

## **LM-79-08 Test Report**

For

# **Beyond LED Technology**

**(Brand Name: Beyond LED)**

1939 Parker Ct Suite C  
Stone Mountain, GA 30087

## **Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area Luminaires**

Model name(s): BLT-WP03-15WC1

Representative (Tested) Model: SNC-WP03-15WC1 3000K  
SNC-WP03-15WC1 5700K

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

Test & Report By:

*Jack Luo*

Engineer: Jack Luo

Date: Apr.17,2017

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

Tel: 8620-3229 0320 Fax: 8620-32290422 <http://www.standard-tech.com>

**1.1 Product Information:**

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED	
Model Number	BLT-WP03-15WC1	
SKU (if available)	150824	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area Luminaires	
Rated Voltage / Frequency	100 -277Vac, 50/60 Hz	
Nominal Power	15W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,3500K,4000K,4500K,5000K,5700K	
LED Manufacturer	Shenzhen WeiXingXin Electronics Technology Co.,Ltd.	
LED Model	2835 WHITE SMD LED	
Sample Number	GZE1703139-B1(3000K), B2(5700K)	
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	Apr.13,2017
Date of Test	Apr.14,2017
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**

<p><b>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</b></p> <p>Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at 25° C ± 1° 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.</p>
<p><b>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</b></p> <p>Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25° C ± 1° 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.</p>
<p><b>3) Electrical Measurements:</b></p> <p>Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at 25° C ± 1° 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.</p>

**2.1 Electrical, Photometric and Chromaticity Measurements**

*(Refer to Work Instruction QD25)*

<b>Test date</b>	2017-04-14	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	BLT-WP03-15WC1 3000K		

**Electrical Measurement :**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE170313	120.0	60	0.1303	14.97	0.9577	15.13
9-B1	277.0	60	0.0588	15.25	0.9369	19.55
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

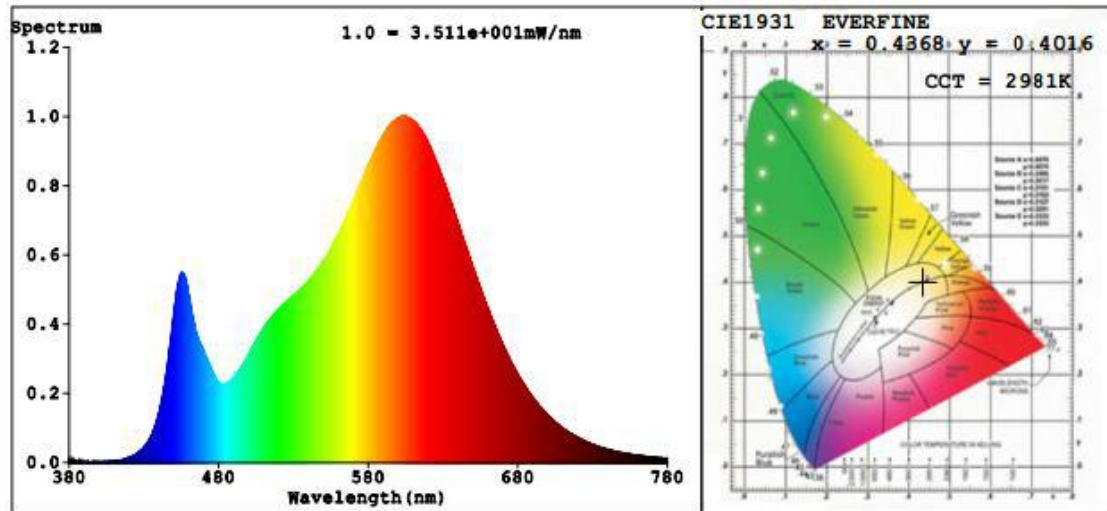
**Chromaticity Measurement - Sphere-Spectroradiometer Method :**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	7
Frequency (Hz)	60	R2	93	R10	85
CCT (K)	2981	R3	94	R11	79
Duv	-0.0010	R4	79	R12	73
Chromaticity (x, y)	x=0.4368 y=0.4016	R5	82	R13	85
Chromaticity (u', v')	u'=0.2516 v'=0.5204	R6	92	R14	97
Color Rendering Index (CRI)	82.6	R7	81	R15	74
R9	7	R8	57	--	--

