

LM-79-08 Test Report

For

LIGHT EFFICIENT DESIGN, LLC
(Brand Name: LIGHT EFFICIENT DESIGN, LLC)

Suite 301, 188 S.Northwest Highway, Cary, IL60013, USA

LED Luminaires

Model name(s): LED-8132M50

Representative (Tested) Model: LED-8132M50

Model Different: N/A

Test & Report By:

Garman Mo

Engineer: Garman Mo

Date: Nov.01,2018

Review By:

John Li

Manager: John-Li

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

Address: Standard-Tech Building, No.6 Guanhong Road,Guangzhou Science City, Guangzhou 510663, China

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1.1 Product Information:

Organization Name	LIGHT EFFICIENT DESIGN, LLC	
Brand Name	LIGHT EFFICIENT DESIGN, LLC	
Model Number	LED-8132M50	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaires	
Rated Voltage / Frequency	120-277Vac, 50/60Hz	
Nominal Power	135W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K	
LED Manufacturer	Everlight	
LED Model	67-21S/KK7C-H507034Z15/DT(GC)	
Sample Number	JBE180907-D1	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s
Photo		
		

1.2 Test Specifications:

Date of Receipt	Oct.30,2018
Date of Test	Oct.31,2018
Test item	<ol style="list-style-type: none"> 1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none"> 1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
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 120 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° vertical intervals and 22.5° 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 120 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 120 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	2018-10-31	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	LED-8132M50		

Electrical Measurement:

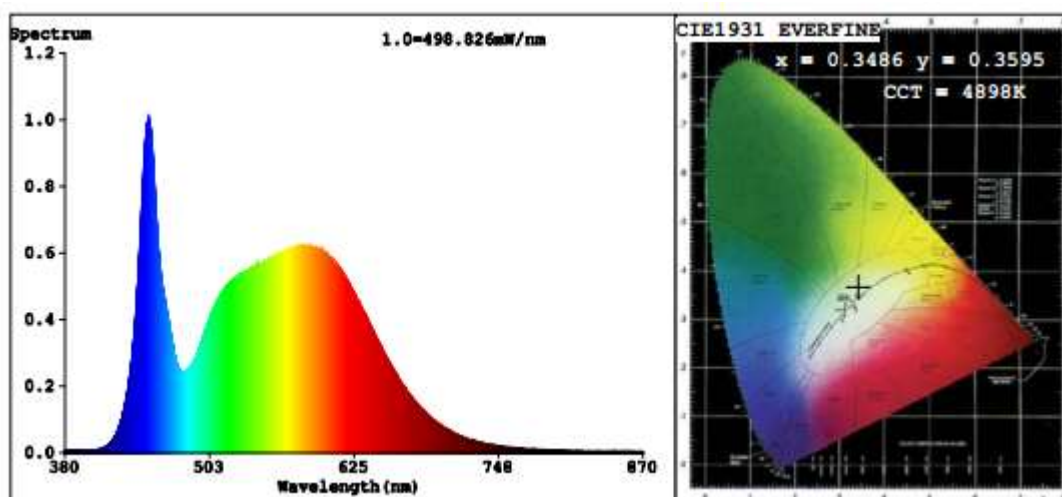
Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JBE180907-	120.0	60	1.095	130.5	0.9931	9.38
D1	277.0	60	0.4966	129.5	0.9415	14.13

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	12
Frequency (Hz)	60	R2	89	R10	73
CCT (K)	4898	R3	93	R11	82
Duv	0.0025	R4	83	R12	58
Chromaticity (x, y)	x=0.3486 y=0.3595	R5	82	R13	84
Chromaticity (u', v')	u'=0.2108 v'=0.4890	R6	84	R14	96
Color Rendering Index (CRI)	83.7	R7	88	R15	77
R9	12	R8	69	--	--

