



Report No.: BLC1801005E-J

# LM-79-08 Test Report

For



## Category 1: Outdoor Pole/Arm-Mounted Area and Roadway Luminaries

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Model name(s): BLT-NSB-100WAT3

Remark: "aaK" refers to CCT, can be 40K, 45K, 50K, 57K.

This luminaire has four kinds of mounting arm as below: Type A, Type B, Type C, Type D, Type E, Type F. Type A, Type B, Type C, Type D, Type E and Type F for category 1; Type C, Type D for category 2.

Representative (Tested) Model: AST-S-G04-100WCT3A1-40K  
AST-S-G04-100WCT3A1-57K

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

Test & Report By:

*Grace Li*

Engineer: Grace Li

Date: Mar.12,2018

Review By:

*Tommy Liang*

Manager: Tommy Liang

**1.1 Product Information:**

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED	
Model Number	BLT-NSB-100WAT3	
SKU (if available)	150001	
Type of Luminaire (for integral lamps, list base type and lamp type)	Category 1: Outdoor Pole/Arm-Mounted Area and Roadway Luminaires Category 2: Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	100-277Vac, 50/60 Hz	
Nominal Power	100W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,4500K,5000K,5700K	
LED Manufacturer	Seoul Semiconductor Co., LTD	
LED Model	SAWxC22B-xx	
Sample Number	BLC1801005E-J1(4000K),J2(5700K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

**Photo****Type A****Type B**



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<p style="text-align: center;"><b>Type E</b></p>	<p style="text-align: center;"><b>Type F</b></p>
	
<p style="text-align: center;"><b>Type C</b></p>	<p style="text-align: center;"><b>Type D</b></p>
	

**1.2 Test Specifications:**

Date of Receipt	Mar.05,2018
Date of Test	Mar.09,2018
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	BL-QP-033

**1.3 Test Methods**

<p><b>1) Photometric and Light Distribution Measurement – Goniophotometer Method:</b> Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at <math>25^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>, 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 <math>1^{\circ}</math> vertical intervals and <math>22.5^{\circ}</math> horizontal intervals.</p>
<p><b>2) Chromaticity Measurement – Sphere-Spectroradiometer Method:</b> Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at <math>25^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>. 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> Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at <math>25^{\circ}\text{C} \pm 1^{\circ}\text{C}</math>. 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 BL-QP-033)*

<b>Test date</b>	2018-3-9	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	BLT-NSB-100WAT3		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180100	120.0	60	0.8087	96.95	0.999	10.8
5E-J1	277.0	60	0.3541	94.46	0.963	12.6
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

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

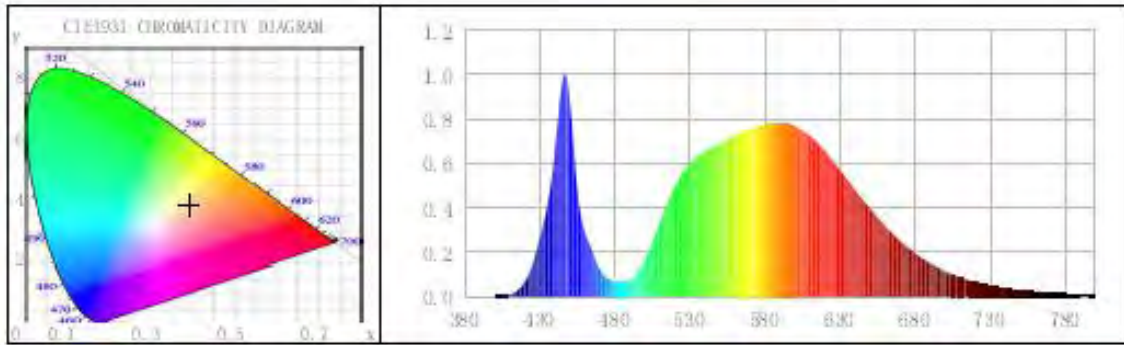
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	76	R9	0
Frequency (Hz)	60	R2	78	R10	46
CCT (K)	3822	R3	81	R11	70
Duv	-0.0003	R4	74	R12	40
Chromaticity (x, y)	x=0.3886 y=0.3816	R5	70	R13	72
Chromaticity (u', v')	u(u')=0.2285 v'(v')=0.5049	R6	68	R14	89
Color Rendering Index (CRI)	72.7	R7	81	R15	67
R9	0	R8	59	--	--