**Photometric Measurement – Goniophotometer Method :**

Parameter	Result		DLC V4.1 Pass Criteria	
Test Voltage (V)	120.0	277.0	--	
Frequency (Hz)	60	60		
Total Luminous (lm)	1592.2	1605.8	300-5000 (-10%)	
Luminous Efficacy (lm/W)	106.36	105.30	--	
Total Luminous (lm) (0-90°zone)	1443.9	1453.4	--	
Luminous Efficacy (lm/W) (0-90°zone)	96.45	95.30	Standard: >= 90(-3%)	Premium: >= 110(-3%)
Zonal lumens in the 80-90°zone (%) (0-90°zone)	10.8	--	<=10(+3)	
Beam Angle (°)	103.3	--	--	
Center Beam Candle Power (cd)	336	--	--	

**Spectral Power Distribution & Chromaticity Diagram**

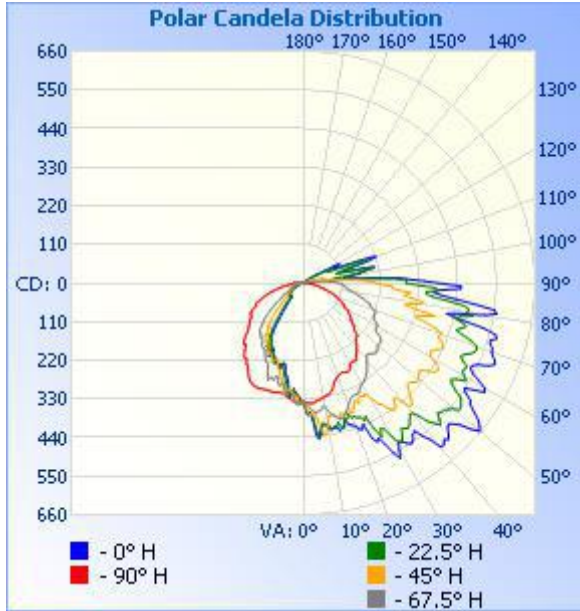


**Zonal Lumen Tabulation**

Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	271.4	17%
0-40	456.3	28.7%
0-60	880.3	55.3%
60-90	563.6	35.4%
70-100	419.3	26.3%
90-120	139.8	8.8%
0-90	1,443.9	90.7%
90-180	148.3	9.3%
0-180	1,592.2	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	33.5	2.1%	90-100	70.9	4.5%
10-20	93.0	5.8%	100-110	43.5	2.7%
20-30	145.0	9.1%	110-120	25.5	1.6%
30-40	184.9	11.6%	120-130	5.8	0.4%
40-50	206.0	12.9%	130-140	1.2	0.1%
50-60	218.0	13.7%	140-150	0.9	0.1%
60-70	215.1	13.5%	150-160	0.4	0%
70-80	192.3	12.1%	160-170	0.1	0%
80-90	156.1	9.8%	170-180	0.0	0%