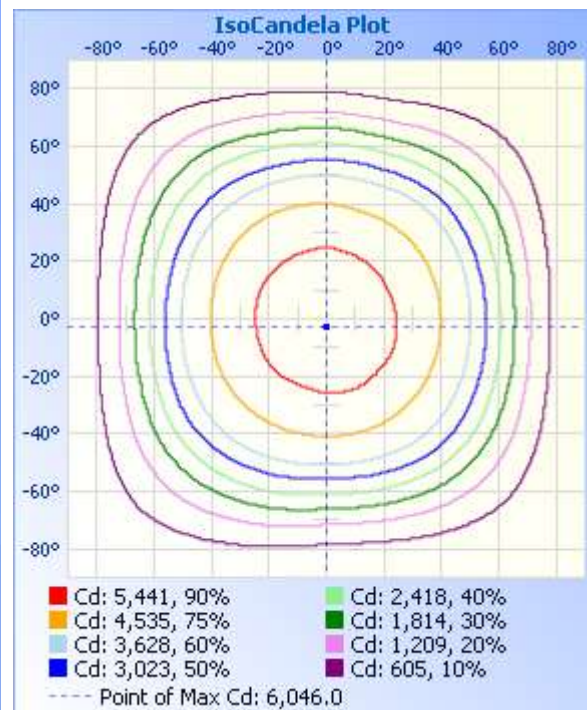
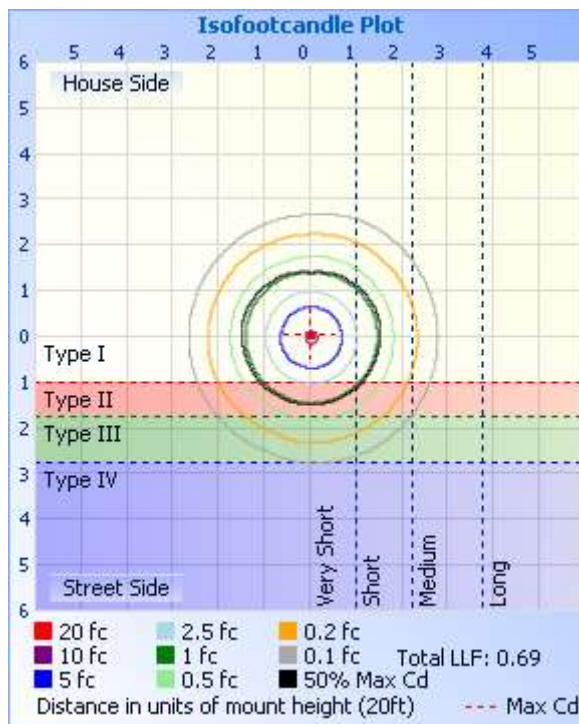
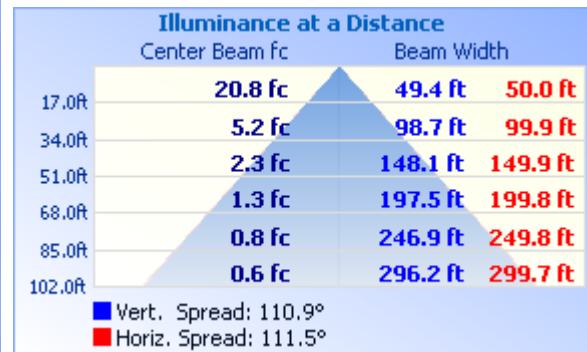
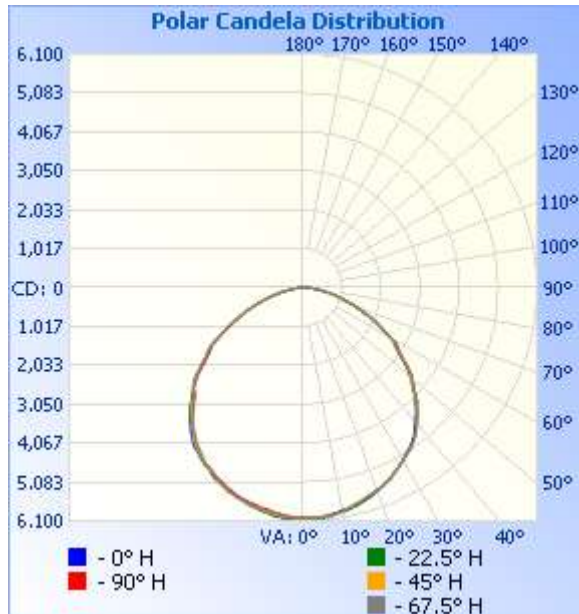
Photometric Measurement – Goniophotometer Method:

Parameter	Result	
Test Voltage (V)	120.0	277.0
Frequency (Hz)	60	60
Total Luminous (lm)	17094	16934
Luminous Efficacy (lm/W)	130.99	130.76
Beam Angle (°)	111.6	--
Center Beam Candle Power (cd)	6008	--

Spectral Power Distribution & Chromaticity Diagram

Zonal Lumen Tabulation

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	4,707.0	27.5%
0-40	7,783.1	45.5%
0-60	13,734.1	80.3%
60-90	3,195.1	18.7%
70-100	1,318.6	7.7%
90-120	120.9	0.7%
0-90	16,929.2	99%
90-180	164.2	1%
0-180	17,093.5	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	568.8	3.3%	90-100	66.6	0.4%
10-20	1,632.9	9.6%	100-110	38.1	0.2%
20-30	2,505.3	14.7%	110-120	16.2	0.1%
30-40	3,076.1	18.0%	120-130	12.2	0.1%
40-50	3,166.4	18.5%	130-140	10.6	0.1%
50-60	2,784.6	16.3%	140-150	8.6	0.1%
60-70	1,943.1	11.4%	150-160	6.7	0%
70-80	974.1	5.7%	160-170	3.9	0%
80-90	277.9	1.6%	170-180	1.4	0%

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	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008	6008
1	6046	6046	6013	6001	6024	5990	5990	5990	6035	6046	6013	6013	6013	6001	5990	5979	6046
2	6046	6046	6013	6013	6013	5990	5990	5968	6046	6046	6013	6013	5990	5979	5979	5979	6046
3	6035	6046	6024	6024	6001	5979	5990	5968	6046	6046	6013	6001	5990	5979	5957	5968	6035
4	6035	6035	6024	6024	6001	5990	6001	5968	6035	6046	6013	5990	5979	5968	5968	5968	6035
5	6024	6035	6013	6013	6001	5990	5979	5968	6035	6024	6001	5979	5957	5945	5923	5934	6024
6	6013	6035	6013	6001	5990	5968	5979	5945	6024	6024	5990	5957	5934	5912	5923	5912	6013
7	5968	6024	6013	5990	5979	5968	5957	5945	6013	6013	5979	5934	5923	5890	5890	5912	5968
8	5968	5990	5979	5979	5968	5957	5934	5901	5990	5990	5957	5923	5901	5878	5878	5890	5968
9	5934	5968	5968	5957	5957	5934	5923	5912	5957	5957	5934	5901	5867	5856	5845	5867	5934
10	5901	5945	5945	5945	5934	5934	5901	5878	5923	5945	5923	5901	5856	5834	5823	5845	5901
11	5912	5934	5901	5901	5912	5901	5878	5845	5912	5923	5901	5890	5856	5823	5823	5834	5912
12	5878	5912	5867	5856	5890	5878	5867	5800	5867	5901	5878	5845	5811	5800	5800	5811	5878
13	5856	5878	5845	5823	5856	5845	5823	5789	5834	5878	5845	5845	5800	5778	5778	5789	5856
14	5845	5867	5800	5800	5811	5834	5800	5767	5800	5856	5811	5811	5778	5767	5744	5755	5845
15	5811	5823	5767	5789	5800	5789	5778	5744	5800	5823	5823	5800	5755	5744	5722	5755	5811
16	5789	5789	5733	5744	5767	5767	5744	5711	5767	5789	5778	5778	5744	5700	5688	5733	5789
17	5755	5755	5711	5711	5744	5744	5722	5688	5733	5767	5755	5744	5711	5688	5677	5688	5755
18	5733	5722	5688	5677	5722	5700	5700	5666	5700	5744	5711	5711	5677	5655	5644	5666	5733
19	5688	5666	5644	5655	5677	5677	5655	5655	5655	5700	5700	5677	5644	5633	5621	5655	5688
20	5655	5633	5633	5621	5644	5655	5621	5599	5633	5688	5677	5644	5610	5577	5599	5610	5655
21	5633	5610	5599	5599	5610	5610	5588	5577	5599	5644	5633	5588	5577	5543	5554	5565	5633
22	5588	5565	5565	5554	5577	5577	5565	5543	5565	5599	5554	5554	5521	5498	5510	5532	5588
23	5543	5521	5521	5532	5543	5543	5521	5510	5543	5554	5532	5521	5476	5465	5476	5487	5543
24	5510	5487	5487	5510	5510	5498	5487	5465	5498	5521	5476	5487	5454	5398	5431	5465	5510
25	5465	5443	5443	5476	5443	5443	5454	5409	5465	5487	5420	5443	5409	5375	5387	5398	5465
26	5398	5398	5398	5420	5398	5398	5398	5364	5409	5431	5387	5375	5353	5331	5342	5342	5398
27	5353	5353	5353	5375	5353	5342	5353	5320	5353	5375	5353	5331	5320	5275	5297	5286	5353
28	5308	5308	5308	5320	5297	5286	5297	5286	5308	5331	5320	5297	5275	5264	5253	5241	5308

