

LM-79-08 Test Report

For

Beyond LED Technology

(Brand Name: Beyond LED Technology)

Outdoor Non-Cutoff and Semi-Cutoff Wall-Mounted Area

Luminaires

Model name(s): BLT-SWP08M-60HBSPSA1-BRW50

Remark: “a” can be any two letters to represent lamp colors, BR=brown, BH=black, WH=white;

“b” can be “S” or blank for Surge-Protective Device provided or not;

“d” can be any two digits to represent CCT, or blank represent for the color temperature is not

reflected.

W – wattage adjustable

Representative (Tested) Model:
BLT-SWP08M-60HBSPSA1-BRW50

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

Test & Report By:



Engineer: Winny Wu

Date: 2022-03-30

Review By:



Manager: Jason Luo

Multiple listed report for BLC2203032E-B. All the construction and performance are the same except wattage adjustable.

1.1 Product Information:

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED Technology	
Model Number	BLT-SWP08M-60HBSPSA1-BRW50	
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	
Rated Voltage / Frequency	120-277Vac, 50/60 Hz	
Nominal Power	60W (Wattage adjustable)	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,4500K,5000K, 5700K, 6500K	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-XX80RA35000H1	
Sample Number	BLC2203032E-B1(4000K), B2(6500K)	
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	2022-03-21
Date of Test	2022-03-23
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	BL-QP-033

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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, 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. Goniophotometer far field detector $\text{fl}'=1.42\%$, Test distance: 14.14m

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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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.

Self-absorption:

AST-SWP08M-60HBSPSA1-abW40:1.528

AST-SWP08M-60HBSPSA1-abW65:1.529

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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. 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 BL-QP-033)

Test date	2022-03-23	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-SWP08M-60HBSPSA1-BRW50		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC220303	120.0	60	0.491	58.12	0.987	15.32
2E-B1	277.0	60	0.221	55.92	0.912	14.54
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

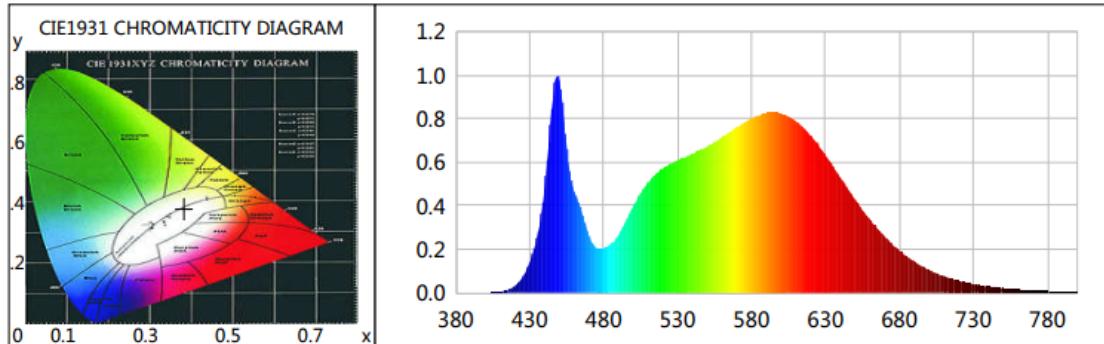
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	8
Frequency (Hz)	60	R2	88	R10	71
CCT (K)	4002	R3	93	R11	82
Duv	0.0011	R4	83	R12	61
Chromaticity (x, y)	x=0.3811 y=0.3794	R5	81	R13	82
Chromaticity (u', v')	u(u')=0.2245 v'=0.5029	R6	83	R14	96
Color Rendering Index (CRI)	83	R7	86	R15	75
R9	8	R8	65	--	--
Rf	84	--	--	--	--
Rg	97	--	--	--	--
Rcs,h1 (%)	-12	--	--	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	8052	7799.3	≥ 300 (0-90 °zone)*** (-10%)
0-90 °Total Luminous (lm)	7195.8	6971.5	
Luminous Efficacy (lm/W)	138.54	139.47	Premium: $\geq 120(-3\%)$
0-90 °Luminous Efficacy (lm/W)	123.81	124.67	
Most worst Luminous/Highest	134.19		
Zonal lumens in the 80-90 °0-90 °zone (%)	7.77	--	$\leq 10(+3)$
Beam Angle (°)	103.6	--	--
Center Beam Candle Power (cd)	2337	--	--