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result		DLC V4.2 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	12630.7	12569.7	>=10000(-10%)
Luminous Efficacy (lm/W)	130.28	133.07	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	129.65		
Zonal lumens in the 0-90° zone (%)	99.7	--	Category 1: >=100(-1) Category 2: >=85(-3)
Zonal lumens in the 80-90° zone (%)	3.2	--	<=10(+3)
Beam Angle (°)	159.7	--	--
Center Beam Candle Power (cd)	2835	--	--



**Spectral Power Distribution & Chromaticity Diagram**



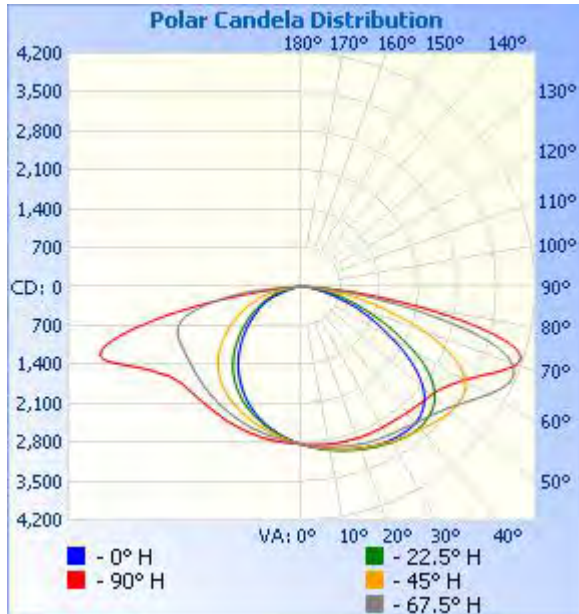
**Zonal Lumen Tabulation**

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	2,359.3	18.7%	18.7%
0-40	4,076.7	32.3%	32.3%
0-60	8,345.8	66.1%	66.1%
60-90	4,241.5	33.6%	33.6%
70-100	2,057.6	16.3%	16.3%
90-120	25.9	0.2%	0.2%
0-90	12,587.3	99.7%	99.7%
90-180	43.4	0.3%	0.3%
0-180	12,630.7	100%	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	270.3	2.1%	90-100	10.9	0.1%
10-20	798.8	6.3%	100-110	8.4	0.1%
20-30	1,290.1	10.2%	110-120	6.7	0.1%
30-40	1,717.4	13.6%	120-130	5.3	0%
40-50	2,047.6	16.2%	130-140	4.2	0%
50-60	2,221.5	17.6%	140-150	3.4	0%
60-70	2,194.7	17.4%	150-160	2.5	0%
70-80	1,646.5	13.0%	160-170	1.6	0%
80-90	400.3	3.2%	170-180	0.5	0%



