

**LM-79-08 Test Report**

For

**LIGHT EFFICIENT DESIGN, LLC****(Brand Name: N/A)**

188 S.Northwest Highway, Cary, IL60013, USA

**LED Luminaires**

Model name(s): LED-8146M30C-A

Representative (Tested) Model: LED-8146M30C-A

Model Different: All construction and rating are the same, except CCT

Test &amp; Report By:

*Garman Mo*

Engineer: Garman Mo

Date: May.18,2018

Review By:

*Univ Xie*

Manager: Univ Xie

Note: 1.The results contained in this report pertain only to the tested samples.

2.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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**1.1 Product Information:**

Organization Name	LIGHT EFFICIENT DESIGN, LLC		
Brand Name	N/A		
Model Number	LED-8146M30C-A		
SKU (if available)	N/A		
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaires		
Rated Voltage / Frequency	220 -347Vac, 50/60 Hz		
Nominal Power	65W		
Rated Initial Lamp Lumen	--		
Declared CCT	3000K		
LED Manufacturer	SAMSUNG ELECTRONICS CO., LTD		
LED Model	SPMWH1228FD5WAV0SE		
Sample Number	GZE1801030-H-AC1		
Luminaire Aperture (for downlights)	--	in.  mm mm s	
Luminaire Length	--		
Luminaires Width	--		
Number of Units (modular products)	N/A		
Photo			
			

**1.2 Test Specifications:**

Date of Receipt	May.01,2018
Date of Test	May.02,2018
Test item	<ol style="list-style-type: none"> <li>1. Total Luminous Flux</li> <li>2. Luminous Distribution Intensity</li> <li>3. Luminous Efficacy</li> <li>4. Correlated Color Temperature</li> <li>5. Color Rendering Index</li> <li>6. Chromaticity Coordinate</li> <li>7. Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>4. CIE 15-2004 Technical Report Colorimetry</li> <li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li> </ol>
Reference Work Instruction	QD25

**1.3 Test Methods****1) Photometric and Light Distribution Measurement – Goniophotometer 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 277 or rated Volts AC, 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) Chromaticity Measurement – Sphere-Spectroradiometer Method:**

Chromaticity 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 277 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

**3) Electrical Measurements:**

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The sample was operated at 277 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

**2.1 Electrical, Photometric and Chromaticity Measurements**
*(Refer to Work Instruction QD25)*

Test date	2018-05-02	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED-8146M30C-A		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE180103	277.0	60	0.2426	64.39	0.9580	12.39
0-H-AC1	347.0	60	0.2072	65.38	0.9095	16.42

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	277.0	R1	82	R9	12
Frequency (Hz)	60	R2	93	R10	84
CCT (K)	3011	R3	95	R11	79
Duv	0.0009	R4	80	R12	72
Chromaticity (x, y)	x=0.4349 y=0.4011	R5	83	R13	85
Chromaticity (u', v')	u'=0.2505 v'=0.5199	R6	91	R14	98
Color Rendering Index (CRI)	83.3	R7	82	R15	75
R9	12	R8	60	--	--

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result	
Test Voltage (V)	277.0	347.0
Frequency (Hz)	60	60
Total Luminous (lm)	8373.2	8438.1
Luminous Efficacy (lm/W)	130.04	129.06
Most worst Luminous/Highest Watts	128.07	
Beam Angle (°)	117.2	--
Center Beam Candle Power (cd)	0	--