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0001	0.0160	535	0.5932	95.4189	690	0.2571	41.3498
385	0.0003	0.0510	540	0.6055	97.4004	695	0.2229	35.8529
390	0.0004	0.0643	545	0.6209	99.8809	700	0.1941	31.2134
395	0.0005	0.0796	550	0.6382	102.6525	705	0.1678	26.9907
400	0.0014	0.2225	555	0.6533	105.0848	710	0.1437	23.1123
405	0.0020	0.3233	560	0.6716	108.0237	715	0.1238	19.9188
410	0.0054	0.8737	565	0.6916	111.2520	720	0.1050	16.8825
415	0.0144	2.3159	570	0.7138	114.8229	725	0.0897	14.4307
420	0.0330	5.3065	575	0.7380	118.7133	730	0.0761	12.2487
425	0.0705	11.3407	580	0.7600	122.2453	735	0.0653	10.4975
430	0.1396	22.4593	585	0.7829	125.9278	740	0.0556	8.9383
435	0.2566	41.2800	590	0.8009	128.8255	745	0.0470	7.5565
440	0.4746	76.3389	595	0.8130	130.7676	750	0.0405	6.5185
445	0.8502	136.7559	600	0.8260	132.8558	755	0.0338	5.4407
450	0.9786	157.4043	605	0.8277	133.1420	760	0.0293	4.7194
455	0.6647	106.9230	610	0.8239	132.5215	765	0.0258	4.1501
460	0.4659	74.9361	615	0.8090	130.1218	770	0.0217	3.4926
465	0.3748	60.2877	620	0.7874	126.6507	775	0.0181	2.9112
470	0.2628	42.2774	625	0.7578	121.8992	780	0.0161	2.5861
475	0.2075	33.3805	630	0.7224	116.1964	785	0.0140	2.2484
480	0.2059	33.1121	635	0.6781	109.0781	790	0.0118	1.9034
485	0.2236	35.9591	640	0.6303	101.3887	795	0.0095	1.5202
490	0.2652	42.6629	645	0.5801	93.3174	800	0.0077	1.2327
495	0.3297	53.0291	650	0.5291	85.1029			
500	0.3965	63.7750	655	0.4777	76.8349			
505	0.4546	73.1243	660	0.4280	68.8456			
510	0.5065	81.4665	665	0.3803	61.1731			
515	0.5451	87.6809	670	0.3360	54.0524			
520	0.5708	91.8079	675	0.2946	47.3816			
525	0.5932	95.4189	680	0.2571	41.3498			
530	0.6055	97.4004	685	0.2229	35.8529			

TM30

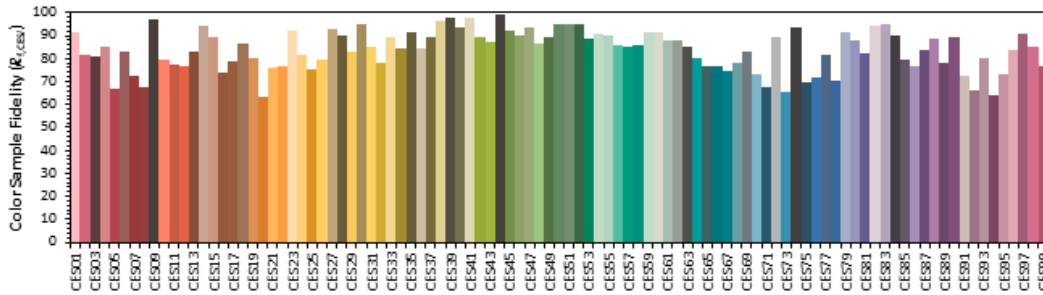
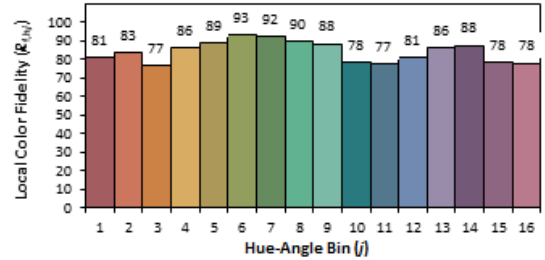
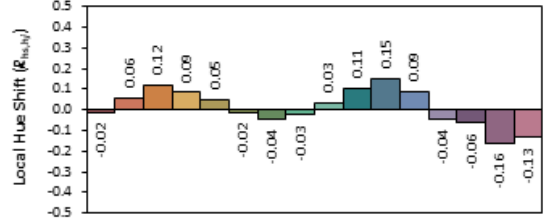
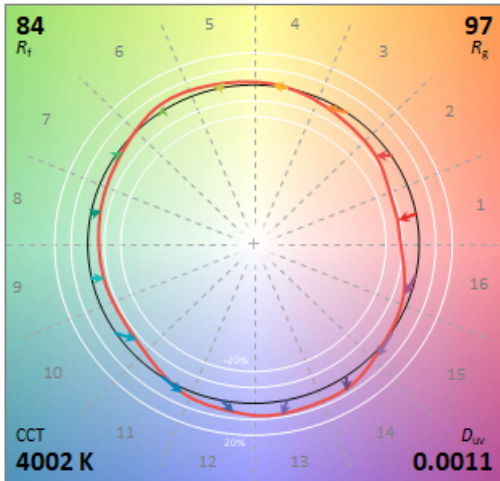
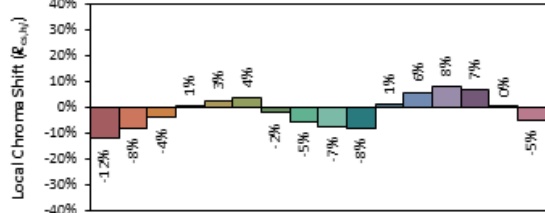
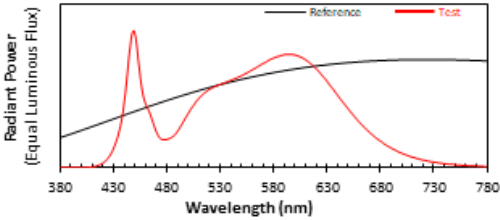
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1

