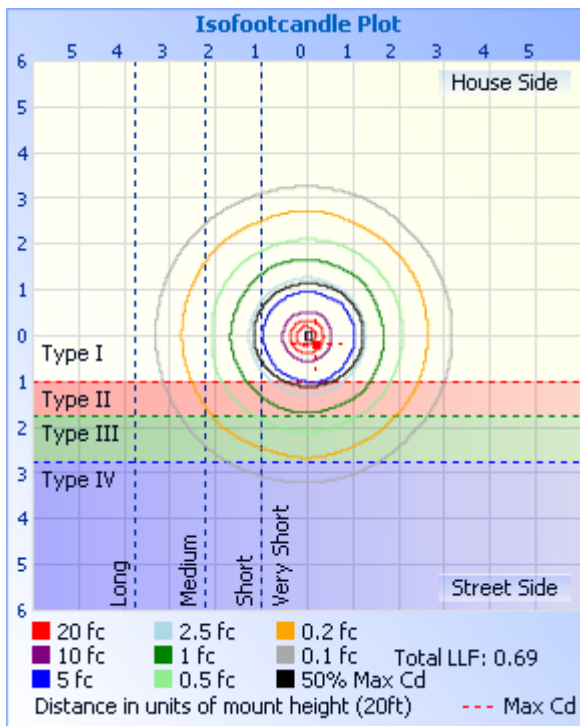
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ISOCANDELA DIAGRAM



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	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859	5859
1	6044	6106	6140	6151	6102	6033	5940	5839	5756	5694	5650	5647	5677	5736	5844	5938	6044
2	6303	6439	6502	6496	6412	6277	6106	5926	5753	5626	5544	5536	5600	5707	5921	6106	6303
3	6667	6872	7009	7023	6859	6625	6375	6106	5862	5663	5522	5514	5602	5799	6101	6372	6667
4	7130	7516	7798	7882	7661	7262	6824	6391	6074	5794	5582	5571	5700	5990	6368	6706	7130
5	7782	8333	8682	8851	8581	8083	7490	6839	6366	5975	5740	5736	5876	6250	6717	7150	7782
6	8567	9206	9629	9826	9559	8973	8321	7515	6769	6238	5989	5982	6135	6545	7136	7792	8567
7	9396	10090	10585	10782	10528	9904	9236	8292	7416	6601	6314	6288	6455	6946	7788	8613	9396
8	10219	10988	11581	11757	11473	10844	10149	9193	8175	7219	6758	6695	6921	7602	8556	9416	10219
9	11049	11908	12508	12638	12380	11779	11113	10104	9056	8020	7477	7339	7684	8392	9329	10206	11049
10	11949	12674	13196	13366	13034	12529	12013	11110	9953	8917	8348	8284	8596	9239	10168	11035	11949
11	12677	13395	13792	13954	13674	13178	12765	12153	10960	9834	9317	9327	9518	10117	11035	11910	12677
12	13292	14026	14402	14435	14208	13782	13565	12976	11994	10829	10322	10371	10495	11047	11925	12652	13292
13	13809	14512	14834	14777	14644	14300	14184	13729	12901	11810	11401	11450	11581	11974	12653	13342	13809
14	14288	14859	15053	14923	14854	14664	14699	14311	13677	12626	12437	12540	12521	12718	13399	13948	14288
15	14656	15005	15017	14738	14797	14810	14959	14768	14222	13367	13258	13477	13253	13477	14064	14449	14656
16	14755	14912	14699	14323	14488	14607	14917	15034	14706	13995	13972	14136	13816	14096	14618	14709	14755
17	14556	14523	14219	13828	14030	14216	14604	15025	14924	14539	14570	14691	14303	14600	14924	14775	14556
18	14120	13926	13638	13202	13425	13743	14123	14779	14814	14856	15011	15092	14705	14882	14922	14572	14120
19	13563	13261	12929	12439	12685	13232	13627	14402	14451	14833	15158	15249	14908	14890	14673	14042	13563
20	12949	12521	12177	11629	11860	12607	13048	13847	13952	14543	15027	15045	14808	14571	14189	13365	12949
21	12238	11651	11344	10854	11049	11883	12299	13183	13301	14068	14721	14661	14474	14015	13506	12710	12238
22	11510	10748	10610	10138	10291	11110	11520	12468	12586	13493	14312	14216	13924	13341	12784	12012	11510
23	10831	9976	9993	9551	9661	10372	10691	11725	11801	12816	13734	13619	13267	12649	12035	11235	10831
24	10301	9351	9452	9086	9131	9719	9960	11020	10993	12048	13053	12821	12566	11854	11276	10447	10301
25	9863	8860	8968	8722	8718	9147	9372	10375	10227	11224	12232	11984	11767	11056	10542	9833	9863
26	9477	8477	8545	8409	8362	8664	8912	9829	9582	10442	11323	11057	10921	10336	9914	9291	9477
27	9128	8170	8218	8224	8096	8283	8533	9368	9077	9753	10555	10281	10176	9736	9403	8768	9128
