



NVLAP LAB CODE 201011-0

Report No.: STD160316NB-2-J

LM-79-08 Test Report

For

IGT LIGHTING INC.

1900 Compton Ave, Building 101, Corona, CA 92881

Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires

Model name(s): IGTWP-0304050

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Date: Jun.06,2016

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 -H/2

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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	Jun.06,2016
Test Report No.	STD160316NB-2-J
Laboratory Contact Name	Tommy Liang

Product Information:

Organization Name	IGT Lighting Inc.	
Brand Name	N/A	
Model Number	IGTWP-0304050	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	

Integrating Sphere
Goniophotometer
Electrical Measurements:
Output
Output

Input Wattage	38.71	--	W
Input Current	0.3253	--	A
Input Voltage (ac)	120.0	--	V
Power Factor	0.9916	--	
Off-State Power	0	--	W

Photometric Characteristics

Total Initial Lumen Output	4438	--	lm
Initial Lumen Efficacy	114.65	--	lm/w
Correlated color temperature / CCT	5680	--	K
Color rendering index / CRI	82.8	--	
R9 Value	8	--	
Duv	0.0023	--	
Luminous Intensity Distribution			
Center beam candlepower (if applicable)			cd
Beam angle (if applicable)			°
Zonal lumens in the 0°-60° zone	-----		%
Zonal lumens in the 60°-90° zone			%
Zonal lumens in the 90°-120° zone			%
Zonal lumens in the 120°-180° zone			%

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Date of Receipt	:May.18,2016
Date of Test	:May.19,2016
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 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.

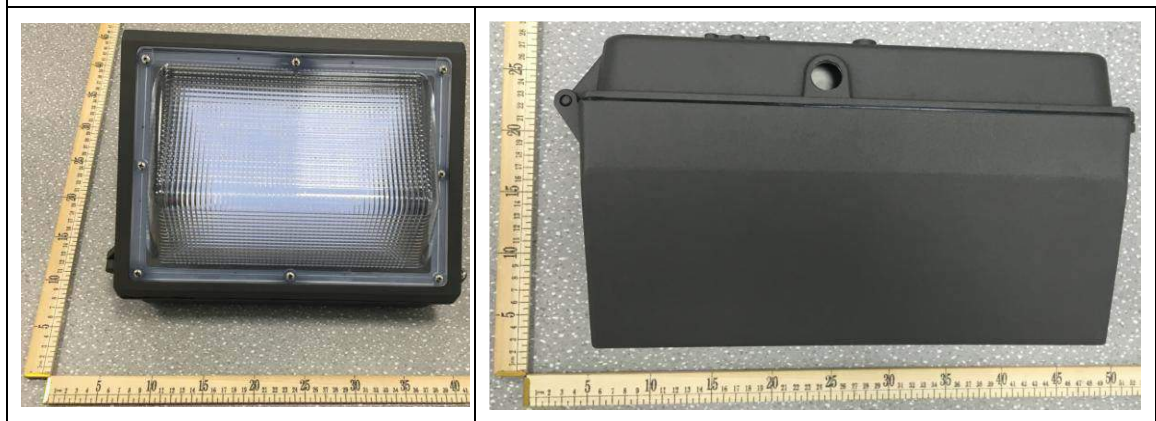
2. Photometric and Electrical Measurements – Integrating Sphere Method:

Photometric parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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	IGTWP-0304050
Luminaire Type	Outdoor Non-Cutoff and Semi-Cutoff Wall-mounted Area Luminaires
Rated Voltage / Frequency	100 ~ 277 Vac, 50/60Hz
Nominal Power	40W
Rated Initial Lamp Lumen	--
Declared	5000K
LED Manufacturer	IGT Lighting Inc.
LED Model	IGTWP-0304050
Sample Receipt Date	May.18,2016
Sample Number	STD160316NB-2-J1(3000K),J2(5700K)

Photo



2.2 Electrical, Photometric and Chromaticity Measurements <i>(Refer to Work Instruction QD25)</i>	IES LM-79 2008
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Test date	2016-05-19	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	IGTWP-0304050 (5000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
IGTWP-0004050F	120.0	60	0.3253	38.71	0.9916	8.19
	277.0	60	0.1563	39.09	0.9030	15.18

Sphere-Spectroradiometer Method :