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29	5253	5264	5264	5264	5241	5241	5241	5230	5286	5275	5264	5253	5241	5219	5219	5197	5253
30	5208	5219	5208	5219	5208	5208	5208	5208	5219	5230	5208	5186	5208	5174	5163	5152	5208
31	5141	5163	5152	5174	5152	5163	5163	5163	5186	5174	5152	5118	5163	5152	5130	5107	5141
32	5085	5118	5118	5118	5107	5118	5118	5118	5130	5107	5107	5051	5096	5096	5074	5029	5085
33	5040	5074	5063	5085	5074	5085	5063	5085	5085	5074	5063	4984	5040	5040	5029	4984	5040
34	4996	5029	5018	5040	5018	5018	5018	5018	5051	4996	5007	4940	4973	4962	4962	4940	4996
35	4940	4962	4973	4984	4962	4951	4951	4962	4996	4917	4940	4861	4906	4895	4884	4861	4940
36	4884	4917	4928	4928	4917	4895	4895	4906	4906	4839	4861	4794	4806	4828	4817	4783	4884
37	4806	4828	4861	4861	4839	4839	4806	4806	4817	4750	4761	4716	4738	4727	4705	4705	4806
38	4727	4761	4783	4772	4761	4750	4705	4738	4761	4694	4694	4638	4671	4649	4627	4638	4727
39	4649	4683	4716	4716	4671	4671	4649	4660	4660	4627	4604	4582	4582	4548	4548	4548	4649
40	4571	4604	4627	4616	4582	4593	4571	4571	4582	4548	4504	4481	4493	4448	4448	4459	4571
41	4470	4537	4537	4515	4504	4504	4481	4459	4470	4470	4426	4392	4403	4336	4359	4370	4470
42	4403	4459	4448	4448	4426	4437	4414	4403	4370	4392	4347	4291	4269	4247	4280	4291	4403
43	4314	4370	4336	4336	4336	4336	4325	4280	4303	4314	4269	4213	4180	4180	4213	4236	4314
44	4224	4280	4224	4247	4247	4247	4224	4169	4202	4213	4157	4113	4090	4079	4124	4135	4224
45	4146	4213	4146	4169	4146	4169	4135	4079	4101	4113	4068	4023	3990	3990	4023	4046	4146
46	4046	4090	4046	4068	4068	4068	4034	3990	4001	4012	3979	3956	3923	3900	3945	3923	4046
47	3923	3979	3923	3956	3967	3967	3945	3900	3911	3923	3900	3911	3900	3867	3867	3844	3923
48	3856	3889	3822	3878	3878	3889	3878	3833	3844	3867	3844	3833	3822	3811	3833	3777	3856
49	3755	3789	3733	3777	3789	3789	3833	3777	3789	3789	3766	3721	3710	3721	3744	3699	3755
50	3666	3688	3643	3710	3710	3710	3755	3699	3688	3666	3666	3621	3599	3599	3587	3576	3666
51	3565	3599	3599	3643	3632	3643	3677	3621	3565	3532	3543	3520	3464	3476	3442	3453	3565
52	3453	3476	3476	3520	3520	3543	3520	3520	3409	3409	3431	3420	3342	3364	3330	3330	3453
53	3364	3319	3364	3364	3420	3442	3375	3386	3274	3319	3319	3297	3219	3219	3230	3230	3364
54	3241	3207	3252	3241	3274	3308	3274	3263	3152	3185	3196	3174	3107	3084	3118	3118	3241
55	3107	3073	3118	3107	3152	3207	3174	3129	3017	3062	3084	3062	3029	2962	2995	2995	3107
56	3006	2984	3029	3006	3073	3118	3073	3029	2928	2962	3040	2973	2962	2883	2928	2928	3006
57	2906	2883	2906	2917	2962	3017	2962	2917	2894	2883	2962	2906	2883	2839	2872	2850	2906
58	2861	2816	2794	2839	2894	2962	2894	2850	2827	2805	2816	2772	2738	2738	2749	2772	2861
59	2783	2783	2738	2772	2850	2839	2805	2794	2682	2649	2682	2604	2593	2615	2570	2604	2783
60	2615	2660	2649	2660	2671	2671	2649	2671	2515	2481	2515	2492	2459	2459	2425	2459	2615