28	8799	7985	8063	8221	7967	8048	8200	8989	8669	9181	9868	9637	9566	9179	8981	8354	8799

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29	8565	8025	8086	8277	7972	7948	8002	8639	8344	8711	9256	9131	9072	8703	8617	8041	8565
30	8455	8154	8153	8443	8113	7993	7943	8318	8090	8348	8763	8694	8702	8321	8299	7870	8455
31	8444	8355	8244	8496	8273	8145	7927	8199	7938	8082	8327	8310	8366	8050	8139	7837	8444
32	8504	8507	8388	8592	8554	8358	8004	8161	7927	7931	7999	8017	8085	7974	8107	7867	8504
33	8587	8774	8727	8879	8938	8667	8249	8182	8041	7972	7850	7934	7950	8040	8176	8039	8587
34	8815	9069	9089	9152	9282	9015	8570	8328	8257	8126	7869	7962	7963	8206	8301	8316	8815
35	9068	9290	9210	9251	9395	9277	8943	8623	8582	8376	7944	8020	8135	8401	8551	8757	9068
36	9116	9205	9088	9148	9245	9260	9180	8879	8904	8685	8116	8225	8420	8688	8861	9128	9116
37	8955	8954	8937	8958	9033	9134	9325	8962	9213	8923	8461	8489	8759	9080	9154	9293	8955
38	8735	8754	8725	8745	8836	8926	9369	8886	9261	9118	8798	8837	9048	9363	9182	9098	8735
39	8445	8562	8396	8549	8578	8705	9318	8722	9198	9119	8987	8978	9123	9307	9059	8901	8445
40	8268	8380	8067	8400	8349	8494	9010	8549	9047	9022	8991	9007	9084	9006	8927	8675	8268
41	8067	8142	7820	8169	8124	8279	8800	8362	8840	8898	8881	8928	8984	8655	8712	8411	8067
42	7923	7949	7714	8051	7983	8007	8615	8191	8610	8648	8751	8858	8750	8319	8482	8093	7923
43	7788	7906	7811	8090	8047	7874	8349	7933	8427	8460	8579	8629	8461	8092	8245	7799	7788
44	7877	8091	8048	8201	8326	7960	8207	7673	8234	8244	8386	8471	8262	7840	8014	7593	7877
45	8099	8233	7867	7974	8402	8341	8390	7589	8119	8062	8097	8265	8112	7650	7871	7767	8099
46	8155	7897	7446	7396	7973	8177	8482	7988	8279	8046	7809	8053	8077	7683	7928	8031	8155
47	7663	7260	6871	6921	7198	7466	7839	7957	8572	8313	7885	8037	8327	8018	8101	7846	7663
48	7095	6630	6359	6483	6696	6778	7103	7637	8396	8523	8236	8375	8683	8229	7847	7339	7095
49	6596	6145	6048	6100	6497	6290	6647	7076	7782	8168	8213	8328	8375	7774	7310	6707	6596
50	6129	5990	5887	6009	6271	6004	6298	6476	7108	7499	7739	7803	7690	7310	6719	6248	6129
51	6235	6033	5571	5836	6072	6069	5986	6112	6705	6863	7134	7162	7128	6659	6202	6047	6235
52	6093	5546	5085	5117	5525	5626	5905	5880	6450	6540	6450	6631	6594	6135	5925	6174	6093
53	5517	5034	4981	4993	4937	5217	5632	5807	6270	6200	6006	6169	6289	6037	6030	5904	5517
54	5142	4983	5000	4809	4992	4977	4961	5217	5986	6223	5988	6138	6173	6091	5615	5271	5142
55	4951	4739	4560	4411	4686	4726	5066	5056	5418	5784	5711	5980	6033	5506	5035	4968	4951
56	4521	4456	4385	4243	4576	4332	4732	4979	4922	5191	5177	5377	5455	5172	4937	4684	4521
57	4296	4270	4362	4159	4351	4232	4693	4643	4849	5129	4994	5152	5086	5033	4806	4555	4296
58	4280	4047	4371	4171	4244	4178	4516	4373	4515	4891	5119	4994	4843	4541	4391	4449	4280