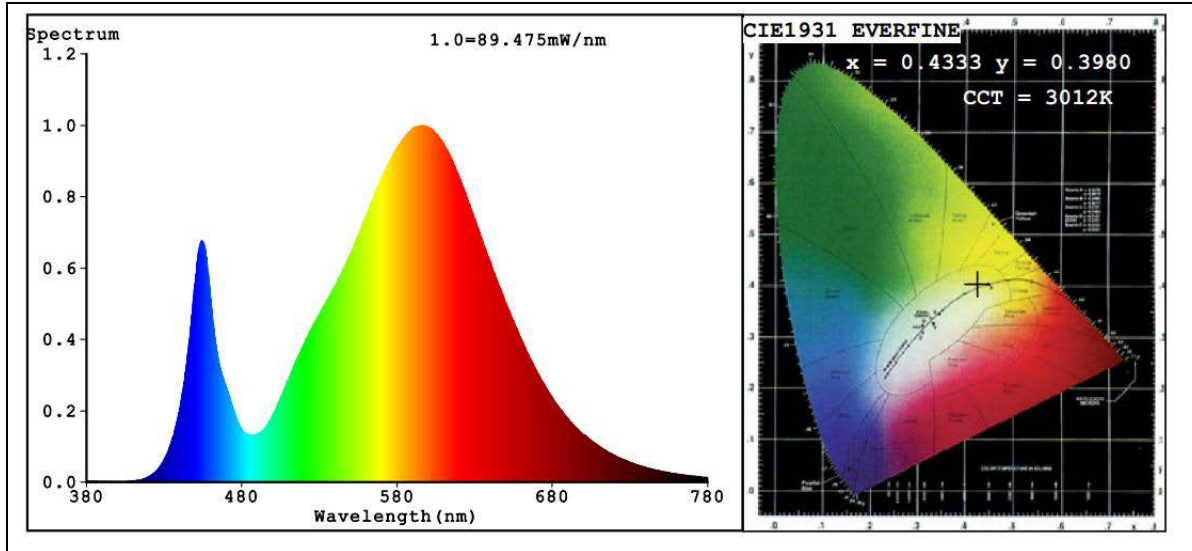
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Color Rendering Index (CRI)	82.8
R9	8
CCT (K)	5680
Chromaticity (x, y)	x=0.3284 y=0.3421
Chromaticity (u', v')	u'=0.2037 v'=0.4775
Duv	0.0023
Total Initial Lumen Output(lm)	4438
Initial Lumen Efficacy(lm/w)	114.65

Special Color Rendering Indices			
R1	81	R9	8
R2	87	R10	69
R3	90	R11	82
R4	83	R12	58
R5	82	R13	83
R6	82	R14	95
R7	88	R15	77
R8	69	--	--

Sphere-Spectroradiometer Method for 277V:

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
Total Initial Lumen Output(lm)	4424
Initial Lumen Efficacy(lm/w)	113.17

Spectral Power Distribution & Chromaticity Diagram



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Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	675.7	15.5%
0-40	1,103.1	25.2%
0-60	2,106.3	48.2%
60-90	1,536.4	35.2%
70-100	1,211.9	27.7%
90-120	620.9	14.2%
0-90	3,642.7	83.4%
90-180	726.8	16.6%
0-180	4,369.5	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	86.5	2.0%	90-100	233.0	5.3%
10-20	237.1	5.4%	100-110	253.0	5.8%
20-30	352.2	8.1%	110-120	134.9	3.1%
30-40	427.3	9.8%	120-130	56.5	1.3%
40-50	475.8	10.9%	130-140	28.9	0.7%
50-60	527.4	12.1%	140-150	14.3	0.3%
60-70	557.6	12.8%	150-160	5.2	0.1%
70-80	532.1	12.2%	160-170	0.9	0%
80-90	446.8	10.2%	170-180	0.1	0%