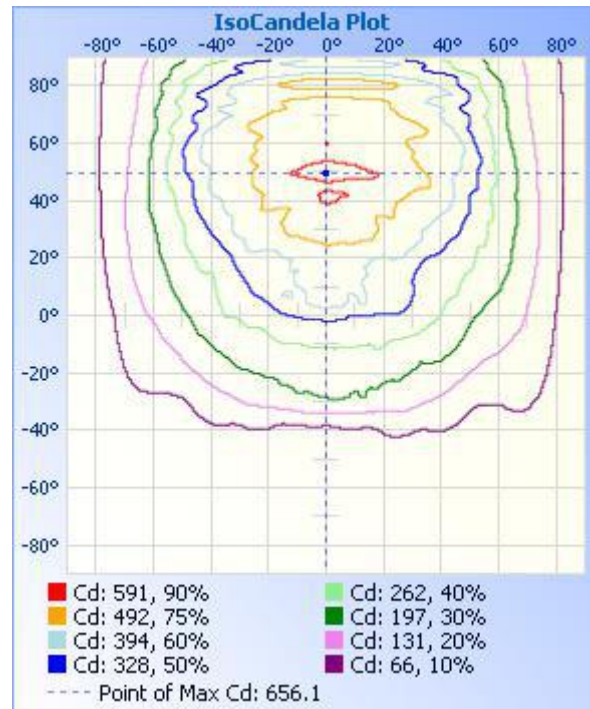
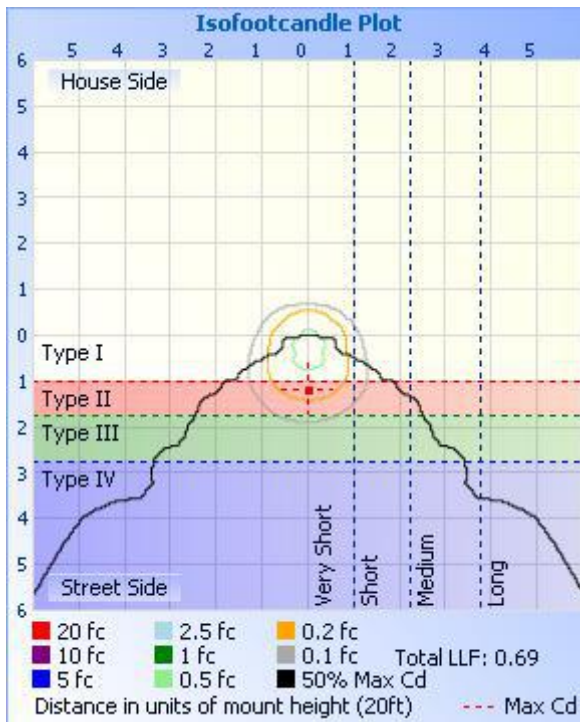
**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
17.0ft	<b>1.16 fc</b>	<b>35.9 ft</b>	<b>41.4 ft</b>
34.0ft	<b>0.29 fc</b>	<b>71.7 ft</b>	<b>82.7 ft</b>
51.0ft	<b>0.13 fc</b>	<b>107.6 ft</b>	<b>124.1 ft</b>
68.0ft	<b>0.07 fc</b>	<b>143.4 ft</b>	<b>165.4 ft</b>
85.0ft	<b>0.05 fc</b>	<b>179.3 ft</b>	<b>206.8 ft</b>
102.0ft	<b>0.03 fc</b>	<b>215.2 ft</b>	<b>248.1 ft</b>

■ Vert. Spread: 93.0°  
■ Horiz. Spread: 101.2°



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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	336	336	336	336	336	336	336	336	336	336	336	336	336	336	336	336	336
1	355	353	346	338	340	342	343	344	344	345	346	344	338	337	348	354	355
2	376	374	365	347	341	343	333	322	325	329	339	347	337	345	364	374	376
3	367	372	377	355	342	336	313	315	322	316	320	345	338	358	376	371	367
4	389	375	376	363	343	325	319	321	311	324	321	336	338	366	368	380	389
5	434	415	368	367	342	313	321	304	308	300	333	325	337	372	375	421	434
6	446	443	390	370	339	307	300	311	307	314	307	317	332	371	406	443	446
7	413	434	418	368	336	317	314	326	327	315	306	312	328	364	430	425	413
8	408	402	436	364	335	316	301	313	298	321	307	323	326	354	440	401	408
9	406	408	434	357	333	298	321	287	280	294	306	322	323	358	413	403	406
10	421	408	402	357	331	287	305	280	268	285	324	306	321	374	392	418	421
11	424	424	385	369	328	293	287	269	263	273	300	293	319	386	392	418	424
12	423	418	386	379	326	292	274	261	243	263	279	289	318	394	385	425	423
13	419	425	381	387	325	279	265	237	234	252	280	300	319	403	399	420	419
14	434	408	392	392	321	282	255	237	242	234	268	292	321	409	402	423	434
15	427	425	400	400	316	294	251	240	251	240	257	277	322	403	389	431	427
16	425	428	387	401	309	289	241	251	238	248	255	276	321	397	394	424	425
17	405	406	388	396	300	293	227	235	244	241	246	289	322	380	393	415	405
18	425	406	392	389	294	282	227	237	242	235	232	282	321	365	390	398	425
19	428	394	385	383	288	265	226	234	237	237	229	285	321	364	406	412	428
20	433	409	390	374	284	259	238	234	232	242	232	293	322	366	400	409	433
21	446	406	395	365	282	258	231	227	224	228	239	279	323	362	388	420	446
22	450	414	384	357	280	252	219	224	224	227	243	272	324	364	372	410	450
23	437	414	371	353	277	246	217	208	226	218	227	254	325	367	383	442	437
24	484	430	365	351	278	234	216	219	205	214	222	249	324	365	375	425	484
25	499	419	377	351	279	228	218	208	230	217	221	247	325	355	380	448	499
26	491	460	363	352	281	226	207	196	213	200	217	245	323	349	379	491	491
27	514	492	361	350	283	230	203	225	198	206	220	236	322	350	377	483	514
28	548	470	366	342	281	229	198	183	199	218	205	231	319	357	386	477	548
29	570	474	361	337	276	219	186	192	185	182	204	224	314	360	396	505	570