59	4140	4011	4327	4088	4097	3931	4400	4215	4403	4741	4607	4488	4603	4309	4232	4243	4140
60	4156	3924	4208	4128	3974	3962	3996	4172	4351	4574	4471	4258	4481	4129	4314	4203	4156

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61	4029	3810	3973	3910	3826	4016	3896	4159	4161	4212	4527	4123	4340	4029	4225	4176	4029
62	3888	3614	3810	3765	3701	4012	3875	4033	4021	4041	4404	4128	4174	3941	4120	4010	3888
63	3712	3476	3637	3531	3544	3849	3625	4002	4085	3976	4307	4073	4075	4048	4099	3757	3712
64	3648	3338	3487	3372	3443	3656	3628	3946	3945	3893	4264	4111	3825	3903	3765	3552	3648
65	3526	3153	3265	3161	3252	3513	3608	3746	3759	3803	4007	3950	3673	3796	3660	3420	3526
66	3290	2967	3051	2955	3060	3279	3470	3510	3681	3613	3849	3804	3545	3588	3481	3256	3290
67	3008	2782	2759	2724	2868	3045	3237	3275	3550	3499	3749	3554	3426	3410	3339	3005	3008
68	2785	2601	2569	2511	2690	2811	3004	3040	3371	3285	3568	3383	3383	3225	3177	2809	2785
69	2609	2417	2425	2484	2504	2632	2772	2869	3193	3070	3354	3212	3170	2955	2960	2583	2609
70	2591	2396	2270	2311	2404	2559	2589	2588	3011	2857	3140	3040	3007	2824	2791	2496	2591
71	2443	2212	2202	2225	2248	2294	2417	2463	2709	2693	2927	2819	2811	2670	2579	2366	2443
72	2221	2119	2011	2090	2109	2165	2280	2372	2511	2558	2700	2649	2644	2563	2472	2271	2221
73	2075	1990	1944	1964	1991	2095	2102	2291	2369	2404	2560	2535	2519	2422	2363	2180	2075
74	2020	1885	1878	1892	1888	1941	2034	2094	2191	2308	2417	2424	2372	2273	2179	2095	2020
75	1932	1823	1884	1851	1856	1854	1942	2030	2035	2133	2284	2312	2243	2150	2071	1953	1932
76	1897	1792	1797	1804	1811	1829	1886	1946	1992	2068	2088	2175	2143	2033	2009	1930	1897
77	1810	1755	1757	1743	1795	1826	1821	1911	1948	1950	2008	2035	1999	1911	1951	1860	1810
78	1775	1717	1729	1722	1775	1788	1768	1832	1895	1885	1946	1972	1970	1914	1849	1769	1775
79	1766	1680	1701	1701	1738	1774	1750	1772	1847	1834	1917	1884	1920	1894	1804	1730	1766
80	1739	1652	1672	1691	1723	1749	1729	1741	1838	1780	1824	1865	1832	1833	1779	1693	1739
81	1712	1624	1678	1706	1729	1728	1724	1721	1796	1755	1794	1826	1838	1808	1757	1656	1712
82	1686	1637	1689	1720	1761	1736	1746	1683	1744	1741	1770	1804	1793	1754	1738	1635	1686
83	1731	1706	1731	1785	1809	1765	1744	1667	1722	1706	1754	1761	1772	1754	1744	1630	1731
84	1786	1765	1827	1885	1905	1817	1783	1694	1734	1701	1742	1750	1785	1756	1738	1684	1786
85	1894	1867	1917	1948	2017	1959	1852	1753	1782	1703	1740	1758	1795	1758	1766	1763	1894
86	1910	1805	1722	1783	1889	2035	1991	1849	1827	1724	1784	1791	1867	1824	1852	1862	1910
87	1737	1550	1425	1471	1611	1745	1961	1953	1915	1805	1846	1846	1932	1947	1985	1889	1737
88	1428	1191	962	1000	1191	1456	1672	1820	1965	1917	1913	1911	2019	2083	2006	1695	1428
89	971	716	582	583	696	926	1249	1521	1706	1843	1924	1944	2024	1964	1712	1388	971
90	600	457	422	417	473	536	711	1040	1371	1476	1630	1762	1711	1654	1133	832	600