Manufacturer: Beyond LED Technology

Date: 2022/3/23

Model: BLT-SWP08M-60HBPSA1-BRW50



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x **0.3811**
 y **0.3794**
 u' **0.2245**
 v' **0.5029**

CIE 13.3-1995
(CRI)
 R_a 83
 R_9 8

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

Zonal Lumen Tabulation

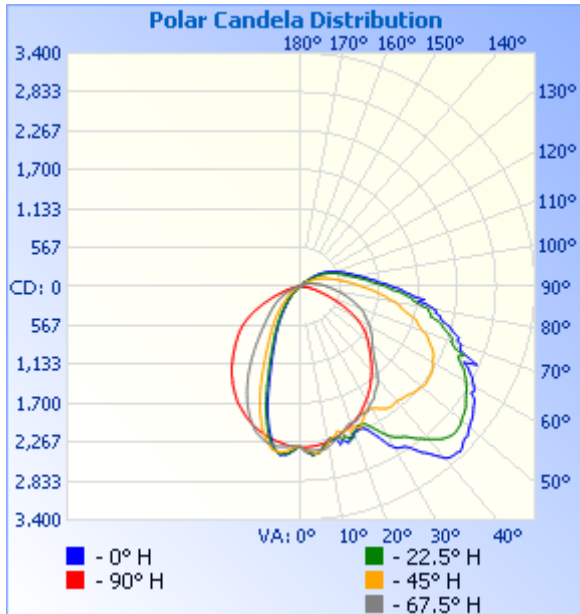
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	1,663.5	20.7%	20.7%
0-40	2,655.1	33%	33%
0-60	4,854.2	60.3%	60.3%
60-90	2,341.6	29.1%	29.1%
70-100	1,704.3	21.2%	21.2%
90-120	728.2	9%	9%
0-90	7,195.8	89.4%	89.4%
90-180	856.0	10.6%	10.6%
0-180	8,051.8	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	227.4	2.8%	90-100	356.0	4.4%
10-20	609.4	7.6%	100-110	228.6	2.8%
20-30	826.7	10.3%	110-120	143.6	1.8%
30-40	991.6	12.3%	120-130	75.7	0.9%
40-50	1,095.3	13.6%	130-140	30.7	0.4%
50-60	1,103.8	13.7%	140-150	13.4	0.2%
60-70	993.4	12.3%	150-160	5.1	0.1%
70-80	788.9	9.8%	160-170	2.2	0%
80-90	559.4	6.9%	170-180	0.7	0%

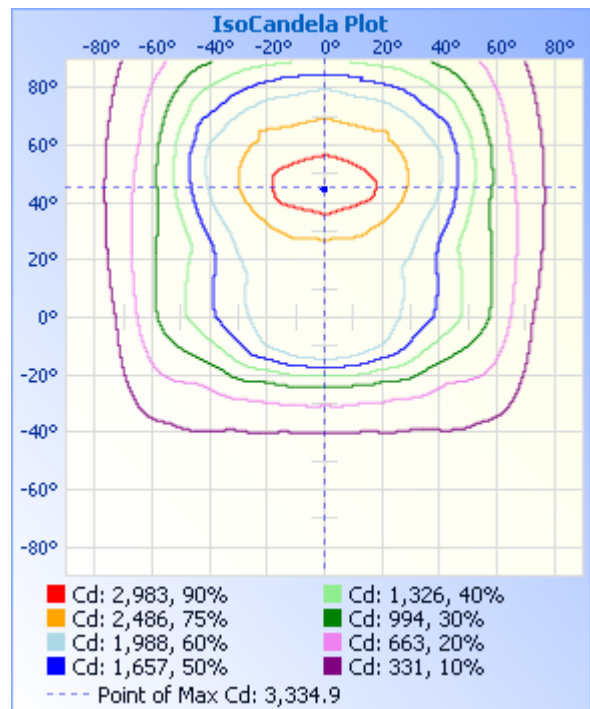
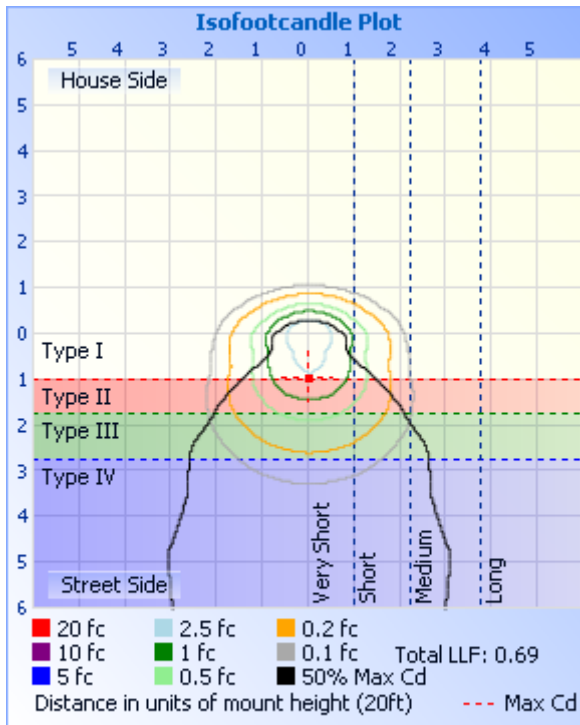
Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
17.0ft	8.09 fc	41.9 ft	35.4 ft
34.0ft	2.02 fc	83.7 ft	70.8 ft
51.0ft	0.90 fc	125.6 ft	106.2 ft
68.0ft	0.51 fc	167.4 ft	141.7 ft
85.0ft	0.32 fc	209.3 ft	177.1 ft
102.0ft	0.22 fc	251.2 ft	212.5 ft

