

## 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-8034M50

Representative (Tested) Model: LED-8034M50

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

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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-A
Laboratory Contact Name	Tommy Liang

**Product Information:**

Organization Name	LIGHT EFFICIENT DESIGN		
Brand Name	N/A		
Model Number	LED-8034M50		
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 Output	Goniophotometer Output
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Input Wattage	--	156.1	W
Input Current	--	1.308	A
Input Voltage (ac)	--	120.0	V
Power Factor	--	0.9947	
Off-State Power	--	0	W

**Photometric Characteristics**

Total Initial Lumen Output	--	19344	lm
Initial Lumen Efficacy	--	123.92	lm/w
Correlated color temperature / CCT	5125	--	K
Color rendering index / CRI	85.7	--	
R9 Value	20	--	
Duv	0.0021	--	
<b>Luminous Intensity Distribution</b>			
Center beam candlepower (if applicable)	-----	7336	cd
Beam angle (if applicable)		103.4	°
Zonal lumens in the 0°-60° zone		80.7	%
Zonal lumens in the 60°-90° zone		16.1	%
Zonal lumens in the 90°-120° zone		1.5	%
Zonal lumens in the 120°-180° zone		1.6	%

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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	<p>IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</p> <p>ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products</p> <p>CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</p> <p>CIE 15-2004 Technical Report Colorimetry</p> <p>IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</p> <p>IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</p>
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  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  horizontal intervals.

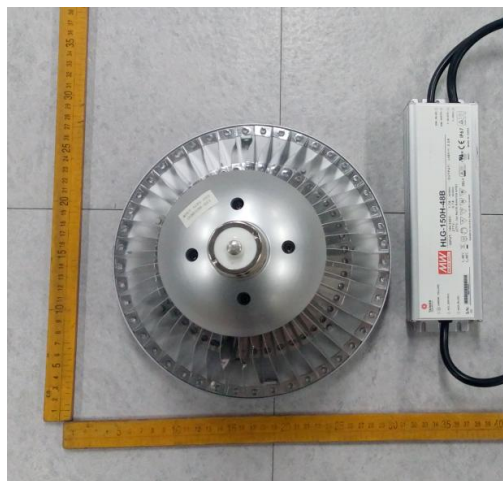
### 2. Photometric and Electrical Measurements – Integrating Sphere Method:

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-8034M50
Luminaire Type	LED Lamp
Rated Voltage / Frequency	120~277 Vac, 50/60Hz
Nominal Power	150W
Rated Initial Lamp Lumen	--
Declared CCT	5000K
LED Manufacturer	N/A
LED Model	N/A
Sample Receipt Date	Apr.01,2016
Sample Number	GZE160347-A1(5000K)

### Photo



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<b>2.1 Electrical, Photometric and Chromaticity Measurements</b> (Refer to Work Instruction QD25)	<b>IES LM-79 2008</b>
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<b>Test date</b>	2016-04-24	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	LED-8034M50		

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz )	Current (A)	Power (W)	Power Factor	THD %
GZE160347	120.0	60	1.308	156.1	0.9947	6.23
-A1	277.0	60	0.5956	154.0	0.9335	12.66

### Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	85.7
R9	20
CCT (K)	5125
Chromaticity (x, y)	x=0.3420 y=0.3532
Chromaticity (u', v')	u'=0.2087 v'=0.4850
Duv	0.0021

Special Color Rendering Indices			
R1	85	R9	20
R2	94	R10	83
R3	95	R11	82
R4	82	R12	64
R5	85	R13	88
R6	89	R14	98
R7	86	R15	80
R8	69	--	--