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30	548	503	372	333	267	214	197	176	192	208	196	218	310	351	414	535	548
31	527	527	389	331	265	211	192	176	171	171	190	217	303	343	418	551	527
32	532	534	406	329	263	209	175	171	160	179	198	216	294	330	432	530	532
33	544	519	411	324	265	213	172	154	141	166	192	215	289	322	456	510	544
34	551	500	428	320	267	207	193	142	123	156	182	209	283	317	466	516	551
35	546	505	441	314	266	202	164	127	105	136	173	201	280	314	448	523	546
36	532	509	445	310	257	199	157	107	89	126	187	196	274	310	435	522	532
37	527	504	437	302	251	191	170	93	77	108	167	195	267	305	448	513	527
38	553	493	418	295	247	182	142	80	61	96	156	196	269	304	463	501	553
39	572	483	420	287	243	177	143	73	51	82	162	193	268	298	472	496	572
40	609	482	442	281	238	175	135	59	49	71	151	188	260	295	474	512	609
41	610	501	465	276	232	168	120	49	49	61	136	185	253	300	472	539	610
42	599	529	466	273	225	161	114	47	49	52	137	184	246	307	453	558	599
43	608	545	450	274	220	157	98	47	51	50	119	180	238	315	434	578	608
44	595	562	436	279	216	153	91	45	51	50	108	169	242	318	428	565	595
45	581	549	422	283	216	147	83	46	53	49	100	164	239	317	434	557	581
46	577	532	413	287	216	136	74	46	53	49	91	157	233	315	445	560	577
47	588	539	414	287	204	130	65	47	53	49	81	151	226	311	452	558	588
48	604	540	422	284	196	120	61	47	51	50	73	145	217	306	455	560	604
49	634	548	429	279	193	113	57	47	50	49	65	132	209	304	457	575	634
50	656	557	427	278	187	108	55	45	49	48	59	122	204	306	457	589	656
51	646	573	424	276	181	101	54	42	50	47	57	118	199	309	456	598	646
52	633	571	419	277	174	90	52	41	51	43	55	108	195	312	467	595	633
53	609	563	414	277	171	81	51	40	50	42	54	98	191	308	479	586	609
54	588	556	422	274	168	73	50	40	50	41	53	92	187	300	487	557	588
55	581	528	436	267	164	66	49	39	49	40	50	82	184	295	502	536	581
56	557	510	453	255	159	60	47	38	46	39	47	76	181	285	501	520	557
57	548	503	457	246	154	55	44	36	43	38	45	69	176	286	497	526	548
58	574	516	454	243	150	49	42	35	42	36	44	64	173	294	485	554	574
59	603	541	439	245	145	44	42	32	38	35	43	59	174	297	464	548	603
60	597	531	418	245	137	41	41	31	36	33	42	52	174	286	447	541	597
61	572	518	415	240	135	37	40	29	33	31	41	47	169	274	443	551	572