■ Vert. Spread: 101.8°
■ Horiz. Spread: 92.3°



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	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337	2337
1	2383	2381	2374	2362	2341	2333	2340	2340	2334	2334	2327	2329	2339	2350	2369	2378	2383
2	2414	2411	2397	2379	2338	2333	2361	2373	2370	2364	2345	2325	2337	2370	2398	2411	2414
3	2427	2423	2404	2392	2335	2339	2380	2404	2404	2395	2365	2323	2331	2382	2409	2411	2427
4	2463	2463	2420	2396	2332	2350	2405	2432	2431	2422	2384	2329	2324	2390	2408	2455	2463
5	2440	2445	2444	2392	2328	2360	2422	2456	2459	2445	2403	2341	2318	2394	2434	2442	2440
6	2438	2439	2424	2388	2323	2364	2437	2462	2457	2450	2417	2346	2306	2380	2432	2432	2438
7	2392	2409	2404	2391	2315	2372	2453	2470	2477	2452	2436	2349	2296	2367	2402	2410	2392
8	2350	2343	2392	2395	2307	2380	2439	2452	2428	2447	2425	2354	2288	2366	2389	2346	2350
9	2338	2323	2344	2385	2296	2376	2436	2404	2404	2401	2418	2352	2277	2371	2358	2325	2338
10	2268	2295	2282	2357	2287	2369	2430	2371	2342	2372	2412	2339	2265	2358	2304	2299	2268
11	2282	2239	2258	2332	2271	2367	2387	2301	2269	2303	2369	2335	2254	2331	2249	2225	2282
12	2287	2267	2243	2303	2261	2362	2352	2236	2173	2239	2327	2331	2242	2303	2241	2251	2287
13	2279	2256	2215	2273	2252	2347	2304	2140	2087	2152	2278	2316	2229	2270	2229	2257	2279
14	2371	2249	2169	2254	2238	2321	2244	2058	1988	2056	2218	2290	2214	2245	2174	2232	2371
15	2301	2317	2186	2225	2223	2300	2184	1958	1885	1958	2155	2266	2200	2225	2177	2297	2301
16	2348	2265	2215	2196	2211	2281	2116	1863	1770	1860	2086	2243	2186	2203	2205	2263	2348
17	2376	2297	2173	2170	2193	2253	2040	1751	1645	1751	2005	2221	2170	2183	2195	2278	2376
18	2312	2351	2185	2139	2175	2212	1956	1642	1515	1641	1927	2187	2153	2154	2166	2351	2312
19	2325	2270	2230	2121	2158	2173	1870	1510	1398	1521	1839	2141	2137	2115	2191	2267	2325
20	2265	2263	2202	2120	2138	2133	1789	1407	1299	1406	1754	2097	2116	2096	2224	2249	2265
21	2259	2228	2181	2117	2117	2094	1698	1312	1209	1310	1664	2059	2093	2096	2176	2225	2259
22	2246	2183	2215	2115	2098	2048	1606	1226	1126	1224	1572	2009	2075	2093	2191	2172	2246
23	2238	2189	2231	2101	2075	2002	1510	1145	1052	1143	1479	1959	2053	2090	2248	2178	2238
24	2261	2189	2164	2071	2054	1948	1403	1070	984	1067	1386	1907	2030	2085	2195	2184	2261
25	2309	2210	2130	2060	2031	1896	1318	996	922	1001	1290	1853	2002	2057	2153	2201	2309
26	2380	2255	2098	2058	2006	1842	1242	936	869	934	1214	1790	1979	2033	2126	2241	2380
27	2452	2317	2038	2062	1978	1785	1168	882	820	879	1143	1731	1958	2030	2070	2300	2452
28	2537	2375	2031	2060	1951	1729	1100	832	771	828	1077	1672	1936	2024	2034	2356	2537