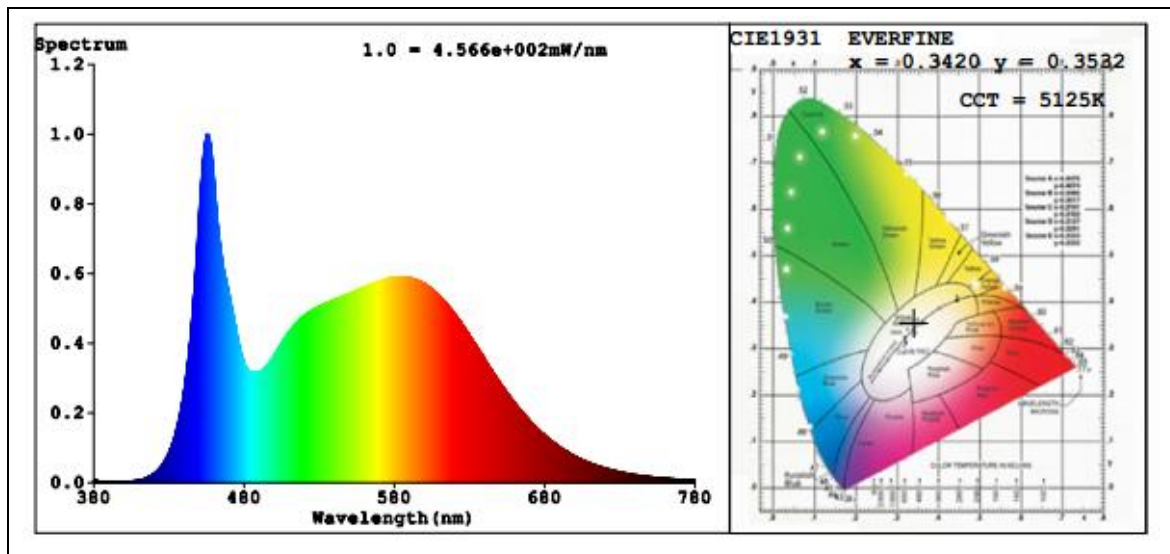
### Goniophotometer Method :

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	19344
Luminous Efficacy (lm/W)	123.92
Beam Angle°	103.4
Center Beam Candle Power (cd)	7336

### Goniophotometer Methodn :

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Luminous (lm)	19337
Luminous Efficacy (lm/W)	125.53

**Spectral Power Distribution & Chromaticity Diagram**



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## Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	5,669.8	29.3%
0-40	9,278.6	48%
0-60	15,613.3	80.7%
60-90	3,122.8	16.1%
70-100	1,550.6	8%
90-120	287.8	1.5%
0-90	18,736.1	96.9%
90-180	606.5	3.1%
0-180	19,342.7	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	675.3	3.5%	90-100	41.9	0.2%
10-20	1,958.8	10.1%	100-110	107.9	0.6%
20-30	3,035.6	15.7%	110-120	138.1	0.7%
30-40	3,608.9	18.7%	120-130	145.4	0.8%
40-50	3,653.1	18.9%	130-140	108.5	0.6%
50-60	2,681.5	13.9%	140-150	39.6	0.2%
60-70	1,614.1	8.3%	150-160	17.2	0.1%
70-80	1,033.8	5.3%	160-170	6.2	0%
80-90	475.0	2.5%	170-180	1.7	0%

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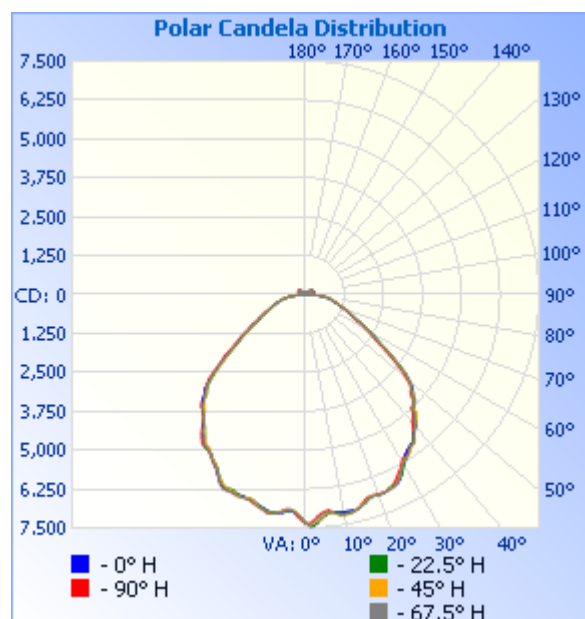
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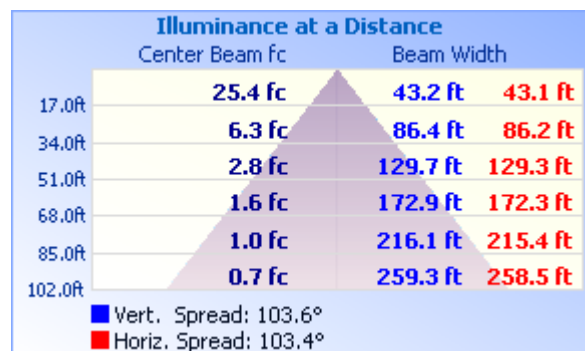
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## Photometric Data