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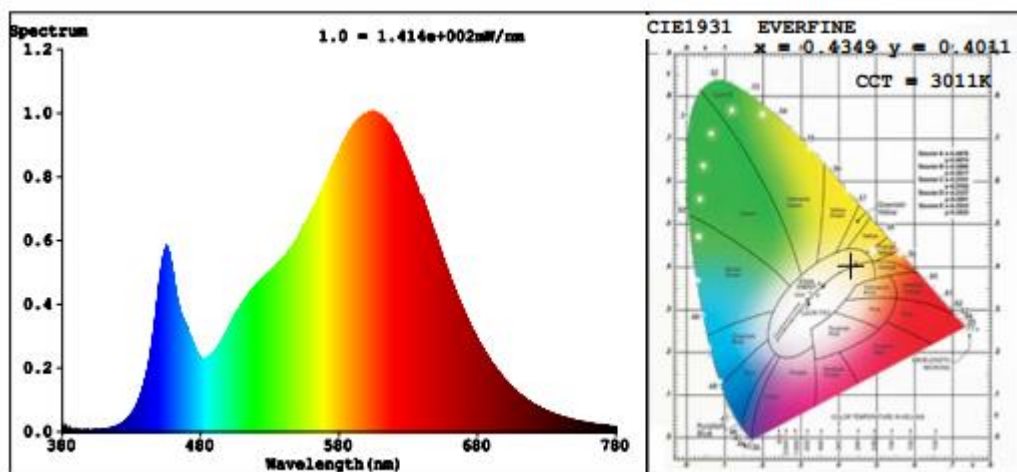
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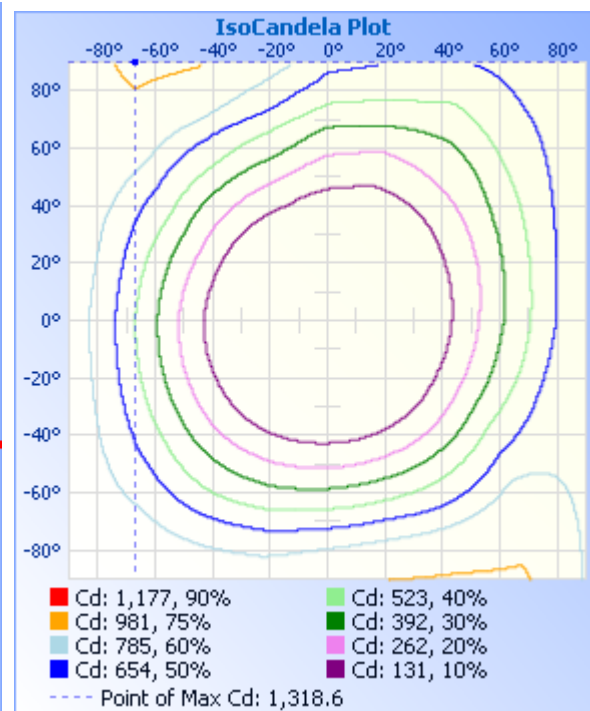
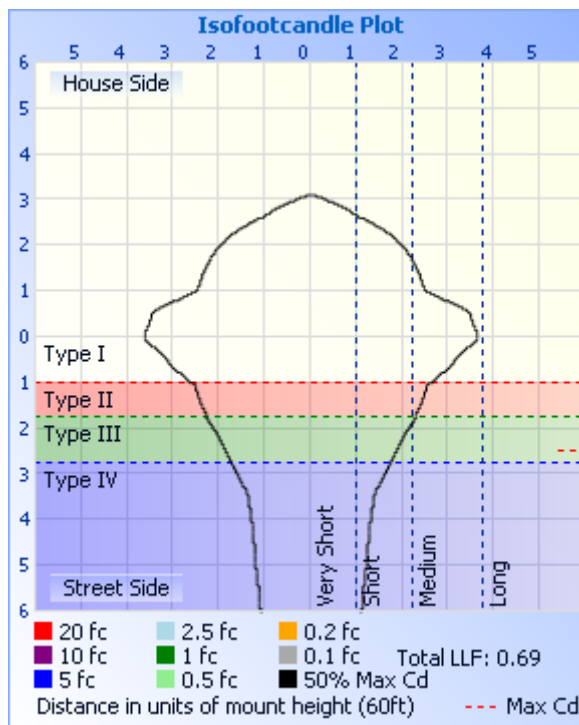
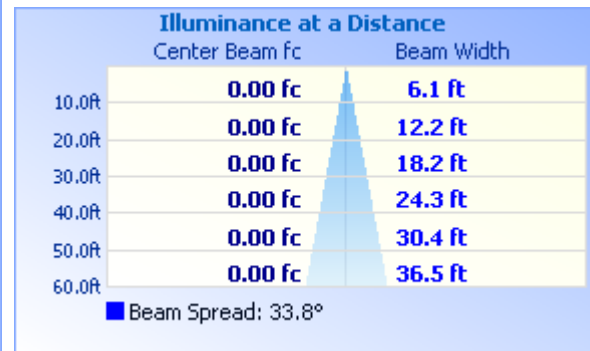
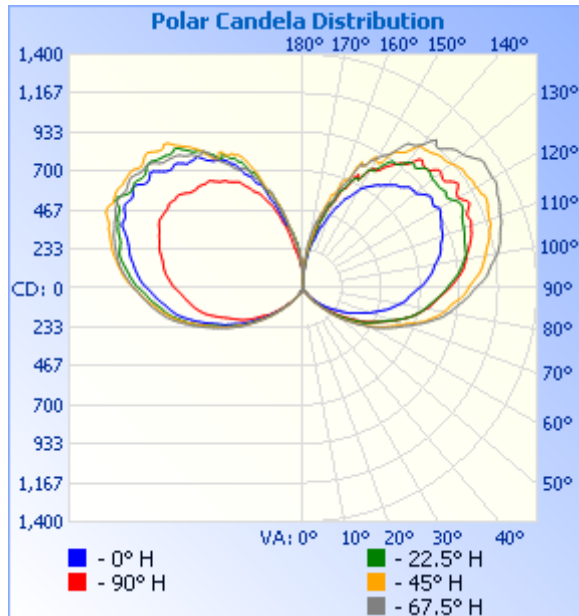
### Spectral Power Distribution & Chromaticity Diagram



### Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	8.7	0.1%
0-40	43.1	0.5%
0-60	440.2	5.2%
60-90	2,038.2	24.2%
70-100	2,582.4	30.7%
90-120	3,172.4	37.7%
0-90	2,478.5	29.4%
90-180	5,939.6	70.6%
0-180	8,418.1	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	0.1	0.0%	90-100	1,016.3	12.1%
10-20	1.3	0.0%	100-110	1,083.1	12.9%
20-30	7.3	0.1%	110-120	1,073.0	12.7%
30-40	34.4	0.4%	120-130	959.0	11.4%
40-50	121.6	1.4%	130-140	782.5	9.3%
50-60	275.5	3.3%	140-150	556.8	6.6%
60-70	472.1	5.6%	150-160	326.1	3.9%
70-80	692.0	8.2%	160-170	123.4	1.5%
80-90	874.1	10.4%	170-180	19.4	0.2%

**Photometric Data**


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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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
8	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	2
14	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3
15	4	4	4	3	3	4	3	4	4	4	4	5	4	4	4	4	4
16	4	4	4	4	4	4	4	4	5	5	5	6	5	5	5	4	4
17	5	5	5	5	4	5	5	5	5	6	6	7	6	6	5	5	5
18	6	6	6	6	5	6	6	6	6	7	7	8	7	7	6	6	6
19	7	7	7	7	6	7	7	7	8	8	9	9	8	8	7	7	7
20	8	8	8	8	7	8	8	8	9	9	10	11	9	9	9	8	8
21	9	9	9	9	8	9	9	9	10	10	11	12	10	11	10	9	9
22	10	10	10	11	9	10	10	10	11	12	12	14	11	12	11	10	10
23	11	11	12	12	10	11	11	11	12	13	14	16	12	13	12	12	11
24	12	12	13	13	12	12	12	13	14	14	15	17	14	15	13	13	12
25	14	14	15	15	13	14	13	14	15	16	17	19	15	16	15	14	14
26	15	15	17	17	14	15	15	15	16	18	19	20	17	18	16	16	15
27	17	17	19	19	16	16	16	17	18	20	21	22	18	19	18	17	17
28	18	19	21	21	18	18	18	19	20	22	23	24	20	21	19	19	18