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61	2503	2526	2548	2559	2548	2537	2515	2526	2369	2358	2380	2380	2336	2313	2291	2325	2503
62	2369	2369	2414	2392	2392	2403	2380	2358	2246	2280	2280	2280	2190	2190	2202	2235	2369
63	2269	2269	2280	2246	2302	2325	2291	2257	2123	2157	2157	2157	2079	2056	2090	2112	2269
64	2157	2179	2202	2146	2190	2224	2135	2123	2012	2045	2012	1989	1922	1967	1967	1989	2157
65	2079	2067	2101	2045	2067	2079	2023	2000	1878	1889	1855	1833	1822	1866	1822	1833	2079
66	1945	1945	2000	1967	1956	1956	1922	1922	1777	1743	1755	1710	1766	1766	1699	1688	1945
67	1777	1766	1844	1822	1810	1799	1788	1788	1676	1632	1665	1632	1665	1665	1598	1609	1777
68	1654	1665	1743	1721	1743	1721	1710	1710	1553	1531	1542	1542	1553	1553	1509	1520	1654
69	1553	1576	1587	1598	1632	1598	1609	1609	1442	1430	1430	1408	1408	1408	1408	1408	1553
70	1464	1486	1509	1486	1498	1486	1531	1531	1319	1296	1285	1274	1296	1263	1274	1274	1464
71	1341	1397	1419	1397	1397	1386	1386	1419	1229	1218	1185	1185	1173	1185	1185	1196	1341
72	1285	1285	1308	1308	1263	1274	1285	1285	1118	1118	1106	1073	1051	1084	1073	1084	1285
73	1162	1185	1207	1207	1185	1185	1207	1196	1017	1017	995	983	972	972	995	983	1162
74	1084	1062	1095	1073	1084	1084	1095	1084	928	939	916	894	894	872	894	905	1084
75	983	995	1017	983	995	995	1006	1006	849	849	838	816	805	816	827	827	983
76	894	894	905	905	916	905	928	905	760	749	738	738	715	726	726	738	894
77	816	827	827	827	849	838	849	838	671	693	637	637	637	648	648	648	816
78	715	715	738	738	738	749	749	726	592	581	603	570	570	570	581	581	715
79	648	659	659	671	682	682	693	659	525	514	525	514	492	469	492	492	648
80	559	581	570	581	603	603	592	592	458	469	458	436	425	425	425	447	559
81	492	514	503	525	536	548	525	514	391	380	391	380	369	369	369	380	492
82	447	436	436	458	458	469	469	447	335	313	324	335	324	324	324	335	447
83	391	391	391	391	402	402	402	391	302	279	291	279	257	268	257	268	391
84	324	324	324	335	346	358	335	346	246	246	246	224	224	224	224	224	324
85	257	279	291	291	302	302	302	302	201	190	190	179	179	168	156	168	257
86	224	224	235	257	268	257	257	246	134	123	123	134	123	112	123	123	224
87	190	179	201	212	201	212	212	212	112	112	101	101	101	112	101	101	190
88	134	145	156	156	168	168	168	156	101	101	101	89	112	89	101	101	134
89	78	78	101	101	112	112	112	112	89	89	89	78	78	89	89	101	78
90	101	89	89	89	89	101	89	89	78	67	78	67	67	67	78	78	101
91	101	101	89	89	89	89	101	89	67	67	67	67	67	56	67	67	101
92	78	78	89	101	89	78	78	78	56	56	67	56	67	56	67	67	78