## Illuminance Plots



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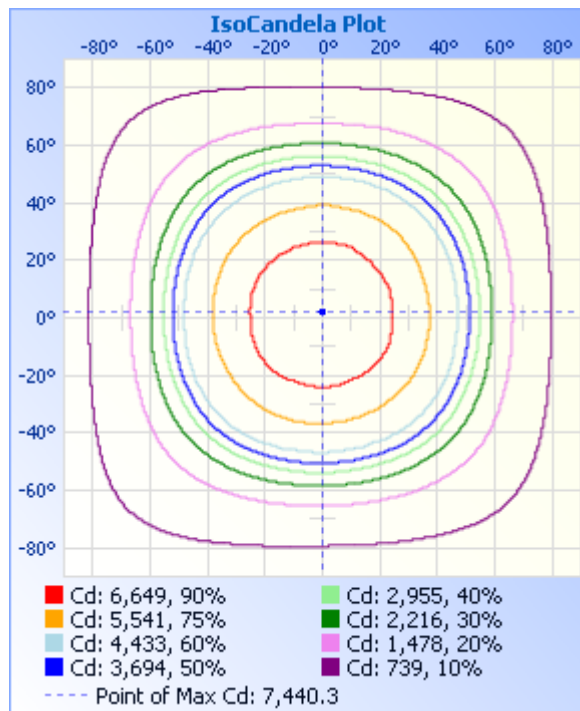
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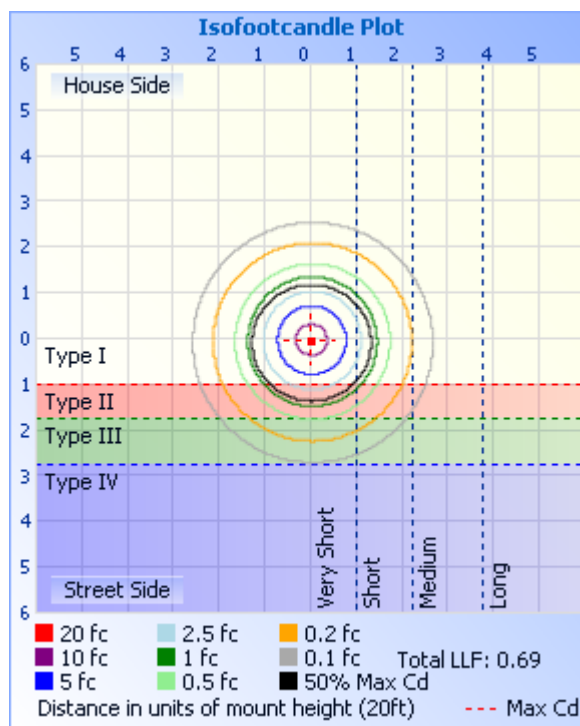
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## ISOCANDELA DIAGRAM