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62	547	521	413	234	132	35	39	27	30	29	40	43	165	269	444	550	547
63	535	524	417	226	127	34	38	26	29	28	39	39	159	276	455	523	535
64	535	507	431	224	121	33	37	24	26	26	38	36	152	286	468	502	535
65	549	495	438	224	117	31	36	23	24	25	37	33	147	273	470	498	549
66	579	500	437	221	110	30	36	21	22	24	36	32	148	254	465	510	579
67	593	515	430	222	106	29	36	20	19	22	36	31	144	247	462	530	593
68	589	526	417	223	103	29	36	19	16	22	36	30	136	246	462	550	589
69	578	528	415	219	95	28	34	18	15	21	38	28	129	254	476	558	578
70	571	527	421	211	90	27	33	17	13	19	37	28	124	255	456	556	571
71	571	507	400	204	84	27	32	16	12	18	34	27	117	232	433	535	571
72	560	478	375	198	77	27	31	13	12	17	33	27	111	222	411	507	560
73	557	456	339	201	71	25	30	12	12	14	32	26	104	231	390	490	557
74	574	467	334	187	65	25	29	12	11	13	30	25	98	230	368	497	574
75	567	479	364	181	60	26	27	11	10	12	32	25	89	215	364	510	567
76	529	469	388	172	54	25	26	10	10	11	31	24	83	208	387	496	529
77	461	441	325	161	49	24	25	10	11	10	29	23	79	199	385	454	461
78	419	457	297	157	45	24	21	10	11	10	29	22	72	183	340	436	419
79	453	492	311	152	41	24	19	9	10	10	24	22	68	180	338	488	453
80	525	474	339	142	38	24	17	8	10	9	21	23	62	174	373	495	525
81	558	478	346	138	34	24	16	8	10	9	19	24	56	162	395	506	558
82	549	463	313	132	31	23	15	8	10	9	18	24	51	160	372	500	549
83	493	418	289	127	28	23	14	8	9	8	17	25	44	150	347	451	493
84	435	371	300	124	25	24	14	7	8	7	16	25	40	149	331	406	435
85	395	351	307	121	22	24	13	6	8	7	15	26	36	144	337	358	395
86	371	353	267	116	21	25	11	6	8	6	13	26	31	143	321	348	371
87	385	387	255	114	19	26	11	6	8	6	13	25	28	143	266	381	385
88	450	376	253	112	17	26	10	6	7	6	12	25	25	140	250	424	450
89	449	328	227	109	16	25	9	5	7	5	11	26	22	137	252	370	449
90	386	294	212	105	15	24	9	5	6	5	10	26	19	133	232	316	386
91	346	293	194	98	14	24	8	4	6	4	10	26	17	127	221	294	346
92	305	297	183	91	13	24	8	4	6	4	10	26	15	116	209	294	305
93	277	244	160	80	12	23	7	4	5	4	9	25	13	94	176	267	277

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94	223	172	139	67	11	22	7	4	5	4	8	24	11	79	143	177	223
95	163	133	110	55	10	21	6	3	5	3	7	20	10	64	107	127	163
96	122	103	81	43	9	19	6	3	4	3	6	19	9	49	85	106	122
97	118	75	67	36	8	18	5	3	4	3	6	16	7	40	93	82	118
98	120	92	59	29	7	16	5	2	3	2	5	14	6	32	98	97	120
99	142	117	54	21	7	14	4	2	3	2	5	12	6	27	104	123	142
100	164	145	55	18	6	12	4	2	2	2	5	10	6	22	112	150	164
101	175	169	60	14	6	11	4	2	2	2	5	9	6	19	121	176	175
102	192	207	59	12	6	9	4	2	2	2	5	7	6	21	120	213	192
103	207	201	57	11	6	8	4	1	2	2	5	7	6	22	116	219	207
104	175	154	52	11	6	7	3	1	2	2	4	7	6	24	91	160	175
105	130	109	40	10	6	7	3	2	2	2	4	7	5	17	61	122	130
106	115	97	33	7	6	7	3	2	2	2	4	7	5	10	39	99	115
107	121	105	29	5	5	7	3	1	2	1	4	7	5	6	41	103	121
108	148	133	29	4	5	7	3	1	1	1	5	7	6	5	53	125	148
109	200	166	28	3	5	6	4	1	1	1	5	6	5	3	61	170	200
110	220	192	28	2	5	6	4	1	1	1	5	6	5	3	58	203	220
111	207	175	24	2	5	5	4	1	1	1	5	5	5	2	53	187	207
112	169	131	22	2	5	5	3	1	1	1	5	5	5	2	42	142	169
113	134	98	16	2	5	5	3	1	1	1	4	5	5	1	30	112	134
114	116	79	12	2	5	5	3	1	1	1	4	6	5	1	24	83	116
115	95	75	10	2	5	5	3	1	1	1	4	5	5	1	26	77	95
116	95	83	7	2	5	5	3	1	1	1	4	5	5	1	22	82	95
117	113	89	6	2	5	4	3	1	1	1	4	5	5	1	13	96	113
118	116	79	6	2	5	4	3	1	1	2	4	5	5	1	13	87	116
119	100	65	5	2	5	4	3	1	1	2	4	5	5	1	14	72	100
120	71	42	4	2	5	4	3	1	1	2	3	5	5	2	9	44	71
121	55	39	3	2	5	4	2	1	1	2	3	6	4	2	5	39	55
122	51	32	3	3	5	4	2	1	1	1	3	6	4	3	3	37	51
123	43	21	2	3	5	4	2	1	1	1	3	6	4	3	2	23	43
124	38	14	2	3	5	4	2	1	1	1	3	6	4	3	2	16	38
125	26	15	2	3	5	4	2	1	1	1	3	6	4	3	1	16	26