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29	20	21	23	23	19	20	20	21	22	24	25	27	22	23	21	21	20
30	22	24	25	26	22	23	22	23	24	27	28	29	24	25	22	22	22
31	24	26	28	28	24	26	25	26	27	29	30	32	26	27	24	24	24
32	26	29	31	31	28	30	28	29	30	32	34	34	29	29	25	26	26
33	30	32	33	34	32	35	33	35	35	37	38	40	33	32	28	28	30
34	34	41	37	41	38	42	41	44	42	47	50	50	41	38	31	31	34
35	39	49	49	52	45	50	49	52	53	57	62	64	49	47	38	34	39
36	46	54	64	64	55	60	59	62	64	68	73	75	61	56	45	37	46
37	54	65	74	75	65	69	68	71	75	79	83	86	73	65	51	41	54
38	63	78	84	87	74	78	78	81	86	89	94	96	84	70	59	45	63
39	70	90	92	102	83	87	89	91	95	98	102	105	92	78	65	50	70
40	78	104	104	110	91	95	97	100	105	109	113	115	101	90	68	56	78
41	84	110	122	119	104	105	106	109	117	119	125	129	110	95	75	65	84
42	90	130	127	135	111	116	116	119	128	133	139	139	121	105	84	71	90
43	99	135	151	144	124	127	129	134	139	146	148	155	130	115	89	78	99
44	108	149	157	164	133	140	141	143	153	159	160	167	142	125	101	86	108
45	117	160	175	176	148	154	153	157	169	176	177	181	155	134	105	92	117
46	127	173	188	193	160	167	167	172	182	189	193	199	168	145	114	101	127
47	136	189	207	210	175	183	182	188	196	208	211	216	181	158	125	109	136
48	150	204	226	227	187	198	199	203	215	225	234	232	197	169	135	120	150
49	159	220	245	245	206	216	215	220	230	245	252	250	213	181	144	128	159
50	170	238	261	268	223	230	231	237	245	259	264	267	226	194	159	138	170
51	181	253	279	288	236	245	248	249	264	275	282	288	243	206	168	149	181
52	191	266	299	304	254	265	264	266	281	297	300	304	259	219	178	159	191
53	201	282	310	319	272	279	280	280	298	312	318	321	269	232	188	169	201
54	209	299	328	339	285	294	297	298	314	327	339	343	280	243	198	180	209
55	220	315	347	358	299	314	313	316	330	349	363	363	291	256	215	191	220
56	235	334	366	380	318	332	331	333	349	370	384	378	302	271	232	203	235
57	247	351	390	399	336	351	350	351	370	393	401	404	321	285	246	217	247
58	260	368	414	418	354	374	368	369	388	415	415	428	341	301	259	225	260
59	276	389	433	440	376	397	388	387	404	437	432	447	359	319	271	236	276
60	293	406	454	467	396	416	406	401	427	455	453	466	376	336	285	251	293