## 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	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336	7336
1	7436	7439	7419	7386	7349	7296	7247	7206	7186	7176	7191	7220	7262	7309	7357	7406	7436
2	7440	7434	7379	7321	7265	7187	7118	7075	7062	7045	7053	7092	7150	7229	7304	7381	7440
3	7336	7346	7295	7208	7143	7064	7018	7009	7000	6970	6967	6980	7013	7088	7181	7271	7336
4	7210	7224	7207	7106	7046	7008	6990	6969	6954	6936	6918	6912	6922	6966	7058	7161	7210
5	7123	7130	7098	7037	6996	6992	6992	6987	6995	6978	6952	6943	6919	6913	6968	7062	7123
6	7060	7066	7048	7017	6967	7013	7048	7061	7044	7013	6995	6993	6975	6920	6912	6990	7060
7	7026	7041	7056	7038	7019	7081	7087	7073	7057	7038	7033	7051	7052	6977	6929	6985	7026
8	7055	7064	7110	7108	7081	7108	7098	7079	7078	7075	7083	7114	7116	7052	6990	7037	7055
9	7085	7115	7176	7170	7107	7125	7126	7099	7086	7088	7106	7129	7137	7090	7037	7066	7085
10	7089	7143	7192	7179	7143	7160	7122	7076	7047	7057	7089	7098	7122	7102	7058	7089	7089
11	7083	7139	7181	7178	7176	7147	7073	7023	6997	7015	7046	7064	7063	7084	7074	7106	7083
12	7091	7133	7152	7154	7160	7103	7020	6979	6950	6972	6992	7018	7008	7027	7067	7119	7091
13	7109	7119	7100	7114	7115	7060	6964	6950	6899	6913	6921	6974	6966	6972	7037	7103	7109
14	7072	7070	7046	7070	7051	6980	6899	6901	6841	6839	6836	6902	6919	6927	6997	7037	7072
15	7019	7017	6994	7014	6962	6890	6841	6857	6798	6791	6785	6844	6861	6878	6946	6961	7019
16	6954	6966	6935	6934	6876	6824	6811	6844	6790	6794	6789	6832	6826	6831	6870	6854	6954
17	6870	6902	6855	6854	6808	6800	6811	6851	6790	6805	6825	6832	6823	6819	6826	6773	6870
18	6812	6839	6803	6825	6790	6804	6822	6825	6781	6791	6820	6841	6808	6814	6831	6757	6812
19	6827	6827	6826	6832	6807	6800	6824	6801	6775	6754	6807	6847	6793	6814	6857	6819	6827
20	6854	6859	6846	6836	6818	6804	6817	6763	6744	6703	6745	6813	6781	6806	6837	6820	6854
21	6859	6852	6838	6852	6822	6797	6795	6732	6741	6692	6723	6787	6759	6789	6820	6804	6859
22	6847	6838	6833	6842	6826	6813	6797	6745	6773	6705	6718	6788	6754	6757	6771	6774	6847
23	6792	6781	6798	6831	6824	6828	6789	6716	6740	6679	6693	6781	6755	6751	6728	6720	6792
24	6777	6762	6789	6820	6774	6801	6734	6637	6663	6608	6626	6722	6690	6726	6718	6722	6777
25	6790	6759	6782	6792	6699	6713	6645	6533	6561	6501	6526	6591	6589	6666	6673	6730	6790
26	6749	6702	6720	6728	6614	6601	6532	6425	6436	6380	6406	6405	6442	6584	6591	6699	6749
27	6673	6648	6632	6623	6512	6457	6390	6314	6321	6246	6299	6282	6309	6455	6492	6634	6673
28	6553	6569	6512	6484	6413	6326	6269	6207	6194	6150	6173	6205	6233	6331	6346	6533	6553
29	6397	6444	6372	6364	6308	6203	6189	6121	6113	6095	6086	6130	6154	6228	6242	6414	6397