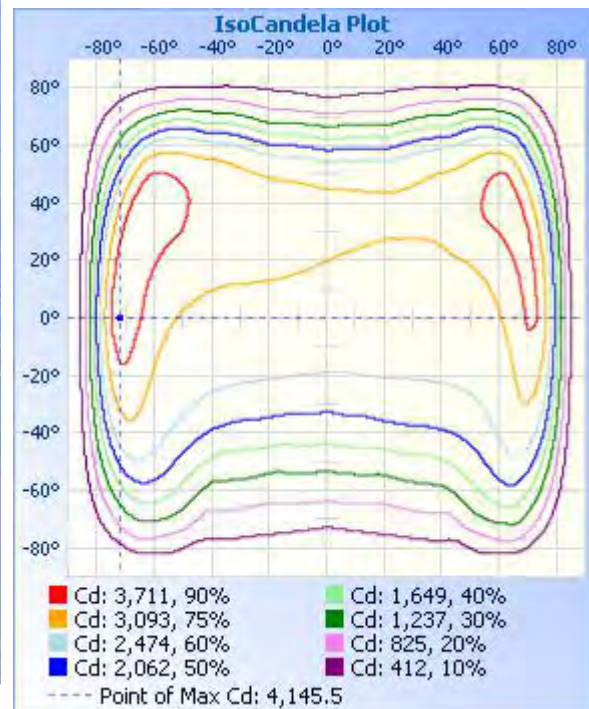
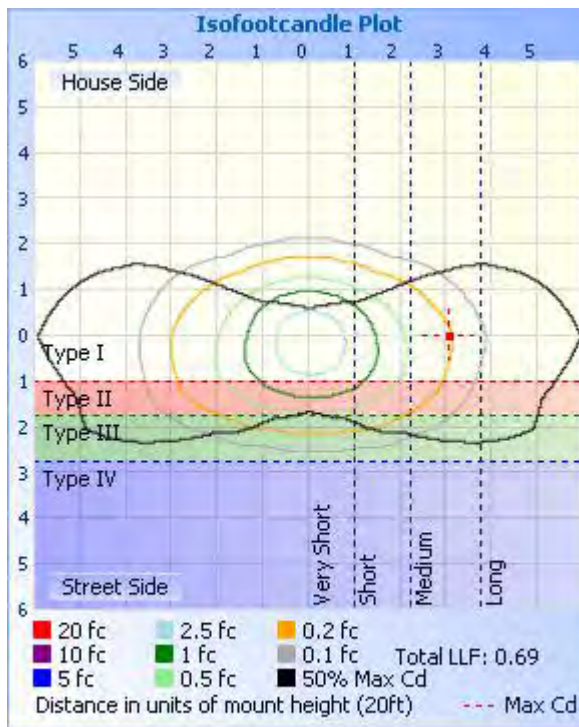
**Photometric Data**



**Illuminance at a Distance**

Center Beam fc	Beam Width	
17.0ft	9.81 fc	42.6 ft 189.8 ft
34.0ft	2.45 fc	85.3 ft 379.6 ft
51.0ft	1.09 fc	127.9 ft 569.4 ft
68.0ft	0.61 fc	170.5 ft 759.1 ft
85.0ft	0.39 fc	213.1 ft 948.9 ft
102.0ft	0.27 fc	255.8 ft 1,138.7 ft