91	325	341	384	372	408	405	383	200	278	462	992	1360	1015	1115	551	252	325
92	188	245	422	427	443	362	272	77	99	92	182	264	308	249	188	113	188

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93	51	70	438	519	520	409	219	22	14	14	104	154	182	182	148	18	51
94	13	15	315	516	534	459	186	26	17	19	51	136	180	168	67	22	13
95	42	38	192	405	498	336	115	111	113	98	17	94	165	145	15	105	42
96	314	259	97	273	353	247	61	351	329	328	26	29	64	28	22	423	314
97	543	424	54	151	202	155	56	400	554	433	54	11	16	12	50	504	543
98	563	440	121	82	120	81	131	468	581	435	134	11	13	12	150	444	563
99	525	425	170	30	53	24	154	427	538	334	217	13	14	14	202	356	525
100	475	395	205	16	21	13	163	320	453	253	199	18	18	19	213	297	475
101	432	361	231	17	14	13	159	269	402	233	185	38	30	33	236	271	432
102	415	314	245	26	19	13	154	240	343	204	180	78	84	83	251	257	415
103	389	314	227	28	36	17	150	218	304	187	208	115	171	122	250	235	389
104	354	296	224	32	66	36	147	183	264	169	198	187	263	188	239	230	354
105	325	263	223	56	116	64	136	158	232	154	206	246	342	267	245	198	325
106	320	225	216	103	171	127	148	138	200	139	196	353	425	356	242	182	320
107	273	201	205	153	235	181	154	119	178	109	198	375	486	383	230	163	273
108	230	197	190	220	278	239	139	101	142	112	197	384	515	397	222	157	230
109	218	178	180	254	317	289	141	85	109	106	197	395	509	394	221	145	218
110	192	165	166	284	346	327	150	76	95	87	204	375	478	393	217	129	192
111	167	143	143	297	370	324	155	61	76	97	210	377	460	390	218	118	167
112	139	122	140	300	376	317	154	56	65	103	207	394	441	382	206	114	139
113	121	112	136	304	368	314	155	48	61	92	200	374	435	347	205	110	121
114	110	102	137	304	356	304	157	49	49	86	196	358	428	339	204	105	110
115	98	92	136	293	344	294	158	50	34	88	188	361	415	339	194	99	98
116	87	77	130	277	329	282	161	51	30	89	182	363	392	339	190	91	87
117	72	69	131	258	305	273	163	51	29	87	180	353	380	331	191	84	72
118	56	67	127	235	285	262	161	55	29	84	179	347	373	314	187	82	56
119	47	65	126	220	275	250	157	64	31	84	179	323	355	297	176	87	47
120	45	68	124	210	268	244	154	65	31	88	179	289	328	286	165	95	45
121	46	66	123	204	263	235	149	67	33	92	176	265	303	273	159	98	46
122	47	63	121	195	255	224	145	71	35	92	171	242	287	261	160	90	47
123	54	61	115	181	233	213	140	72	36	96	163	231	278	251	161	87	54
124	42	60	113	168	212	199	134	71	35	97	163	234	274	240	164	88	42

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125	30	60	109	158	195	180	130	73	22	93	169	240	269	230	168	91	30
126	31	59	105	151	182	166	123	72	27	89	174	233	257	222	160	84	31
127	41	59	101	142	171	156	115	70	41	87	164	218	237	204	144	78	41
128	42	60	96	133	160	146	106	68	49	87	151	199	217	186	131	78	42
129	41	59	94	128	151	138	102	68	48	86	142	184	206	175	123	78	41
130	42	57	92	127	145	131	99	66	48	83	135	172	192	164	118	77	42
131	44	57	89	125	141	126	95	64	49	80	126	161	176	153	112	75	44