29	2638	2440	2041	2022	1926	1663	1033	780	718	781	1016	1610	1913	2017	2036	2419	2638
30	2702	2497	2049	1989	1898	1599	974	734	675	734	952	1548	1879	1991	2042	2481	2702
31	2743	2549	2065	1974	1872	1538	921	690	632	685	900	1489	1850	1953	2055	2525	2743
32	2756	2585	2091	1956	1843	1475	872	651	593	644	852	1422	1821	1922	2078	2558	2756
33	2776	2616	2122	1944	1813	1411	827	611	555	605	808	1356	1790	1896	2103	2579	2776
34	2829	2639	2144	1907	1786	1349	781	570	517	567	767	1296	1759	1892	2131	2600	2829
35	2907	2671	2167	1872	1757	1278	742	534	473	530	725	1232	1734	1866	2149	2626	2907
36	2985	2719	2179	1848	1722	1215	706	499	441	492	690	1173	1697	1827	2159	2667	2985
37	3034	2770	2185	1827	1687	1152	670	462	407	455	654	1107	1661	1806	2162	2715	3034
38	3104	2809	2179	1807	1662	1094	635	426	378	423	619	1052	1640	1782	2155	2759	3104
39	3181	2858	2175	1771	1626	1033	599	396	348	393	587	997	1601	1770	2148	2797	3181
40	3262	2900	2174	1730	1597	980	567	366	323	364	551	947	1567	1742	2136	2850	3262
41	3295	2944	2181	1690	1563	931	535	340	299	338	521	900	1535	1704	2138	2889	3295
42	3309	2993	2193	1647	1529	885	505	314	279	310	492	857	1497	1659	2148	2935	3309
43	3311	3028	2202	1601	1496	842	476	293	259	289	464	809	1460	1616	2155	2974	3311
44	3335	3050	2205	1560	1461	796	445	270	241	268	433	772	1431	1570	2159	3002	3335
45	3314	3075	2221	1516	1428	758	414	251	224	248	404	734	1394	1524	2170	3028	3314
46	3272	3087	2237	1476	1396	722	389	233	210	230	379	701	1357	1473	2175	3036	3272
47	3248	3085	2254	1438	1367	689	362	217	196	214	354	668	1322	1432	2189	3039	3248
48	3256	3076	2260	1407	1337	659	339	201	182	200	331	639	1291	1400	2200	3031	3256
49	3221	3068	2269	1382	1303	629	314	187	170	186	307	614	1265	1377	2199	3025	3221
50	3191	3042	2280	1361	1279	603	293	174	158	172	288	590	1227	1352	2208	3004	3191
51	3166	3020	2291	1335	1253	579	273	161	147	160	268	563	1192	1324	2220	2973	3166
52	3149	3006	2300	1312	1218	555	256	150	137	149	251	541	1166	1300	2230	2956	3149
53	3125	2986	2293	1293	1187	528	237	138	127	138	233	517	1130	1279	2229	2938	3125
54	3092	2961	2285	1274	1160	505	221	128	116	128	215	495	1111	1254	2216	2918	3092
55	3059	2926	2280	1254	1134	484	206	118	108	117	201	475	1065	1236	2217	2894	3059
56	3036	2890	2280	1236	1093	463	190	109	98	108	187	453	1033	1212	2211	2860	3036
57	3004	2860	2258	1213	1058	441	175	99	90	99	173	433	996	1183	2189	2823	3004
58	2918	2841	2254	1191	1015	420	163	90	81	90	161	412	955	1163	2182	2809	2918
59	2940	2799	2236	1168	977	399	151	81	73	81	148	391	916	1134	2166	2773	2940
60	2900	2767	2211	1149	936	377	139	73	65	73	136	371	871	1109	2138	2733	2900

61	2853	2736	2191	1129	890	357	128	65	58	65	126	347	821	1082	2113	2705	2853
62	2818	2690	2176	1103	839	335	117	57	50	57	114	328	773	1064	2097	2653	2818
63	2752	2658	2159	1073	788	315	107	49	43	49	105	308	725	1042	2077	2618	2752
64	2703	2592	2133	1050	739	295	98	42	35	42	96	290	681	1022	2045	2564	2703
65	2608	2538	2094	1030	691	276	89	35	29	35	87	270	630	999	2010	2504	2608
66	2801	2494	2056	1016	634	258	81	29	21	29	79	252	581	976	1973	2455	2801
67	2638	2570	2014	997	584	239	72	21	14	22	70	236	536	953	1926	2527	2638
68	2510	2425	1989	976	536	223	64	15	8	15	62	219	491	933	1897	2401	2510
69	2472	2366	1950	945	492	207	56	9	7	9	55	203	444	918	1873	2332	2472
70	2479	2321	1875	918	446	192	50	5	7	6	48	188	409	888	1808	2276	2479
71	2401	2330	1829	883	407	176	43	6	7	5	41	173	369	851	1761	2281	2401
72	2415	2265	1791	855	367	161	36	6	7	6	35	159	335	811	1719	2230	2415
73	2332	2203	1766	825	332	148	31	6	6	6	30	145	300	786	1688	2165	2332
74	2278	2149	1731	793	295	135	27	6	7	6	25	133	272	765	1654	2095	2278
75	2234	2108	1661	759	267	123	25	6	7	6	23	122	248	725	1582	2065	2234
76	2133	2044	1590	729	240	111	23	6	7	6	22	111	224	691	1521	2004	2133
77	2086	1934	1541	707	216	102	22	6	7	6	21	102	201	664	1474	1898	2086
78	2064	1932	1485	674	192	94	20	6	7	6	19	92	179	632	1412	1882	2064
79	1992	1891	1462	646	170	85	18	6	6	6	18	84	161	608	1388	1844	1992
80	1989	1887	1409	621	151	77	17	6	7	6	17	77	145	580	1350	1851	1989
81	1921	1785	1361	594	135	71	16	6	6	6	16	71	132	553	1284	1753	1921
82	1843	1702	1290	569	119	67	15	6	7	5	15	66	116	526	1220	1657	1843
83	1721	1642	1258	539	108	62	14	6	6	6	14	61	104	500	1191	1592	1721
84	1799	1616	1197	513	94	57	14	5	6	6	13	57	93	473	1131	1589	1799
85	1647	1541	1138	487	82	53	13	5	6	6	13	54	82	450	1074	1505	1647
86	1590	1490	1090	465	73	50	13	6	6	6	12	50	72	428	1029	1453	1590
87	1510	1435	1044	442	63	47	12	6	7	6	12	48	65	409	985	1402	1510
88	1466	1323	991	419	56	45	12	6	7	6	12	45	57	389	936	1298	1466
89	1413	1281	939	401	51	42	11	5	7	5	11	43	52	371	889	1241	1413
90	1330	1250	883	385	47	40	11	5	6	6	11	41	48	355	842	1214	1330
91	1278	1173	847	367	44	38	11	5	7	5	10	40	45	339	806	1148	1278
92	1225	1130	815	354	42	36	10	6	6	6	10	38	43	325	775	1099	1225