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61	307	423	470	489	413	433	422	421	445	469	474	488	392	349	293	264	307
62	320	438	492	507	431	452	439	438	460	488	495	508	407	362	305	277	320
63	330	453	514	526	446	472	454	456	476	508	515	527	419	375	314	290	330
64	342	467	529	546	460	488	468	474	498	526	533	546	430	389	322	308	342
65	351	481	548	562	479	505	486	491	519	541	547	567	441	400	340	326	351
66	362	497	563	583	496	524	501	506	535	560	568	587	456	411	345	344	362
67	378	513	580	603	513	542	516	522	551	579	589	605	466	422	351	355	378
68	399	528	600	620	535	559	536	540	570	601	607	627	480	433	363	367	399
69	418	544	618	638	550	578	555	558	588	622	627	645	495	450	377	384	418
70	431	565	638	660	569	595	573	578	610	645	646	668	515	465	391	397	431
71	443	588	655	682	586	613	593	598	633	670	668	693	531	484	404	405	443
72	458	606	681	704	606	637	618	615	652	694	691	714	549	500	418	419	458
73	471	625	709	732	628	657	639	634	674	715	714	734	567	517	430	438	471
74	488	644	736	756	646	678	657	653	693	732	737	757	584	532	444	460	488
75	507	665	761	777	666	699	677	672	713	749	760	779	601	550	459	480	507
76	523	681	777	799	681	717	694	695	733	768	780	799	615	563	473	494	523
77	537	697	795	822	697	736	713	713	752	788	799	819	628	577	488	507	537
78	550	710	816	846	714	754	733	731	770	806	815	838	640	592	500	523	550
79	562	723	834	863	726	771	751	744	784	822	832	853	651	602	512	537	562
80	576	736	848	878	739	788	766	755	797	835	850	868	662	613	523	550	576
81	590	747	863	896	757	801	779	765	810	847	867	883	671	621	532	559	590
82	606	758	875	909	771	818	794	778	821	860	880	898	680	629	538	566	606
83	617	770	885	921	779	833	807	793	833	875	894	913	689	637	552	576	617
84	628	783	899	938	791	845	821	807	848	892	912	926	701	647	566	586	628
85	633	796	919	956	802	857	836	820	864	907	931	939	709	659	577	601	633
86	643	810	937	973	815	869	850	836	879	924	947	954	719	668	584	614	643
87	656	823	955	989	830	882	862	849	891	934	961	969	728	678	595	623	656
88	666	837	970	1005	845	896	877	864	905	948	976	981	740	690	608	633	666
89	678	850	980	1016	861	914	890	877	918	965	992	997	753	706	623	641	678
90	694	862	989	1032	875	933	901	894	934	984	1011	1013	767	722	639	649	694
91	710	874	1000	1050	889	948	918	910	951	1002	1031	1028	780	738	650	660	710
92	723	887	1015	1071	903	959	933	921	966	1014	1050	1041	790	750	656	673	723

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93	734	900	1029	1089	915	972	946	932	978	1028	1067	1053	799	758	665	688	734
94	746	915	1045	1106	931	985	960	941	988	1041	1080	1069	808	767	676	699	746
95	757	929	1061	1114	945	997	972	949	1000	1051	1092	1083	817	775	681	711	757
96	769	940	1073	1124	956	1007	983	959	1009	1064	1102	1095	829	785	689	721	769
97	778	952	1082	1134	968	1020	992	971	1019	1077	1116	1107	835	796	703	730	778
98	786	960	1091	1151	976	1031	999	982	1027	1092	1126	1116	841	814	718	740	786
99	793	970	1099	1166	983	1043	1008	993	1038	1103	1139	1127	847	826	733	751	793
100	801	980	1108	1181	991	1053	1013	1003	1049	1114	1152	1134	852	834	748	759	801
101	814	989	1115	1190	997	1062	1018	1012	1058	1120	1163	1140	856	841	753	766	814
102	825	998	1123	1200	1004	1072	1025	1019	1064	1120	1172	1149	865	843	762	776	825
103	837	999	1132	1211	1016	1078	1036	1031	1070	1125	1181	1158	874	847	774	782	837
104	846	1001	1145	1216	1025	1083	1043	1043	1078	1127	1189	1164	882	857	778	790	846
105	853	1004	1153	1222	1035	1085	1052	1052	1087	1134	1197	1173	891	870	785	797	853
106	858	1005	1160	1228	1044	1088	1055	1058	1098	1147	1205	1179	896	882	792	803	858
107	861	1011	1167	1235	1052	1094	1067	1067	1113	1157	1219	1182	899	893	799	805	861
108	867	1016	1179	1248	1060	1106	1078	1073	1128	1166	1221	1187	904	901	806	807	867
109	878	1021	1189	1255	1065	1114	1084	1078	1146	1169	1232	1194	911	907	816	811	878
110	889	1024	1187	1257	1071	1113	1093	1084	1151	1180	1249	1198	918	910	827	813	889
111	894	1030	1190	1262	1078	1115	1110	1089	1146	1188	1264	1203	922	917	831	814	894
112	899	1032	1196	1269	1083	1119	1120	1100	1147	1192	1267	1211	927	920	832	814	899
113	901	1038	1201	1279	1077	1122	1125	1115	1160	1192	1263	1222	937	928	832	818	901
114	905	1041	1211	1285	1073	1129	1112	1134	1173	1209	1247	1222	945	931	835	827	905
115	914	1053	1216	1289	1085	1139	1109	1139	1179	1238	1251	1228	951	934	842	838	914
116	921	1066	1221	1291	1104	1156	1105	1136	1172	1238	1255	1228	950	940	838	842	921
117	924	1070	1220	1303	1118	1154	1108	1127	1163	1219	1258	1220	948	950	828	845	924
118	930	1072	1207	1312	1113	1155	1118	1127	1157	1196	1258	1215	947	950	815	845	930
119	942	1065	1205	1318	1093	1143	1141	1128	1163	1183	1251	1210	944	940	805	846	942
120	946	1051	1203	1314	1077	1139	1139	1134	1180	1180	1246	1215	942	923	816	842	946
121	940	1030	1197	1311	1075	1133	1123	1139	1186	1182	1248	1221	941	905	823	834	940
122	924	1020	1203	1314	1085	1128	1125	1148	1169	1190	1246	1226	948	900	819	829	924
123	927	1020	1197	1314	1104	1123	1120	1138	1140	1184	1246	1223	945	903	813	828	927
124	931	1031	1190	1316	1119	1123	1116	1124	1128	1170	1246	1212	937	901	807	833	931