132	43	57	85	120	135	121	92	64	50	78	119	155	165	145	107	74	43
133	41	56	82	113	130	116	89	65	49	76	114	150	162	143	105	73	41
134	40	55	80	107	124	111	87	64	50	73	110	146	154	137	100	71	40
135	41	54	79	102	119	107	86	63	52	71	106	134	144	129	95	68	41
136	42	52	79	99	114	103	84	61	51	68	100	122	135	121	90	66	42
137	41	50	78	97	108	98	82	61	50	66	94	113	128	115	87	62	41
138	39	48	77	93	103	94	80	60	48	63	91	109	122	110	86	61	39
139	38	47	74	90	96	88	77	59	44	60	89	106	116	105	87	60	38
140	37	45	70	85	89	83	76	56	44	57	87	104	112	100	85	55	37
141	36	43	64	78	82	76	72	53	40	53	85	101	106	96	81	54	36
142	35	42	57	69	75	70	67	49	37	49	83	95	98	89	78	51	35
143	33	41	51	63	69	65	62	46	32	42	77	88	90	80	69	45	33
144	32	40	47	58	64	60	57	44	27	39	71	79	82	72	63	44	32
145	31	41	44	55	60	57	52	43	27	37	64	72	76	65	57	40	31
146	33	41	43	53	57	54	49	43	30	36	59	66	70	60	53	39	33
147	35	41	42	51	55	52	48	42	34	36	56	62	65	56	50	39	35
148	37	41	42	49	53	50	46	42	38	38	51	58	61	53	47	39	37
149	39	41	41	48	51	48	46	41	41	38	48	54	58	50	47	37	39
150	39	40	41	46	50	47	45	40	40	38	45	50	56	49	46	37	39
151	39	38	40	44	48	46	44	39	39	38	44	48	54	47	46	35	39
152	38	37	40	43	47	45	43	38	38	38	42	46	52	46	46	35	38
153	37	35	39	41	45	44	42	37	37	38	42	44	50	45	46	34	37
154	36	34	38	40	44	43	41	36	35	37	40	43	48	44	44	32	36
155	34	33	37	39	42	42	39	36	33	35	38	42	47	43	43	31	34
156	33	31	36	37	40	40	38	35	31	33	37	41	44	41	40	30	33

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157	32	30	34	36	38	39	36	34	30	31	36	39	43	40	37	29	32
158	31	29	33	34	36	38	35	33	30	31	34	38	41	38	35	27	31
159	30	28	31	33	34	36	34	32	30	31	33	37	40	37	33	25	30
160	29	28	30	32	33	34	33	31	30	31	32	35	38	36	32	25	29
161	29	27	28	30	32	33	32	30	29	31	31	34	37	34	31	24	29
162	29	27	27	29	31	31	30	29	28	31	30	33	35	33	30	24	29
163	28	27	26	29	31	30	29	29	28	30	29	33	34	31	29	24	28
164	28	27	26	28	30	29	28	28	28	29	28	33	34	29	27	24	28
165	28	27	25	26	29	28	27	27	27	29	28	31	33	29	26	23	28
166	28	27	25	25	29	28	26	27	27	31	28	30	32	27	25	22	28
167	28	27	25	25	29	29	25	27	28	29	28	29	32	27	25	23	28
168	28	29	27	25	29	29	25	28	29	31	28	28	32	27	26	24	28
169	29	30	28	26	29	29	26	28	31	32	28	28	31	26	26	26	29
170	30	31	29	26	31	30	26	28	32	32	29	28	30	26	26	27	30
171	31	31	30	26	32	32	27	28	33	33	31	29	30	25	26	28	31
172	34	32	31	26	33	32	28	29	34	34	32	30	29	24	26	28	34
173	35	33	32	26	33	32	28	29	34	36	32	30	29	24	27	29	35
174	36	34	33	26	33	33	28	30	35	37	33	31	28	24	28	30	36
175	37	35	35	27	33	33	28	31	35	38	34	32	29	26	30	31	37
176	38	35	36	27	33	33	27	31	35	39	34	33	30	27	32	32	38
177	38	35	36	27	33	33	27	31	35	40	35	34	31	27	32	32	38
178	38	35	37	27	32	32	27	31	35	40	35	35	31	27	32	32	38
179	39	35	37	28	32	32	26	31	34	39	35	36	31	27	32	32	39
180	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39

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 *******