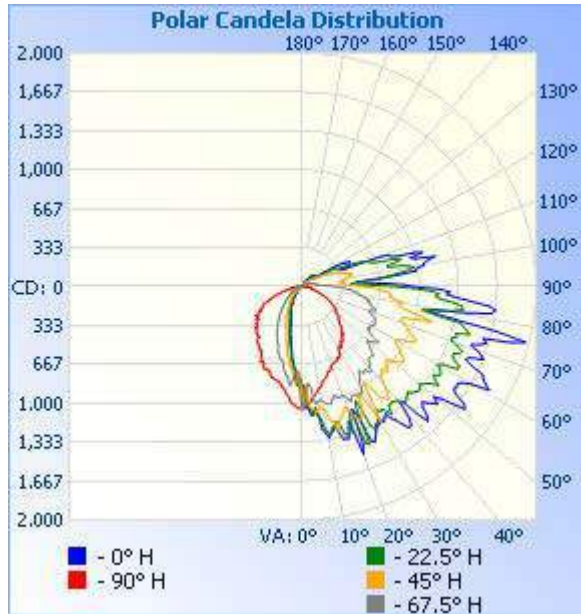
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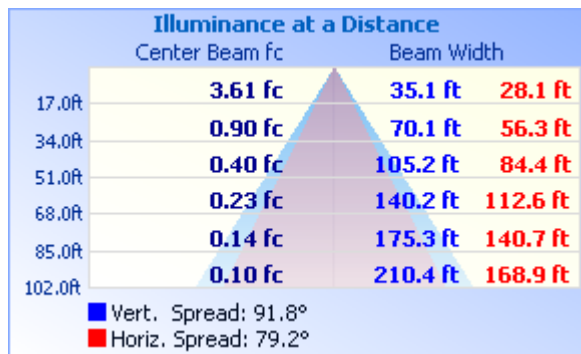
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Photometric Data



Illuminance Plots



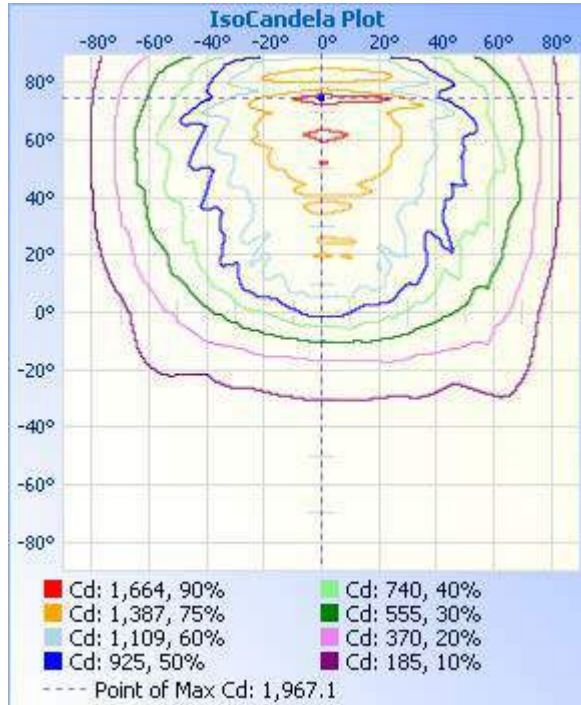
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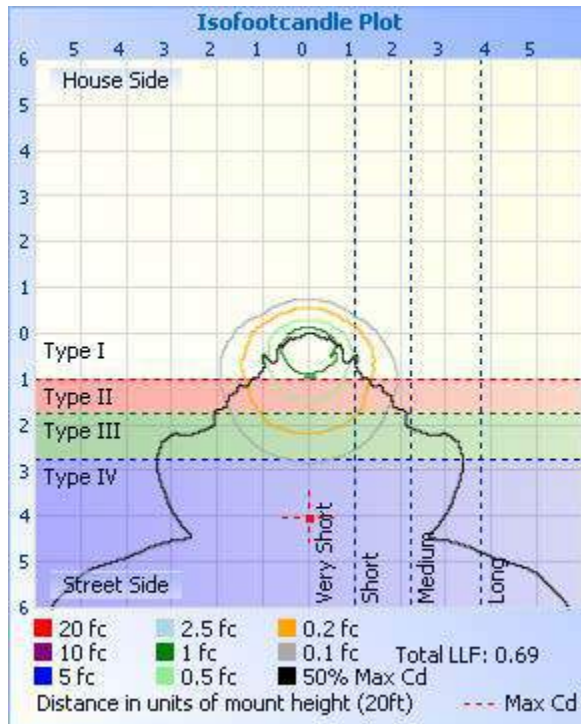
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ISOCANDELA DIAGRAM