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125	940	1025	1188	1319	1109	1118	1106	1108	1128	1166	1238	1200	931	909	801	838	940
126	939	1017	1190	1311	1088	1119	1095	1108	1135	1166	1222	1190	934	900	798	838	939
127	927	1013	1188	1290	1062	1108	1085	1112	1147	1176	1211	1190	929	891	804	829	927
128	912	1015	1179	1274	1060	1093	1080	1120	1138	1186	1218	1191	917	891	817	817	912
129	895	1015	1171	1257	1067	1099	1097	1129	1112	1189	1227	1183	904	887	830	811	895
130	882	1013	1160	1246	1077	1120	1104	1110	1086	1182	1236	1166	888	886	826	807	882
131	884	1017	1150	1241	1078	1129	1085	1071	1070	1167	1236	1140	880	875	822	786	884
132	879	1026	1143	1236	1058	1128	1082	1048	1063	1157	1220	1123	876	870	823	776	879
133	880	1028	1145	1222	1034	1099	1080	1047	1064	1149	1200	1119	872	868	824	771	880
134	874	1030	1139	1200	1028	1073	1066	1051	1069	1144	1187	1113	873	866	823	769	874
135	855	1019	1133	1178	1028	1060	1039	1054	1059	1130	1187	1106	869	860	818	774	855
136	841	997	1122	1163	1031	1065	1027	1059	1038	1128	1198	1100	862	858	803	773	841
137	836	985	1114	1168	1047	1058	1032	1039	1018	1134	1187	1089	855	847	797	769	836
138	830	993	1111	1194	1039	1052	1021	1007	1018	1130	1152	1065	856	839	798	755	830
139	816	994	1103	1169	1002	1022	1005	977	1010	1102	1129	1052	852	833	793	734	816
140	804	982	1106	1126	968	1001	975	974	1010	1077	1108	1043	836	825	787	721	804
141	794	961	1092	1103	961	992	940	954	1014	1050	1089	1019	821	816	780	706	794
142	784	942	1055	1083	950	990	927	941	989	1041	1062	1007	808	804	774	697	784
143	769	926	1019	1077	929	982	941	934	959	1029	1038	1011	801	788	759	696	769
144	764	930	1005	1071	912	957	951	907	944	1000	998	1015	794	772	744	692	764
145	751	928	994	1038	893	942	933	890	928	981	954	986	778	757	742	681	751
146	737	905	986	993	873	940	897	867	923	962	929	938	767	761	744	661	737
147	727	875	950	959	845	933	872	852	912	932	933	905	757	750	742	636	727
148	714	844	886	938	827	930	858	853	907	915	952	883	750	721	715	617	714
149	700	817	873	924	834	936	880	850	890	935	954	863	742	717	681	632	700
150	685	820	879	901	820	932	887	804	860	912	915	834	715	712	659	625	685
151	659	809	899	881	801	910	867	766	850	885	910	813	694	694	658	593	659
152	638	763	872	861	761	866	820	762	815	883	913	801	679	662	640	557	638
153	614	728	827	826	729	800	796	743	767	849	894	810	650	646	599	539	614
154	601	733	814	817	757	772	788	722	751	842	889	796	640	634	584	527	601
155	585	720	834	814	736	760	748	696	736	795	866	785	627	618	584	511	585
156	556	698	794	768	686	736	739	665	691	749	831	733	607	587	531	491	556