93	1149	1065	776	339	41	35	10	6	6	6	10	36	42	314	744	1040	1149
94	1099	1017	734	324	39	33	10	4	7	6	10	34	42	300	706	995	1099
95	1080	992	705	311	39	32	10	5	7	5	10	33	41	286	677	967	1080
96	1019	944	677	295	39	31	9	6	6	5	9	32	41	273	648	928	1019
97	977	910	643	278	38	29	9	6	6	5	9	30	41	255	618	895	977
98	946	867	612	260	38	28	9	6	7	6	9	29	40	238	593	853	946
99	909	834	584	242	38	27	9	5	7	6	9	28	40	224	564	818	909
100	873	803	555	226	38	26	8	6	6	6	9	27	40	209	539	793	873
101	843	771	533	214	38	26	8	6	7	4	9	26	40	198	517	760	843
102	810	743	510	203	38	25	8	5	6	6	8	25	40	188	497	734	810
103	778	716	485	192	38	25	8	5	6	6	8	25	40	179	474	709	778
104	759	690	463	184	38	24	8	5	6	6	8	24	39	170	452	684	759
105	739	668	444	174	38	23	8	5	6	5	8	23	39	161	434	659	739
106	708	647	424	165	38	23	7	5	7	6	8	23	39	152	415	638	708
107	683	623	407	156	38	22	7	5	6	6	8	22	39	143	396	618	683
108	665	599	388	148	38	21	6	5	6	5	7	22	39	136	380	594	665
109	641	579	370	138	38	21	7	5	6	6	7	21	39	128	361	573	641
110	617	558	353	130	37	20	7	5	6	5	7	20	38	121	345	551	617
111	600	537	338	122	36	20	6	5	5	5	7	20	37	114	329	531	600
112	576	516	321	115	36	19	6	5	5	5	7	19	37	107	313	511	576
113	556	496	306	109	35	19	6	4	6	5	7	19	36	102	297	492	556
114	538	479	291	103	34	18	6	4	4	5	7	18	36	97	282	473	538
115	517	459	276	98	33	17	6	4	6	5	6	18	34	93	269	455	517
116	497	440	261	95	33	17	6	5	6	6	5	17	33	90	252	435	497
117	477	421	246	96	32	17	5	4	6	5	6	17	33	91	237	416	477
118	457	401	231	99	31	16	5	5	6	5	6	16	32	94	223	397	457
119	440	383	215	98	29	16	6	4	5	5	6	16	30	91	208	378	440
120	420	364	200	92	29	15	6	5	5	5	5	15	29	84	193	361	420
121	401	347	185	83	28	15	5	5	5	6	6	15	29	77	179	343	401
122	384	326	171	75	27	14	6	5	5	5	5	14	27	70	165	324	384
123	364	305	156	69	25	14	5	5	6	5	5	14	27	65	152	304	364
124	343	285	145	65	23	13	5	4	6	5	6	13	26	62	141	282	343