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	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043	1043
1	842	847	890	990	1044	931	840	802	793	801	856	963	1040	969	876	843	842
2	1029	970	840	874	1020	796	736	798	818	773	735	847	1042	847	861	987	1029
3	1062	1045	1017	833	1007	739	855	846	824	850	809	757	1029	814	1057	1054	1062
4	1106	1057	1045	843	989	757	830	818	792	822	842	719	1015	900	1047	1073	1106
5	1071	1110	1052	905	956	830	815	731	710	745	802	742	1011	1033	1053	1106	1071
6	1081	1040	1081	1002	940	861	746	701	703	688	770	802	994	1046	1111	1055	1081
7	1119	1103	1079	1014	932	814	687	671	649	680	728	849	954	1030	1054	1093	1119
8	1239	1153	1033	989	904	791	693	644	631	632	679	842	936	1018	1070	1170	1239
9	1268	1241	1061	983	880	763	653	613	586	619	688	789	919	1032	1092	1229	1268
10	1314	1268	1069	996	875	733	632	573	541	580	649	775	895	1074	1123	1332	1314
11	1279	1287	1121	1019	856	710	605	533	510	535	622	768	879	1068	1224	1213	1279
12	1262	1230	1186	1028	829	675	569	496	482	512	607	744	876	1027	1194	1274	1262
13	1227	1226	1186	1031	817	655	537	471	446	488	574	721	846	1020	1313	1234	1227
14	1288	1193	1271	1025	808	652	508	437	427	453	544	686	836	999	1206	1226	1288
15	1356	1217	1211	989	793	629	490	414	398	430	515	661	837	1010	1208	1312	1356
16	1352	1311	1170	974	773	605	467	389	373	402	495	650	833	1018	1179	1362	1352
17	1361	1323	1150	979	757	593	437	369	346	382	470	644	829	1030	1162	1325	1361
18	1275	1318	1143	997	758	574	407	344	320	359	446	642	823	1067	1178	1333	1275
19	1215	1290	1101	997	743	556	391	320	301	337	421	618	824	1106	1207	1284	1215
20	1526	1189	1096	998	721	547	370	300	287	316	403	603	802	1108	1228	1159	1526
21	1446	1137	1159	1003	714	529	357	285	274	296	391	588	780	1094	1226	1373	1446
22	1132	1446	1215	1037	706	506	341	271	263	279	373	556	781	1138	1244	1520	1132
23	1178	1468	1232	1066	704	476	327	259	254	267	356	530	764	1168	1246	1145	1178
24	1445	1113	1242	1034	696	457	313	249	246	258	338	529	776	1107	1231	1080	1445
25	1467	1079	1216	1023	700	450	296	241	236	248	321	510	777	1069	1080	1316	1467
26	1429	1317	1165	1033	676	427	281	233	225	239	310	489	764	1075	1099	1415	1429
27	1386	1375	1061	1042	684	421	267	222	219	233	302	483	728	1057	1314	1409	1386
28	1339	1368	1025	1048	676	403	255	212	208	224	288	469	719	998	1391	1359	1339