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126	21	13	1	3	5	4	2	1	1	2	3	5	4	3	1	15	21
127	13	8	1	3	5	4	2	1	1	2	3	5	4	3	0	9	13
128	7	5	1	4	5	4	2	1	1	2	2	5	4	3	0	5	7
129	6	4	1	4	5	4	2	1	1	2	2	3	4	3	0	4	6
130	5	4	1	3	4	3	2	1	1	2	2	3	3	3	0	4	5
131	4	3	0	3	4	2	1	1	1	2	2	2	3	3	0	3	4
132	4	1	0	3	4	2	1	1	1	2	2	2	2	2	0	2	4
133	3	1	0	2	3	2	1	1	1	2	2	2	2	2	0	1	3
134	2	0	0	2	2	1	1	1	1	2	2	2	2	2	0	0	2
135	1	0	1	2	2	2	2	1	1	1	2	2	2	2	1	0	1
136	0	0	1	2	1	2	2	1	1	1	2	3	2	1	1	0	0
137	0	0	1	2	1	2	2	1	1	1	2	3	2	1	1	0	0
138	0	0	1	2	1	2	2	1	1	1	2	3	2	1	1	0	0
139	0	0	2	1	2	2	2	1	1	1	2	3	2	1	1	0	0
140	0	0	2	1	2	2	2	1	1	1	2	3	2	2	2	0	0
141	0	0	2	1	2	2	1	1	1	1	2	3	2	2	2	0	0
142	0	0	2	1	2	2	1	1	1	1	1	3	2	2	2	0	0
143	0	1	2	2	2	2	1	1	1	1	1	3	2	2	2	0	0
144	0	1	2	2	2	2	1	1	1	1	1	3	2	2	2	1	0
145	0	1	2	2	2	2	1	1	1	1	1	2	2	2	2	1	0
146	0	1	2	2	2	2	1	1	1	1	1	2	2	2	2	1	0
147	0	1	2	2	2	2	1	1	1	1	1	2	2	2	2	1	0
148	0	1	2	2	2	2	1	1	1	1	1	2	2	2	2	1	0
149	0	1	2	2	1	2	1	1	1	1	1	2	2	2	2	1	0
150	0	1	2	2	1	2	1	1	1	1	1	2	2	2	2	1	0
151	0	1	2	2	1	1	1	1	1	1	1	2	1	2	1	1	0
152	0	1	2	2	1	1	1	1	1	1	1	1	1	2	1	1	0
153	0	1	1	2	1	1	1	1	0	0	1	1	1	2	1	1	0
154	0	1	1	1	1	1	1	1	1	0	1	1	1	2	1	1	0
155	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0
156	0	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0
157	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0

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158	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0
159	0	1	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0
160	0	1	1	1	1	1	1	0	0	0	0	1	1	1	1	0	0
161	0	0	1	1	1	1	1	1	0	0	0	1	1	1	1	0	0
162	0	0	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0
163	0	0	1	1	1	1	1	0	0	0	0	1	1	1	1	0	0
164	0	0	1	1	1	1	1	1	0	0	0	0	1	0	0	0	0
165	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0
166	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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**2.2 Electrical, Photometric and Chromaticity Measurements**

*(Refer to Work Instruction QD25)*

<b>Test date</b>	2017-04-14	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	BLT-WP03-15WC1 5700K		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
GZE170313	120.0	60	0.1311	15.09	0.9592	14.65
9-B2	277.0	60	0.0589	15.31	0.9381	19.80
<b>DLC Pass Criteria</b>					>= 0.9(-3%)	<= 20(+5)