■ Vert. Spread: 102.8°  
■ Horiz. Spread: 159.7°





**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	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835	2835
1	2850	2852	2848	2845	2839	2831	2826	2821	2819	2819	2822	2826	2832	2837	2844	2849	2850
2	2866	2867	2860	2854	2844	2828	2817	2808	2803	2804	2810	2818	2828	2840	2851	2861	2866
3	2881	2882	2873	2863	2848	2825	2807	2794	2787	2789	2796	2809	2825	2843	2859	2874	2881
4	2895	2897	2886	2873	2852	2822	2797	2779	2770	2772	2784	2801	2823	2846	2867	2885	2895
5	2908	2912	2899	2882	2857	2818	2787	2765	2751	2756	2771	2793	2821	2848	2873	2896	2908
6	2921	2927	2911	2891	2860	2814	2776	2749	2733	2737	2757	2785	2820	2851	2879	2909	2921
7	2934	2943	2924	2902	2865	2810	2766	2733	2715	2721	2745	2778	2818	2854	2887	2920	2934
8	2946	2957	2939	2911	2869	2807	2755	2716	2697	2704	2733	2769	2816	2856	2894	2931	2946
9	2960	2972	2951	2920	2873	2803	2743	2700	2678	2687	2720	2761	2815	2859	2900	2940	2960
10	2972	2985	2964	2930	2877	2799	2731	2683	2656	2667	2708	2754	2813	2860	2906	2950	2972
11	2984	2999	2976	2939	2880	2795	2719	2665	2635	2650	2695	2747	2812	2862	2912	2959	2984
12	2996	3012	2989	2948	2884	2791	2706	2645	2615	2632	2683	2740	2810	2864	2919	2968	2996
13	3008	3027	3003	2957	2887	2786	2694	2627	2593	2614	2671	2734	2809	2867	2925	2977	3008
14	3021	3040	3016	2966	2890	2782	2682	2608	2572	2595	2658	2728	2807	2869	2932	2986	3021
15	3033	3053	3030	2974	2892	2777	2670	2589	2549	2576	2645	2722	2804	2872	2938	2995	3033
16	3045	3065	3042	2983	2895	2773	2658	2570	2524	2554	2632	2716	2800	2875	2944	3005	3045
17	3057	3078	3055	2990	2898	2768	2644	2550	2501	2534	2618	2709	2797	2877	2950	3014	3057
18	3068	3090	3068	2999	2900	2762	2632	2527	2477	2515	2605	2703	2794	2880	2957	3022	3068
19	3080	3103	3082	3010	2902	2757	2619	2507	2453	2495	2591	2698	2791	2881	2964	3032	3080
20	3091	3116	3096	3021	2904	2752	2604	2484	2428	2475	2578	2690	2788	2883	2970	3040	3091
21	3103	3129	3107	3031	2905	2746	2589	2460	2402	2455	2566	2683	2785	2885	2977	3049	3103
22	3114	3142	3117	3041	2907	2741	2573	2434	2373	2431	2553	2676	2782	2887	2983	3058	3114
23	3124	3155	3127	3049	2909	2735	2557	2410	2346	2408	2539	2668	2779	2889	2989	3066	3124
24	3136	3168	3138	3055	2911	2728	2542	2382	2318	2387	2526	2661	2776	2891	2994	3075	3136
25	3146	3179	3151	3061	2913	2722	2527	2357	2290	2363	2513	2654	2772	2894	3000	3084	3146
26	3156	3190	3163	3066	2915	2715	2511	2331	2258	2340	2498	2647	2769	2896	3007	3094	3156
27	3167	3201	3176	3073	2917	2710	2493	2306	2227	2316	2484	2640	2767	2897	3014	3104	3167
28	3176	3212	3190	3080	2918	2706	2475	2275	2195	2291	2470	2630	2765	2900	3021	3113	3176