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29	1351	1331	1165	1041	660	375	245	205	195	213	271	442	739	998	1100	1326	1351
30	1311	1286	1331	1012	617	365	233	195	182	203	260	442	721	1009	984	1278	1311
31	1354	1234	1206	948	602	362	217	184	171	194	246	423	688	1000	1062	1275	1354
32	1324	1260	1016	920	594	340	208	173	162	182	243	407	664	991	1200	1239	1324
33	1300	1250	971	892	619	322	199	162	154	172	226	392	645	990	1225	1268	1300
34	1361	1291	1053	864	585	302	190	153	146	161	215	381	655	1055	1248	1313	1361
35	1398	1331	1170	911	566	288	182	144	138	153	206	349	644	1058	1244	1284	1398
36	1459	1254	1172	898	582	279	173	136	130	145	196	352	633	1018	1182	1309	1459
37	1511	1258	1215	890	572	269	165	128	122	137	187	330	624	968	1159	1327	1511
38	1511	1249	1201	935	540	250	159	121	113	129	177	317	618	964	1172	1348	1511
39	1455	1260	1141	934	547	246	153	113	105	122	169	325	614	956	1164	1363	1455
40	1305	1275	1075	882	512	232	147	107	97	115	162	294	604	928	1102	1374	1305
41	1298	1308	1011	888	530	224	140	99	91	109	155	285	568	899	1059	1365	1298
42	1463	1321	1017	845	499	213	133	92	87	101	149	275	574	864	1063	1299	1463
43	1576	1305	995	833	485	208	127	87	84	95	143	257	567	835	1057	1326	1576
44	1536	1292	983	837	474	192	120	82	80	88	136	249	560	814	1046	1417	1536
45	1455	1279	1026	837	449	182	114	78	76	82	129	235	559	791	1047	1439	1455
46	1423	1308	1012	841	436	173	109	75	73	78	124	222	548	811	1040	1395	1423
47	1458	1317	977	805	436	164	103	71	69	73	117	209	548	920	1074	1313	1458
48	1495	1336	970	777	417	157	96	68	66	69	112	203	519	983	1120	1385	1495
49	1532	1335	954	750	408	150	90	65	62	66	106	187	536	991	1089	1424	1532
50	1467	1303	1004	721	397	143	85	62	58	62	101	186	502	907	1109	1403	1467
51	1524	1327	1008	750	396	136	80	58	54	59	96	176	510	815	1123	1408	1524
52	1636	1350	1056	767	373	131	76	55	50	56	90	165	505	751	1133	1442	1636
53	1740	1378	1074	796	355	128	71	51	46	52	85	156	478	744	1127	1465	1740
54	1710	1439	1076	803	345	124	66	48	43	49	80	154	464	766	1113	1487	1710
55	1599	1382	1041	716	356	120	61	44	39	46	76	142	485	738	1075	1495	1599
56	1564	1352	1003	694	339	115	58	40	36	43	72	135	468	745	1064	1526	1564
57	1575	1397	1001	659	322	111	53	37	33	39	67	130	452	775	1095	1504	1575
58	1564	1396	968	682	314	107	50	33	30	36	62	124	477	800	1085	1512	1564
59	1598	1374	929	673	297	103	46	30	27	32	59	120	438	802	1070	1477	1598

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60	1672	1341	922	671	285	99	43	27	24	29	56	115	404	745	1060	1472	1672
61	1826	1374	939	692	280	94	40	24	21	26	51	111	427	770	1061	1553	1826
62	1775	1504	980	697	261	90	36	20	17	23	48	106	393	824	1103	1564	1775
63	1736	1505	1046	694	250	85	33	17	14	21	45	102	385	828	1102	1572	1736
64	1716	1451	1071	688	231	82	30	14	10	18	42	98	376	787	1065	1580	1716
65	1598	1419	1067	685	215	78	28	10	6	15	39	94	366	755	1104	1559	1598
66	1528	1413	1042	690	210	74	25	6	3	11	37	90	361	738	1113	1509	1528
67	1556	1462	983	665	186	70	22	3	3	7	34	86	316	728	1058	1480	1556
68	1669	1477	979	634	173	67	20	3	3	3	31	82	321	717	1046	1550	1669
69	1639	1419	944	619	160	64	17	2	3	2	28	79	290	710	1085	1497	1639
70	1584	1362	930	605	143	61	14	2	3	2	26	75	275	735	1060	1426	1584
71	1527	1355	895	614	135	58	11	2	3	2	24	72	260	721	1006	1394	1527
72	1606	1387	887	656	126	55	10	2	3	2	22	69	240	719	1021	1424	1606
73	1649	1376	898	656	116	53	9	2	3	2	19	65	222	799	1027	1445	1649
74	1609	1486	1045	616	109	51	9	2	3	2	18	62	203	784	1049	1478	1609
75	1849	1457	1148	602	101	48	8	2	3	2	18	59	186	717	1172	1625	1849
76	1967	1423	1034	597	94	46	7	2	3	2	16	56	170	659	1199	1788	1967
77	1704	1389	952	571	88	44	7	2	3	2	15	54	150	644	1104	1571	1704
78	1305	1165	864	586	82	42	6	3	2	2	14	52	139	641	954	1244	1305
79	1087	1044	839	564	77	40	6	3	2	2	13	50	126	646	866	1046	1087
80	1127	1188	839	543	73	39	6	3	2	2	12	48	116	673	867	1090	1127
81	1446	1319	868	514	69	37	5	3	2	2	12	46	106	658	882	1280	1446
82	1634	1389	805	495	64	36	5	3	2	2	11	45	99	616	953	1391	1634
83	1666	1372	758	485	59	35	5	3	2	3	10	44	91	584	958	1430	1666
84	1612	1301	761	469	54	33	4	3	2	3	10	42	84	559	887	1418	1612
85	1455	1185	755	439	51	32	4	3	2	3	10	40	78	539	820	1308	1455
86	1320	1143	750	426	47	31	4	3	2	3	9	39	70	510	771	1204	1320
87	1236	1170	707	393	44	30	4	3	2	3	9	37	64	464	739	1186	1236
88	1263	1112	659	360	41	28	3	3	2	2	8	36	57	428	742	1145	1263
89	1174	979	611	316	38	27	3	2	2	2	7	34	51	402	707	1004	1174
90	959	810	534	288	35	26	3	2	2	2	6	33	47	379	596	841	959