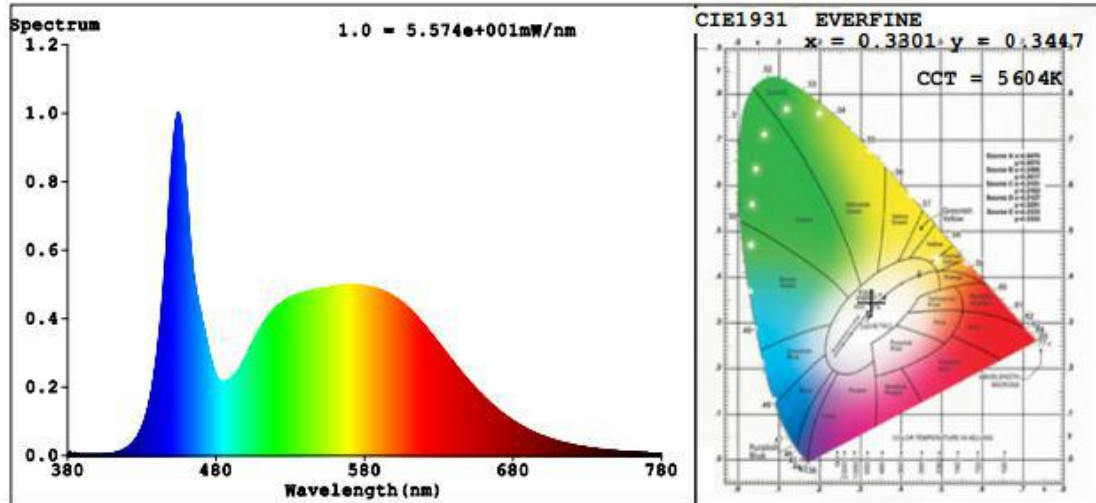
**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	82	R9	10
Frequency (Hz)	60	R2	89	R10	72
CCT (K)	5604	R3	92	R11	80
Duv	0.0029	R4	82	R12	56
Chromaticity (x, y)	x=0.3301 y=0.3447	R5	82	R13	84
Chromaticity (u', v')	u'=0.2039 v'=0.4790	R6	83	R14	96
Color Rendering Index (CRI)	83.2	R7	88	R15	77
R9	10	R8	69	--	--

**Photometric Measurement – Sphere-Spectroradiometer Method :**

Parameter	Result		DLC V4.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	1660	1676	300-5000 (-10%)
Luminous Efficacy (lm/W)	110.01	109.47	--

**Spectral Power Distribution & Chromaticity Diagram**



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**2.3 Performance Assessment:**

Model name	CCT(K)	Total Luminous (lm)	Power (W)	Luminous Efficacy (lm/W)
SNC-WP03-15WC1 3000K	3000K	1592.2	14.97	106.36
SNC-WP03-15WC1 3500K	3500K	1606 <sup>*1</sup>	15.03 <sup>*2</sup>	106.85 <sup>*3</sup>
SNC-WP03-15WC1 4000K	4000K	1620 <sup>*1</sup>	15.03 <sup>*2</sup>	107.78 <sup>*3</sup>
SNC-WP03-15WC1 4500K	4500K	1634 <sup>*1</sup>	15.03 <sup>*2</sup>	108.72 <sup>*3</sup>
SNC-WP03-15WC1 5000K	5000K	1648 <sup>*1</sup>	15.03 <sup>*2</sup>	109.65 <sup>*3</sup>
SNC-WP03-15WC1 5700K	5700K	1660	15.09	110.01

\*1: This value is calculated and the calculation formula is as below:

$$1606=(1660-1592.2)/5+1592.2$$

$$1620=(1660-1592.2)/5+1606$$

$$1634=(1660-1592.2)/5+1620$$

$$1648=(1660-1592.2)/5+1634$$

\*2: This value is calculated and the calculation formula is as below:

$$15.03=(15.09+14.97)/2$$

\*3: This value is calculated and the calculation formula is as below:

$$106.85=1606/15.03$$

$$107.78=1620/15.03$$

$$108.72=1634/15.03$$

$$109.65=1648/15.03$$

**3. Test Equipment**

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-331	2 meter Integrating Sphere	2016-07-01	2017-06-30
ST-R-327	Spectral analysis system HAAS-2000	2016-07-01	2017-06-30
D204	Standard Lamp	2016-07-12	2017-07-11
PF2010	Power Meter for Integrating Sphere	2016-07-01	2017-06-30
GO-R5000	Goniophotometer system	2016-07-01	2017-06-30
D908S	Standard Lamp	2016-07-12	2017-07-11
PF210	Power Meter for Goniophotometer	2016-07-07	2017-07-06

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 \*\*\*\*\***

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