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29	3184	3223	3205	3087	2918	2701	2456	2247	2163	2266	2454	2623	2764	2903	3029	3122	3184
30	3190	3236	3221	3095	2920	2694	2437	2219	2131	2240	2441	2617	2761	2909	3036	3128	3190
31	3195	3247	3234	3104	2924	2687	2417	2189	2096	2209	2425	2610	2754	2914	3044	3136	3195
32	3199	3256	3246	3110	2922	2682	2397	2158	2064	2180	2405	2602	2749	2918	3051	3144	3199
33	3203	3267	3257	3117	2922	2675	2373	2126	2031	2152	2388	2593	2743	2922	3058	3151	3203
34	3206	3275	3268	3125	2928	2666	2350	2089	1997	2122	2370	2585	2740	2923	3068	3157	3206
35	3209	3285	3279	3131	2933	2660	2326	2055	1962	2092	2352	2578	2740	2930	3078	3162	3209
36	3211	3295	3293	3142	2935	2655	2304	2022	1923	2058	2334	2570	2738	2941	3088	3166	3211
37	3213	3300	3310	3157	2939	2649	2280	1987	1888	2025	2315	2560	2739	2949	3098	3170	3213
38	3211	3305	3323	3170	2943	2641	2257	1948	1852	1992	2297	2551	2739	2958	3109	3172	3211
39	3205	3306	3335	3184	2951	2632	2232	1912	1815	1959	2276	2547	2736	2967	3120	3171	3205
40	3196	3307	3347	3199	2958	2624	2206	1874	1777	1923	2253	2540	2736	2976	3131	3169	3196
41	3183	3303	3360	3213	2964	2617	2180	1836	1738	1886	2229	2534	2735	2987	3142	3167	3183
42	3166	3297	3375	3230	2967	2612	2148	1798	1696	1845	2202	2525	2737	3000	3152	3160	3166
43	3147	3287	3393	3246	2974	2608	2121	1756	1657	1807	2177	2518	2738	3014	3163	3150	3147
44	3122	3276	3407	3263	2981	2603	2092	1716	1618	1768	2150	2511	2740	3028	3174	3136	3122
45	3095	3262	3426	3282	2988	2596	2061	1674	1572	1727	2121	2503	2742	3046	3183	3118	3095
46	3058	3246	3442	3306	3002	2590	2028	1633	1530	1681	2091	2495	2744	3065	3191	3097	3058
47	3016	3225	3457	3330	3013	2585	1993	1590	1485	1639	2057	2485	2747	3087	3200	3071	3016
48	2975	3197	3472	3356	3020	2581	1955	1544	1442	1596	2024	2478	2753	3108	3207	3040	2975
49	2920	3166	3484	3385	3029	2578	1920	1502	1398	1552	1988	2472	2758	3137	3215	3005	2920
50	2861	3130	3498	3413	3041	2572	1881	1460	1356	1505	1952	2466	2765	3166	3221	2959	2861
51	2791	3085	3508	3447	3056	2566	1842	1414	1314	1460	1915	2458	2776	3197	3229	2911	2791
52	2712	3027	3515	3487	3073	2561	1800	1373	1273	1416	1873	2453	2791	3227	3235	2855	2712
53	2625	2970	3518	3527	3092	2558	1758	1329	1232	1374	1834	2448	2808	3261	3231	2795	2625
54	2544	2900	3520	3571	3118	2555	1718	1289	1189	1329	1793	2441	2829	3306	3226	2723	2544
55	2446	2832	3517	3614	3153	2554	1677	1247	1150	1281	1752	2435	2849	3355	3218	2650	2446
56	2342	2754	3503	3664	3187	2553	1632	1203	1110	1238	1703	2430	2879	3403	3208	2560	2342
57	2239	2663	3488	3713	3225	2553	1587	1163	1070	1195	1656	2426	2918	3452	3191	2468	2239
58	2141	2562	3468	3770	3271	2551	1544	1124	1031	1154	1614	2423	2963	3505	3165	2378	2141
59	2026	2456	3441	3819	3312	2550	1498	1083	991	1111	1567	2416	3012	3564	3130	2271	2026
60	1911	2342	3400	3875	3360	2548	1454	1045	950	1067	1522	2413	3061	3624	3092	2157	1911

Laboratory: Shenzhen Belling Test Laboratory A2LA Certificate# 4810.01  
Building No3 3rd floor, room 303, No 2-10 south Jinlong avenue, Sand Lake community, Biling street, Pingshan district, Shenzhen, Guangdong,CN. Website: <http://www.blst.com>