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91	879	641	463	257	34	25	3	2	2	2	6	31	42	328	502	677	879
92	741	471	404	223	33	24	3	3	2	3	6	30	39	285	435	514	741
93	601	417	370	187	32	23	3	3	3	3	5	28	36	253	392	485	601
94	517	417	337	170	30	21	3	3	3	3	5	26	34	239	370	460	517
95	468	495	322	149	28	20	3	4	3	4	5	25	32	208	360	510	468
96	660	593	340	136	26	19	3	4	4	4	5	23	30	194	367	688	660
97	825	738	352	134	25	18	3	4	4	4	4	22	29	186	391	792	825
98	981	814	333	125	24	16	3	5	5	4	4	20	28	176	421	903	981
99	981	921	349	117	23	15	3	5	6	4	4	19	26	169	455	960	981
100	1054	966	373	113	23	14	3	5	6	4	4	17	25	168	463	1009	1054
101	1058	927	402	111	23	13	3	5	6	4	3	16	24	166	457	970	1058
102	1098	865	402	108	23	12	3	5	5	4	3	15	25	168	476	911	1098
103	1165	749	408	104	23	11	3	5	4	4	3	14	24	163	513	871	1165
104	995	750	441	95	23	10	3	5	5	4	3	13	24	162	512	799	995
105	957	847	421	91	22	9	3	4	4	4	2	12	23	156	496	845	957
106	1067	875	415	87	22	8	3	4	4	4	2	11	22	153	465	949	1067
107	1002	796	381	82	21	7	3	4	5	4	2	10	21	142	445	884	1002
108	842	687	381	75	19	6	3	4	5	4	2	9	19	139	440	735	842
109	797	637	364	69	18	5	3	4	5	4	2	8	17	129	453	666	797
110	789	603	348	65	16	4	3	4	5	3	2	6	14	119	436	649	789
111	725	602	336	61	14	3	3	4	5	4	2	5	12	109	408	643	725
112	539	579	311	58	11	4	3	4	5	3	2	5	10	98	365	630	539
113	401	537	288	55	10	4	3	4	6	3	2	5	9	90	335	594	401
114	351	494	267	53	10	4	3	4	6	3	2	5	9	83	322	538	351
115	431	436	251	52	10	4	3	4	6	3	2	5	10	78	302	484	431
116	437	386	232	51	10	4	3	4	6	3	2	6	11	74	287	422	437
117	452	348	217	51	11	4	3	4	6	3	2	6	12	72	271	379	452
118	457	319	211	51	12	5	3	4	5	3	2	7	14	70	254	345	457
119	426	295	191	51	13	5	3	4	5	3	2	7	15	69	239	318	426
120	394	276	175	50	14	5	3	4	5	3	2	8	16	66	220	296	394
121	361	243	167	49	15	5	2	4	5	4	2	8	18	63	200	270	361