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30	6264	6326	6245	6264	6187	6129	6146	6061	6017	6029	6027	6052	6054	6116	6129	6272	6264
31	6146	6213	6154	6226	6111	6068	6079	5973	5925	5935	5949	5974	5971	6033	6067	6146	6146
32	6053	6134	6139	6159	6061	5971	5973	5900	5854	5876	5824	5888	5908	5960	6030	6094	6053
33	5988	6080	6117	6063	5973	5886	5903	5891	5821	5890	5794	5862	5862	5863	5959	6011	5988
34	5919	6017	6022	5963	5927	5858	5871	5872	5783	5844	5758	5834	5864	5763	5869	5896	5919
35	5875	5911	5938	5919	5922	5811	5812	5752	5691	5644	5626	5712	5802	5730	5859	5843	5875
36	5863	5839	5905	5910	5885	5708	5657	5617	5589	5511	5532	5573	5695	5677	5827	5854	5863
37	5800	5787	5833	5802	5767	5578	5534	5510	5460	5379	5427	5504	5559	5558	5687	5773	5800
38	5637	5656	5686	5677	5633	5484	5450	5394	5337	5276	5305	5311	5407	5438	5585	5642	5637
39	5568	5551	5561	5595	5482	5414	5377	5315	5205	5206	5213	5194	5246	5341	5514	5554	5568
40	5515	5478	5485	5442	5326	5308	5316	5207	5078	5095	5120	5095	5109	5306	5399	5446	5515
41	5363	5396	5376	5294	5252	5279	5161	5037	4965	4986	4933	4994	5040	5171	5330	5298	5363
42	5283	5281	5335	5231	5148	5141	5007	5019	4953	4908	4855	4971	4933	5028	5189	5169	5283
43	5107	5164	5197	5039	4982	5000	4917	4905	4847	4780	4764	4881	4927	4871	5014	4993	5107
44	4974	5004	4979	4939	4948	4904	4835	4789	4741	4690	4692	4699	4815	4818	4879	4919	4974
45	4957	4879	4927	4868	4910	4885	4716	4627	4646	4495	4552	4572	4617	4721	4773	4925	4957
46	4891	4827	4823	4839	4745	4765	4585	4522	4501	4405	4414	4482	4502	4653	4699	4754	4891
47	4745	4712	4765	4664	4596	4610	4529	4437	4391	4309	4352	4336	4435	4469	4572	4653	4745
48	4636	4588	4564	4561	4550	4458	4376	4196	4209	4121	4172	4219	4254	4387	4442	4587	4636
49	4553	4491	4494	4494	4449	4331	4217	4026	3938	3906	3924	4002	4123	4267	4330	4491	4553
50	4401	4387	4351	4363	4272	4107	3940	3802	3735	3653	3673	3767	3870	4110	4226	4295	4401
51	4230	4214	4209	4175	4074	3888	3719	3557	3524	3420	3450	3565	3626	3823	3974	4180	4230
52	4029	4049	3999	3939	3850	3648	3476	3333	3285	3187	3227	3332	3408	3532	3720	3867	4029
53	3783	3793	3763	3693	3583	3404	3233	3109	3045	2955	3005	3098	3269	3342	3481	3659	3783
54	3543	3541	3534	3438	3347	3160	2991	2885	2806	2756	2844	2865	2989	3165	3242	3388	3543
55	3343	3350	3329	3277	3110	2916	2770	2689	2630	2599	2630	2705	2793	2927	3027	3222	3343
56	3052	3122	3062	3026	2876	2704	2610	2537	2499	2480	2463	2554	2614	2710	2885	2928	3052
57	2848	2834	2838	2756	2684	2585	2466	2361	2341	2294	2307	2376	2497	2546	2663	2740	2848
58	2658	2710	2619	2587	2568	2426	2316	2239	2201	2180	2156	2224	2308	2379	2459	2564	2658
59	2539	2543	2488	2441	2413	2291	2197	2128	2112	2017	2046	2110	2164	2248	2321	2449	2539
60	2382	2380	2347	2289	2245	2160	2052	2019	1983	1893	1958	2020	2035	2134	2186	2269	2382
61	2239	2248	2225	2161	2143	2046	1954	1867	1798	1744	1790	1888	1938	2025	2069	2173	2239