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61	1808	2234	3345	3931	3423	2547	1401	1004	912	1026	1472	2411	3104	3683	3042	2053	1808
62	1693	2107	3284	3984	3494	2543	1360	966	876	986	1420	2411	3162	3747	2981	1947	1693
63	1598	1985	3211	4033	3562	2541	1312	927	838	946	1376	2411	3228	3805	2909	1837	1598
64	1496	1873	3122	4076	3633	2536	1266	889	799	902	1329	2411	3309	3865	2822	1725	1496
65	1397	1753	3014	4110	3718	2527	1219	850	762	860	1275	2409	3388	3918	2723	1613	1397
66	1311	1633	2899	4130	3805	2518	1169	809	726	821	1227	2408	3474	3961	2613	1518	1311
67	1219	1529	2783	4133	3887	2507	1123	771	691	782	1178	2405	3560	3993	2507	1415	1219
68	1136	1415	2639	4121	3958	2495	1076	734	651	740	1130	2400	3654	4008	2376	1326	1136
69	1049	1314	2491	4091	4042	2472	1028	697	614	700	1079	2389	3740	4005	2245	1229	1049
70	963	1213	2329	4027	4105	2440	977	656	575	663	1024	2376	3803	3977	2103	1134	963
71	871	1121	2165	3934	4140	2402	926	617	513	623	971	2357	3825	3921	1961	1046	871
72	775	1027	2000	3807	4146	2360	877	580	440	585	921	2333	3797	3823	1818	960	775
73	688	947	1846	3650	4102	2308	828	543	382	543	866	2294	3721	3706	1680	877	688
74	602	861	1680	3430	3994	2235	776	504	337	507	816	2251	3569	3524	1546	798	602
75	532	782	1530	3180	3830	2157	726	465	295	467	765	2190	3365	3315	1415	725	532
76	466	707	1377	2858	3579	2068	680	419	256	424	715	2116	3102	3062	1283	650	466
77	409	634	1242	2540	3293	1959	631	363	219	365	666	2015	2792	2780	1168	578	409
78	357	566	1114	2217	2975	1841	585	308	191	312	616	1907	2465	2482	1043	513	357
79	317	503	991	1922	2634	1704	527	258	169	265	550	1787	2114	2170	909	453	317
80	274	444	856	1598	2248	1569	452	222	147	228	464	1651	1780	1878	776	402	274
81	237	391	705	1335	1889	1416	365	193	129	196	365	1490	1415	1569	652	354	237
82	201	339	567	1084	1537	1261	291	169	112	170	297	1340	1080	1317	522	306	201
83	169	292	449	873	1216	1103	226	144	97	148	230	1184	786	1052	414	265	169
84	141	248	348	685	925	955	174	122	82	127	179	1022	531	829	326	228	141
85	115	206	270	516	656	760	134	103	68	107	138	782	334	593	253	186	115
86	81	145	196	340	445	521	99	85	57	87	103	507	162	404	187	138	81
87	53	92	121	193	270	302	67	65	45	68	71	308	65	215	106	84	53
88	23	45	54	88	135	162	45	47	34	49	48	161	22	81	40	40	23
89	13	16	19	20	46	74	25	27	21	30	28	73	13	15	14	14	13
90	12	10	11	14	19	21	12	10	10	13	16	21	10	12	12	12	12
91	12	9	9	12	16	13	8	7	9	12	13	19	9	12	11	12	12
92	11	10	10	12	15	12	6	6	8	11	13	17	9	10	11	12	11

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Laboratory: Shenzhen Belling Test Laboratory A2LA Certificate# 4810.01  
Building No3 3rd floor, room 303, No 2-10 south Jinlong avenue, Sand Lake community, Biling street, Pingshan district, Shenzhen, Guangdong,CN. Website: <http://www.blst.com>

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Laboratory: Shenzhen Belling Test Laboratory A2LA Certificate# 4810.01  
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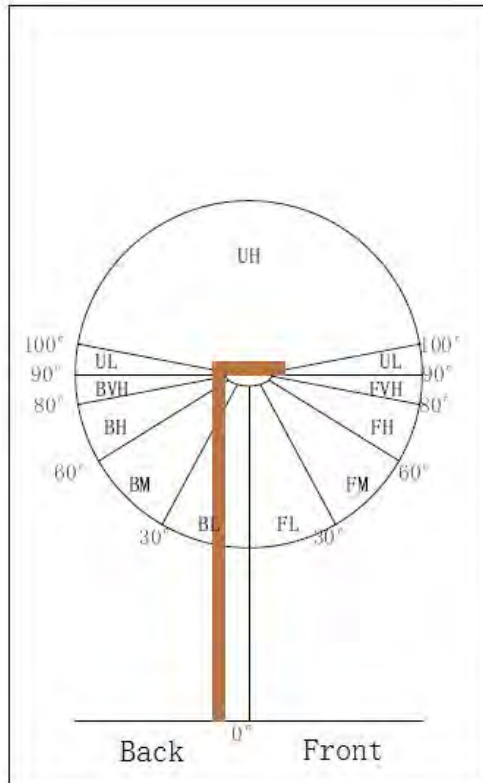