125	325	264	136	61	22	13	5	5	6	5	5	13	25	58	132	262	325
126	302	241	127	58	19	12	5	2	5	5	5	12	23	55	122	240	302
127	280	223	118	55	17	12	4	5	5	4	5	12	22	52	113	220	280
128	259	201	110	51	17	12	3	5	6	5	5	12	21	49	106	197	259
129	236	181	102	49	17	11	4	5	5	5	4	12	21	47	98	177	236
130	213	162	95	47	16	11	4	4	5	5	5	11	20	45	92	158	213
131	190	146	90	45	15	10	4	5	5	6	5	11	19	43	86	142	190
132	169	132	85	42	15	10	5	5	5	5	5	10	18	41	81	128	169
133	150	120	80	41	14	10	4	4	5	5	5	10	18	39	77	117	150
134	134	110	76	38	14	9	4	5	6	5	5	10	17	38	73	106	134
135	121	101	72	37	13	9	5	5	6	6	5	10	16	36	69	98	121
136	110	94	67	35	13	9	5	5	5	6	5	9	16	34	65	90	110
137	101	87	64	34	12	9	5	5	6	5	5	9	15	33	61	83	101
138	93	81	60	32	12	8	4	5	6	6	5	9	14	32	58	78	93
139	87	76	58	31	11	8	5	6	6	5	5	9	14	31	54	74	87
140	80	71	53	30	11	8	5	6	6	6	5	9	13	29	52	69	80
141	75	66	50	29	11	8	5	5	6	6	5	9	12	28	48	64	75
142	71	62	46	27	10	7	5	5	6	6	5	8	12	26	44	60	71
143	66	58	42	26	9	7	5	5	6	6	6	8	12	25	40	56	66
144	63	54	38	25	9	7	5	6	6	6	6	8	11	23	37	53	63
145	58	50	36	22	9	7	6	6	6	6	6	8	11	22	35	49	58
146	54	46	33	20	9	6	5	6	6	6	6	8	10	20	31	44	54
147	50	42	31	18	9	7	6	6	6	6	6	7	9	18	29	41	50
148	45	38	27	17	9	6	6	6	6	5	5	8	9	16	26	37	45
149	40	35	25	16	9	6	6	6	6	6	6	7	9	14	24	33	40
150	36	32	23	15	9	6	5	6	6	6	6	7	9	14	22	30	36
151	32	28	21	13	9	6	6	6	6	6	6	7	9	13	19	28	32
152	29	26	19	13	8	6	6	7	6	6	7	7	8	11	18	25	29
153	27	23	18	11	8	6	6	7	7	6	6	7	8	11	17	22	27
154	25	21	17	11	8	6	6	6	6	6	6	7	8	9	16	21	25
155	22	19	15	10	8	6	6	6	6	6	6	6	8	9	15	19	22
156	21	18	14	9	7	6	5	6	6	7	6	7	7	8	14	17	21

157	18	16	14	9	7	5	6	6	6	6	7	7	7	7	13	16	18
158	16	15	12	8	7	6	6	6	6	6	7	7	7	7	12	15	16
159	15	14	11	7	6	6	6	7	7	7	6	7	6	6	11	14	15
160	14	13	10	7	7	6	6	7	7	7	7	6	6	6	11	13	14
161	14	13	10	7	7	6	7	7	6	7	7	7	6	5	10	13	14
162	13	13	10	7	6	6	7	7	7	7	7	7	6	6	9	13	13
163	13	13	9	7	6	6	7	7	7	7	7	7	6	5	9	13	13
164	13	12	9	7	6	6	7	7	7	7	7	8	6	6	8	12	13
165	13	11	7	7	5	6	7	8	7	7	7	7	6	5	7	11	13
166	12	11	8	7	6	6	7	7	7	7	7	7	6	6	7	10	12
167	11	10	7	6	7	7	7	8	7	8	7	7	6	6	6	9	11
168	10	9	6	7	7	6	8	8	7	8	7	8	6	7	6	9	10
169	8	8	6	7	7	7	8	8	7	8	7	8	7	7	6	7	8
170	8	7	7	7	6	7	8	8	7	8	8	8	6	6	6	7	8
171	7	6	7	7	7	7	7	8	8	8	8	8	6	7	6	7	7
172	6	7	7	7	6	7	8	8	8	8	8	8	7	6	6	6	6
173	7	6	6	7	7	6	8	8	8	8	8	8	7	7	6	6	7
174	6	6	6	7	8	7	8	8	7	8	8	8	6	6	6	7	6
175	7	7	6	7	7	7	8	8	8	8	8	8	7	7	6	6	7
176	6	6	6	7	7	7	8	7	8	7	8	7	6	6	6	6	6
177	6	6	6	7	7	7	8	8	7	7	7	8	6	6	7	7	6
178	7	6	6	7	7	7	7	8	7	7	7	7	6	7	6	7	7
179	7	6	7	6	7	7	7	8	6	6	7	7	6	7	7	7	7
180	7	7	7	7	7	6	7	7	7	7	7	7	7	6	8	7	7

BUG

Lum. Classification System (LCS)

<u>LCS Zone</u>	<u>Lumens</u>	<u>%Lamp</u>	<u>%Lum</u>
FL (0-30)	931.9	11.6	11.6
FM (30-60)	2533.6	31.5	31.5
FH (60-80)	1650.8	20.5	20.5
FVH (80-90)	542.8	6.7	6.7
BL (0-30)	731.8	9.1	9.1
BM (30-60)	657.6	8.2	8.2
BH (60-80)	131.2	1.6	1.6
BVH(80-90)	16.5	0.2	0.2
UL (90-100)	356.0	4.4	4.4
UH (100-180)	499.9	6.2	6.2
Total	8052.1	100.0	100.0
BUG Rating	B2-U3-G4		

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2022-03-23	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-SWP08M-60HBSPSA1-BRW50		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC220303	120.0	60	0.493	58.34	0.986	15.42
2E-B2	277.0	60	0.222	56.03	0.912	14.35
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