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93	56	56	67	56	67	67	67	56	67	67	56	45	67	67	67	78	56
94	56	56	56	56	56	56	56	45	56	56	56	56	56	67	67	67	56
95	56	56	56	56	56	45	45	34	67	56	56	56	56	67	67	56	56
96	45	56	56	56	56	56	45	45	67	56	56	56	56	56	56	56	45
97	56	45	56	56	67	67	56	56	56	56	56	67	56	56	56	56	56
98	45	45	56	45	56	56	56	45	56	56	56	56	56	67	56	45	45
99	45	45	45	45	45	56	56	45	56	56	56	56	56	56	56	56	45
100	34	45	45	45	45	56	45	45	56	56	56	56	56	56	45	45	34
101	34	45	34	45	45	45	45	45	56	56	56	45	45	45	45	45	34
102	34	34	34	34	34	45	34	45	45	56	56	45	45	56	56	45	34
103	34	34	34	34	45	45	34	45	56	45	45	45	45	34	34	45	34
104	22	34	34	45	34	34	34	45	56	45	45	45	45	34	45	45	22
105	34	34	34	34	34	45	34	34	34	45	45	34	34	34	34	34	34
106	22	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	22
107	34	22	34	34	22	34	34	45	34	34	34	34	34	22	34	22	34
108	34	34	22	22	22	34	34	34	22	34	34	34	34	22	22	34	34
109	11	22	22	22	22	34	34	22	34	22	34	22	34	34	22	22	11
110	11	22	11	22	22	22	22	11	22	22	22	22	22	22	34	22	11
111	11	22	11	22	22	11	22	22	34	22	22	34	34	22	22	22	11
112	11	11	22	11	11	11	22	0	22	22	22	34	22	34	22	22	11
113	0	22	11	11	11	11	22	11	22	22	22	22	22	22	22	22	0
114	0	11	11	11	11	0	11	11	22	22	22	22	22	22	22	22	0
115	11	11	11	11	11	0	11	11	22	22	22	11	11	22	22	22	11
116	0	0	11	0	11	11	11	11	34	22	22	22	22	22	22	22	0
117	0	11	11	0	0	0	11	11	34	22	22	22	22	22	22	11	0
118	0	11	0	0	11	11	11	0	34	22	11	22	22	11	22	11	0
119	0	11	11	11	11	11	11	0	22	22	22	22	22	11	22	22	0
120	0	11	0	11	11	0	0	0	22	22	22	22	22	22	22	22	0
121	0	11	11	11	11	11	0	0	22	22	11	22	22	22	22	22	0
122	11	11	11	11	11	0	0	0	22	22	22	22	22	22	22	22	11
123	11	11	11	0	11	0	11	0	22	22	22	11	34	11	22	11	11
124	0	11	11	0	11	11	11	11	22	22	34	22	22	22	22	22	0