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B3-U5-G3



	(lm)	(%)
<b>Front</b>	7376	58.4
FL ( 0° -30° )	1265	10.0
FM (30° -60° )	3576	28.3
FH (60° -80° )	2326	18.4
FVH (80° -90° )	209	1.7
<b>Back</b>	5212	41.3
BL ( 0° -30° )	1095	8.7
BM (30° -60° )	2412	19.1
BH (60° -80° )	1514	12.0
BVH (80° -90° )	191	1.5
<b>Up</b>	43	0.3
UL (90° -100° )	11	0.1
UH (100° -180° )	33	0.3

**2.2 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

<b>Test date</b>	2018-3-9	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	BLT-NSB-100WAT3		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180100	120.0	60	0.8150	97.12	0.993	11.2
5E-J2	277.0	60	0.3596	95.12	0.955	13.4
<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	72	R9	0
Frequency (Hz)	60	R2	76	R10	41
CCT (K)	5582	R3	77	R11	71
Duv	0.0019	R4	74	R12	38
Chromaticity (x, y)	x=0.3306 y=0.3431	R5	72	R13	72
Chromaticity (u', v')	u(u')=0.2048 v'(v')=0.4783	R6	67	R14	87
Color Rendering Index (CRI)	73.0	R7	82	R15	69
R9	0	R8	64	--	--

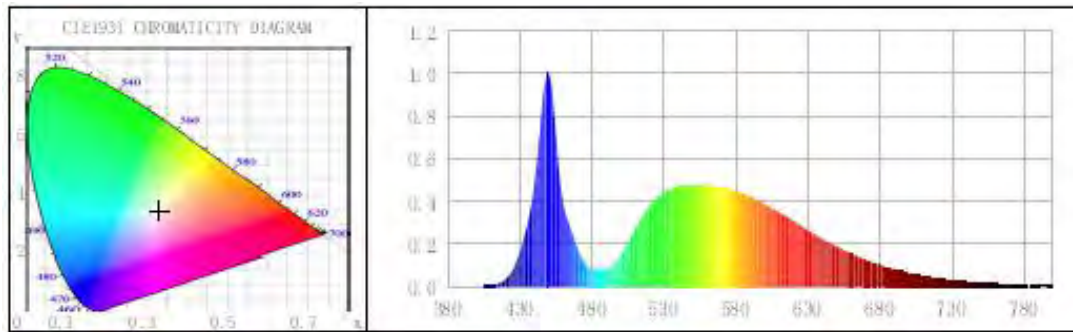
**Photometric Measurement – Sphere-Spectroradiometer Method:**

Parameter	Result		DLC V4.2 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	12954	12869	>=10000(-10%)
Luminous Efficacy (lm/W)	133.38	135.29	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	132.5		



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## Spectral Power Distribution & Chromaticity Diagram







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**Calculated Efficacy Data for family models (4500K and 5000K):**

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
BLT-NSB-100WAT3	12630.7	96.95	130.28
BLT-NSB-100WAT3	12711.5	96.99	131.06
BLT-NSB-100WAT3	12792.4	97.04	131.83
BLT-NSB-100WAT3	12954	97.12	133.38



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### 3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2019-01-15
AC Power Source	CHP-500C	N/A	2019-01-14
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2019-01-22
Digital Power Meter	WT500	DYDWQ200006	2019-01-14
Integral Sphere (2M)	2M	DYJCE120067	2019-01-15
Digital Power Meter	WT500	DYDWQ200006	2019-01-14
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2019-01-15

Expand Uncertainty:  
Photometric Measurement (Sphere): 2.04%, k=2  
Chromaticity Measurement(Sphere):28.8K, k=2  
Photometric Measurement(Goniophotometer):2.7%, k=2

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