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157	531	663	713	708	649	674	734	656	675	755	785	714	578	561	480	474	531
158	520	635	699	677	642	649	660	655	677	715	749	693	557	540	484	479	520
159	486	621	696	657	609	628	607	612	626	651	686	643	538	510	467	438	486
160	464	588	666	628	560	613	615	578	569	613	629	621	513	482	420	404	464
161	445	537	604	566	543	581	585	550	544	606	597	622	480	453	413	406	445
162	414	522	593	543	519	549	540	530	515	574	578	597	453	431	396	390	414
163	391	515	584	535	488	519	536	503	470	534	556	522	414	408	358	341	391
164	382	448	532	511	478	503	493	477	437	516	512	499	398	381	355	338	382
165	355	423	502	466	437	462	452	413	396	462	476	487	367	354	314	317	355
166	327	411	469	460	407	432	419	401	400	428	446	434	325	317	293	286	327
167	297	365	435	437	372	393	373	357	378	379	401	400	292	304	293	272	297
168	288	331	382	390	342	355	340	340	355	363	359	354	247	268	261	255	288
169	276	315	351	406	317	326	322	330	337	349	339	326	243	246	244	231	276
170	249	282	310	368	290	304	282	297	314	327	309	293	212	210	201	216	249
171	236	260	289	339	279	296	260	277	287	294	282	277	205	181	178	213	236
172	214	234	253	305	256	270	238	254	281	276	251	250	185	168	161	185	214
173	189	215	240	282	238	253	210	220	255	259	233	229	169	149	154	185	189
174	161	189	208	260	211	225	196	202	213	226	206	201	146	131	155	158	161
175	170	164	192	216	190	192	174	172	182	189	180	173	136	100	143	132	170
176	141	141	176	171	158	159	152	142	152	152	163	145	114	86	114	113	141
177	103	112	136	130	119	126	113	112	106	115	116	117	85	72	73	85	103
178	52	57	80	65	64	93	74	81	60	78	69	89	43	59	31	57	52
179	0	0	24	0	0	61	35	51	15	42	21	61	0	46	0	28	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**3. Test Equipment**

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-331	2 meter Integrating Sphere	2017-07-01	2018-06-30
ST-R-327	Spectral analysis system HAAS-2000	2017-07-01	2018-06-30
D204	Standard Lamp	2017-07-12	2018-07-11
PF2010	Power Meter for Integrating Sphere	2017-07-01	2018-06-30
GO-R5000	Goniophotometer system	2017-07-01	2018-06-30
D908S	Standard Lamp	2017-07-12	2018-07-11
PF210	Power Meter for Goniophotometer	2017-07-07	2018-07-06
Expand Uncertainty: Photometric Measurement (Sphere):2.04%, k=2 Chromaticity Measurement(Sphere):28.8K, k=2 Photometric Measurement(Goniophotometer):2.36%, k=2			

**\*\*\*\*\* END OF REPORT \*\*\*\*\***