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62	2117	2105	2090	2086	2024	1883	1780	1738	1692	1675	1711	1731	1790	1944	1993	2060	2117
63	2003	1956	1986	1955	1823	1740	1718	1671	1650	1622	1640	1696	1703	1764	1864	1959	2003
64	1827	1833	1832	1786	1722	1707	1633	1585	1543	1532	1532	1603	1619	1686	1762	1770	1827
65	1734	1732	1744	1703	1661	1607	1540	1487	1469	1445	1452	1535	1534	1608	1660	1694	1734
66	1643	1659	1658	1623	1572	1534	1474	1414	1396	1375	1394	1424	1467	1530	1559	1622	1643
67	1552	1586	1572	1543	1493	1448	1391	1355	1321	1298	1312	1357	1401	1459	1465	1550	1552
68	1490	1499	1488	1458	1420	1355	1299	1289	1268	1226	1247	1283	1308	1379	1404	1459	1490
69	1422	1419	1426	1392	1342	1291	1242	1214	1190	1177	1175	1219	1234	1302	1333	1392	1422
70	1332	1352	1339	1316	1264	1224	1178	1154	1134	1130	1130	1150	1173	1223	1261	1313	1332
71	1251	1270	1269	1245	1200	1163	1126	1114	1090	1094	1084	1098	1129	1166	1206	1229	1251
72	1188	1194	1208	1183	1140	1109	1083	1067	1039	1050	1042	1051	1081	1118	1142	1168	1188
73	1125	1143	1146	1127	1094	1071	1039	1021	987	997	1001	1004	1031	1069	1091	1111	1125
74	1073	1092	1096	1077	1045	1018	1001	983	949	954	956	960	983	1014	1048	1054	1073
75	1016	1036	1057	1037	1000	970	960	938	915	913	913	915	939	966	1001	1003	1016
76	961	985	1016	994	958	941	919	899	873	868	868	871	891	917	947	953	961
77	909	934	965	944	923	907	881	861	827	826	822	825	847	870	902	908	909
78	861	891	919	904	886	870	849	820	784	781	773	783	804	825	854	864	861
79	813	846	876	863	854	832	808	774	738	729	726	735	755	780	808	816	813
80	768	793	836	832	815	800	762	727	690	674	676	682	705	728	757	765	768
81	724	751	794	791	775	754	720	677	636	619	623	631	651	678	708	715	724
82	668	698	739	744	732	709	669	620	579	559	560	577	595	627	653	660	668
83	614	640	685	697	682	660	614	560	517	491	498	519	536	572	593	597	614
84	550	579	626	643	628	605	547	484	439	416	426	451	471	512	527	533	550
85	482	512	562	586	565	531	462	391	352	331	341	378	407	450	460	466	482
86	410	438	489	514	493	444	369	296	268	249	266	298	326	375	392	394	410
87	334	354	400	424	395	345	269	204	185	175	197	230	248	285	300	310	334
88	246	266	299	308	276	231	171	133	127	120	132	164	181	203	212	223	246
89	173	180	193	182	154	132	113	99	99	97	98	106	115	132	146	158	173
90	130	131	133	125	106	92	86	78	87	86	86	88	84	92	102	109	130
91	46	44	86	84	74	77	70	32	57	54	76	80	74	71	58	22	46
92	4	4	26	55	60	61	32	4	3	4	44	64	60	50	21	4	4
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94	4	7	4	4	4	4	4	16	6	9	5	5	8	5	4	13	4
95	58	51	4	4	3	5	6	68	54	66	6	5	3	4	5	58	58
96	67	53	9	4	4	5	12	107	137	115	12	6	5	4	12	57	67
97	64	47	17	7	8	8	22	109	136	108	24	9	9	7	20	54	64
98	61	41	18	17	16	19	39	94	120	95	38	20	18	18	18	48	61
99	53	32	16	34	37	40	43	80	103	79	41	49	45	40	15	36	53
100	37	24	16	69	76	77	38	68	88	63	36	80	96	78	14	26	37
101	25	18	21	121	138	112	36	59	78	56	34	116	143	116	17	18	25
102	17	13	30	169	194	148	42	49	65	46	39	150	184	151	24	12	17
103	10	9	47	205	239	182	47	38	49	35	48	182	227	183	36	9	10
104	6	8	61	222	273	193	55	31	39	28	56	194	249	194	48	8	6
105	5	10	74	230	271	195	64	25	29	24	64	201	253	203	59	9	5
106	5	12	86	234	272	202	72	21	23	21	76	208	253	210	70	11	5
107	6	16	96	238	270	210	80	20	18	20	85	217	255	215	80	13	6
108	6	20	105	244	270	220	88	19	13	19	96	224	260	227	88	17	6
109	7	26	116	253	274	226	97	21	9	21	103	226	259	237	98	19	7
110	8	28	123	256	268	233	103	24	8	25	112	230	255	238	107	23	8
111	9	34	133	259	265	235	108	29	8	28	118	233	253	242	115	27	9
112	10	40	139	259	262	241	113	32	9	33	122	230	251	244	123	32	10
113	12	44	145	259	259	241	118	36	10	36	126	228	248	242	128	37	12
114	14	51	149	255	257	239	121	39	11	40	127	225	244	240	134	42	14
115	17	57	156	254	251	237	126	43	13	44	132	223	241	238	135	47	17
116	20	63	158	247	249	237	133	46	15	48	137	223	239	237	139	52	20
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118	28	70	169	249	252	243	143	53	20	55	141	225	239	238	151	59	28
119	32	75	176	251	253	241	149	55	23	57	144	225	238	239	155	63	32
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122	43	89	192	248	247	236	159	69	28	67	158	228	236	238	174	77	43
123	30	94	194	247	245	237	160	74	22	70	166	223	237	235	180	84	30
124	17	99	199	246	243	238	164	78	14	74	172	223	234	234	186	91	17
125	35	107	205	245	239	237	171	84	25	79	178	224	233	229	193	96	35