Laboratory: Standard-Tech Co., Ltd. Testing Center

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125	0	11	11	0	11	0	0	11	22	22	22	22	22	11	11	22	0
126	0	11	0	0	0	11	11	0	22	11	22	11	22	22	11	22	0
127	0	11	0	0	11	0	11	11	11	11	22	22	22	22	22	22	0
128	0	11	11	11	11	0	11	0	22	22	22	22	22	22	11	11	0
129	0	11	11	0	0	11	11	11	22	22	34	22	22	22	22	22	0
130	0	0	0	11	11	11	11	11	22	22	34	22	11	22	11	11	0
131	11	11	0	11	11	11	11	0	22	22	22	11	22	22	22	11	11
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133	0	11	11	11	0	11	11	11	22	11	22	22	22	22	22	22	0
134	0	11	0	22	0	11	11	0	22	22	22	22	22	22	22	22	0
135	0	11	0	11	11	11	0	0	22	22	34	22	22	22	11	22	0
136	0	0	11	0	11	0	0	0	22	22	22	22	22	22	11	22	0
137	11	0	0	11	11	0	11	0	22	22	22	22	22	22	11	22	11
138	11	11	22	11	11	11	0	11	22	22	22	22	11	22	22	11	11
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142	11	11	0	11	11	11	0	11	22	22	22	22	22	22	22	22	11
143	11	0	11	11	11	0	0	11	22	22	22	22	22	11	22	22	11
144	11	11	11	11	11	11	0	11	22	22	22	22	22	22	22	22	11
145	11	11	0	11	0	0	0	11	22	22	22	22	11	11	22	11	11
146	0	11	11	0	11	0	0	11	22	11	22	22	22	22	11	11	0
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148	0	0	11	0	11	11	11	11	22	22	22	22	22	22	22	22	0
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152	0	11	11	11	11	11	11	0	22	22	22	22	22	22	22	11	0
153	11	11	11	11	11	11	11	11	11	22	22	22	22	22	22	11	11
154	0	11	11	11	11	11	11	11	22	11	22	11	22	22	11	22	0
155	11	11	22	11	11	11	11	11	22	11	22	22	11	11	22	11	11
156	11	11	11	22	11	0	11	11	22	22	22	11	11	22	11	22	11

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157	11	22	11	0	11	11	11	11	22	22	11	22	11	11	11	22	11
158	11	11	22	11	0	11	11	11	11	11	22	11	22	11	22	11	11
159	11	11	11	11	11	11	0	11	22	11	11	22	22	11	11	22	11
160	0	22	22	11	22	11	11	11	22	11	11	22	22	11	11	22	0
161	11	11	11	11	11	11	11	11	22	22	22	22	22	22	22	11	11
162	11	0	11	11	11	11	0	11	22	22	11	22	11	22	11	11	11
163	11	11	22	11	11	11	0	0	22	11	11	22	11	11	22	22	11
164	11	11	22	11	11	11	11	11	22	11	22	22	11	22	22	22	11
165	0	11	11	11	11	11	0	0	22	22	22	22	11	11	11	22	0
166	11	11	22	11	11	11	0	11	22	22	22	22	11	11	11	11	11
167	11	22	11	22	11	11	11	11	11	11	11	11	11	11	11	11	11
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174	11	11	11	11	22	11	11	11	22	11	22	11	11	11	11	11	11
175	11	22	22	11	11	11	11	11	11	11	11	22	11	11	22	11	11
176	11	11	22	11	11	11	11	22	22	11	11	11	11	22	22	11	11
177	0	11	11	11	11	11	22	11	11	22	11	11	0	22	0	11	0
178	11	22	22	11	11	11	22	11	22	22	22	11	11	11	22	22	11
179	22	22	11	11	11	11	11	11	11	22	11	11	11	11	11	11	22
180	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-331	2 meter Integrating Sphere	2018-07-02	2019-07-01
ST-R-327	Spectral analysis system HAAS-2000	2018-07-02	2019-07-01
ST-R-332	Standard Lamp	2018-07-04	2019-07-03
ST-R-333	Power Meter for Integrating Sphere	2018-06-28	2019-06-27
ST-R-355	Goniophotometer system	2018-07-01	2019-06-30
ST-R-359	Standard Lamp	2018-07-04	2019-07-03
ST-R-358	Power Meter for Goniophotometer	2018-06-28	2019-06-27
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 *******