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122	328	209	154	48	16	5	2	4	5	3	2	8	19	61	192	231	328
123	284	180	142	46	16	5	2	4	5	3	2	7	19	59	178	195	284
124	224	155	135	44	16	4	2	4	5	3	2	7	19	57	167	166	224
125	179	141	127	43	15	4	2	4	5	3	2	6	18	54	156	150	179
126	137	134	118	41	14	4	2	4	4	3	2	6	17	52	145	142	137
127	119	131	111	40	13	3	2	4	4	3	2	6	16	50	134	142	119
128	119	127	104	39	13	3	2	4	4	3	2	5	16	48	124	139	119
129	121	126	98	38	12	3	2	4	4	3	2	5	15	46	115	136	121
130	126	123	92	37	11	3	2	4	4	3	2	4	14	44	107	133	126
131	133	118	85	36	10	3	2	3	4	3	1	4	13	43	99	128	133
132	139	114	79	34	10	2	2	3	4	3	1	4	12	42	92	123	139
133	137	112	74	33	9	2	2	3	3	3	1	3	12	40	85	120	137
134	136	108	69	31	8	2	2	3	3	3	1	3	11	39	80	116	136
135	138	103	65	30	8	2	2	3	3	2	1	3	10	38	75	110	138
136	138	99	62	28	7	2	2	3	3	2	1	3	10	36	71	106	138
137	133	94	59	27	7	2	2	3	3	2	1	2	9	35	66	102	133
138	127	90	56	25	6	2	2	3	2	2	1	2	8	33	62	99	127
139	120	86	53	24	6	2	2	3	2	2	1	2	8	32	59	95	120
140	113	83	51	22	5	2	2	3	2	2	1	2	7	30	56	91	113
141	107	81	48	21	5	2	2	3	2	2	1	2	6	28	54	88	107
142	101	78	46	19	4	2	2	2	2	2	1	2	6	27	51	84	101
143	95	75	43	17	4	2	2	2	2	2	1	1	5	25	48	80	95
144	89	71	42	15	3	2	2	2	2	2	1	1	5	23	45	75	89
145	83	67	40	14	3	2	2	2	2	2	1	1	4	20	43	71	83
146	78	63	38	12	3	2	2	2	2	2	1	1	4	18	41	66	78
147	73	59	36	10	2	2	2	2	2	2	1	1	3	16	39	62	73
148	69	55	34	9	2	2	2	2	2	2	1	1	3	14	37	57	69
149	64	51	32	7	2	2	2	2	2	2	1	1	3	12	35	53	64
150	59	48	30	6	2	2	2	2	2	2	1	1	3	10	33	49	59
151	54	45	28	5	2	2	2	2	2	2	1	1	2	8	31	46	54
152	50	42	26	4	2	2	2	2	2	2	2	1	2	7	29	44	50

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153	46	40	23	3	2	2	2	2	2	2	2	1	2	5	27	41	46
154	43	37	21	3	2	2	2	2	2	2	2	1	2	5	24	38	43
155	40	34	19	2	2	2	2	2	2	2	2	1	2	4	22	35	40
156	37	32	17	2	2	2	2	2	2	2	2	1	1	3	19	33	37
157	34	29	15	1	2	2	2	2	2	2	2	1	1	2	16	30	34
158	32	27	13	1	2	2	2	2	2	2	2	1	1	2	11	28	32
159	29	25	10	1	2	2	2	2	2	2	2	1	1	2	8	25	29
160	27	22	6	1	2	2	2	2	2	2	2	1	1	1	5	23	27
161	24	21	4	1	2	2	2	2	2	2	2	1	1	1	2	20	24
162	22	18	1	1	2	2	2	2	2	2	2	1	1	1	2	17	22
163	19	15	1	1	2	2	2	2	2	2	2	1	1	1	1	11	19
164	14	10	1	1	2	2	2	2	2	2	2	1	1	1	1	6	14
165	9	4	1	1	2	2	2	2	2	2	2	1	1	1	1	2	9
166	4	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	4
167	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1
168	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1
169	1	1	1	1	2	2	2	2	2	2	2	1	2	1	1	1	1
170	1	1	1	1	2	2	2	2	2	2	2	1	2	1	1	1	1
171	1	1	1	1	2	2	2	2	2	2	2	1	2	1	1	1	1
172	1	1	1	1	2	2	2	2	2	2	1	1	2	1	1	1	1
173	1	1	1	1	2	2	2	2	2	2	2	1	2	1	1	1	1
174	1	1	1	1	2	2	2	2	2	2	1	1	2	1	1	1	1
175	1	1	1	1	2	2	2	2	2	2	1	1	2	1	1	1	1
176	1	1	1	1	2	2	2	2	2	2	1	1	2	2	1	1	1
177	1	1	1	1	2	2	2	2	2	2	1	1	2	2	2	1	1
178	1	1	1	1	2	2	2	2	2	1	1	1	2	2	2	1	1
179	1	1	1	1	2	2	2	2	2	1	1	1	2	2	2	1	1
180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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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 *******