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126	70	115	210	241	241	238	179	88	47	82	180	223	233	226	197	103	70
127	79	121	219	243	239	236	183	89	51	86	173	220	231	226	200	112	79
128	86	129	215	243	237	231	187	93	57	90	167	219	235	225	199	119	86
129	91	133	209	242	238	224	187	97	62	93	163	220	241	227	196	124	91
130	96	142	207	238	235	216	181	99	66	96	163	219	244	233	194	130	96
131	102	149	210	235	233	206	170	97	68	96	160	213	240	235	189	137	102
132	108	151	211	230	225	198	158	96	70	95	153	199	227	230	184	142	108
133	114	147	203	217	209	189	146	95	71	95	144	182	209	211	176	144	114
134	116	142	190	199	193	178	140	94	72	94	133	165	187	192	167	141	116
135	115	131	176	183	174	166	134	92	72	91	126	153	164	170	158	133	115
136	113	121	161	173	160	155	129	88	70	84	120	143	147	146	146	123	113
137	108	112	149	161	148	147	124	83	65	79	114	133	134	131	134	113	108
138	101	103	135	151	141	138	117	76	56	71	108	125	125	125	123	102	101
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141	77	74	110	119	117	106	84	52	26	43	76	96	102	105	100	70	77
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145	37	54	71	77	73	67	59	42	31	35	56	68	70	68	65	50	37
146	50	51	66	71	68	63	56	40	40	33	54	64	66	63	60	47	50
147	55	48	62	67	64	60	54	38	41	30	52	61	63	59	57	45	55
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156	39	34	37	40	38	37	33	27	27	26	23	33	36	37	37	35	39
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158	35	30	33	36	33	33	30	26	24	24	18	26	30	31	32	30	35
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164	27	25	26	25	25	24	20	19	17	19	15	16	22	22	24	24	27
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169	23	24	21	20	19	19	18	17	17	17	16	16	18	18	20	22	23
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172	22	22	21	17	17	17	16	19	19	19	17	17	16	16	20	20	22
173	22	21	20	16	17	17	16	18	19	19	17	17	16	16	19	20	22
174	21	20	20	16	17	17	16	18	19	19	17	17	16	16	19	19	21
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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 \*\*\*\*\***