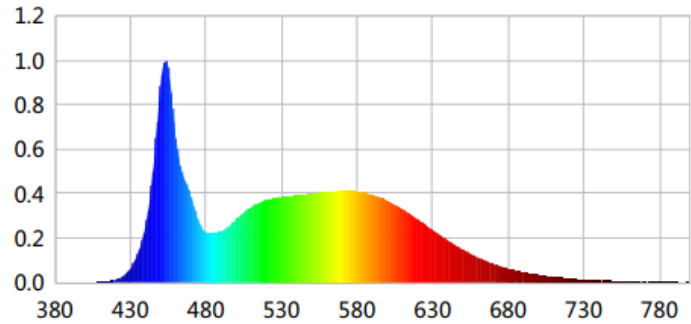
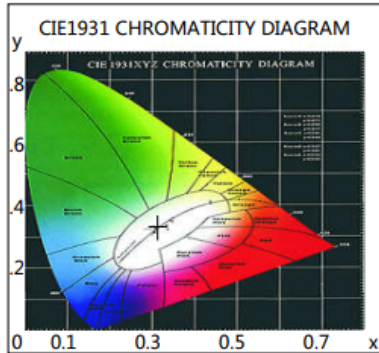
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	2
Frequency (Hz)	60	R2	90	R10	75
CCT (K)	6482	R3	93	R11	80
Duv	0.0040	R4	80	R12	55
Chromaticity (x, y)	x=0.3129 y=0.3307	R5	81	R13	84
Chromaticity (u', v')	u(u')=0.1973 v'=0.4692	R6	84	R14	97
Color Rendering Index (CRI)	83	R7	86	R15	76
R9	2	R8	67	--	--
Rf	82	--	--	--	--
Rg	92	--	--	--	--
Rcs,h1 (%)	-14	--	--	--	--

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	8153.6	7858.2	>=300 (0-90 °zone)*** (-10%)
Luminous Efficacy (lm/W)	139.76	140.25	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	134.70		

Spectral Power Distribution & Chromaticity Diagram



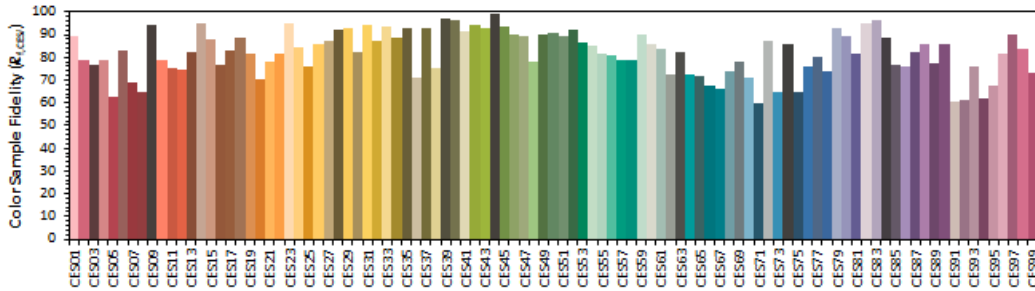
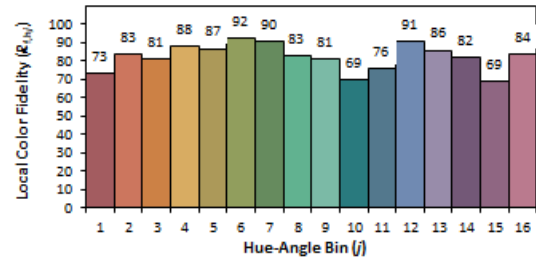
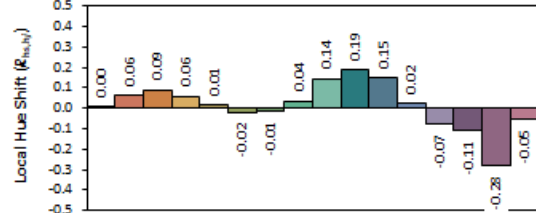
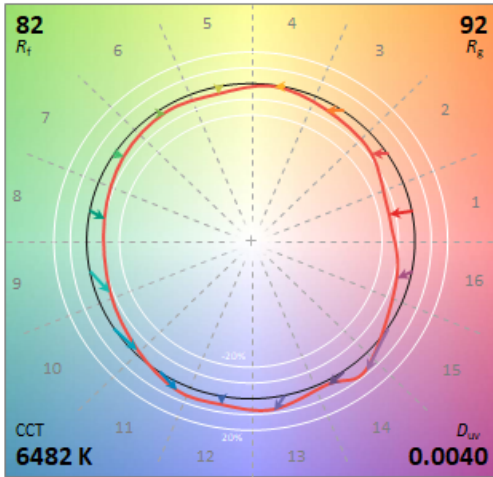
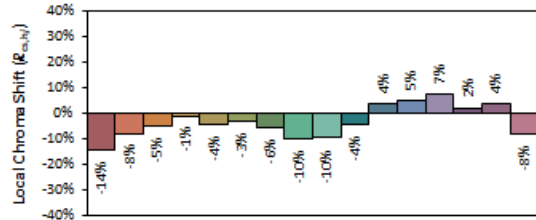
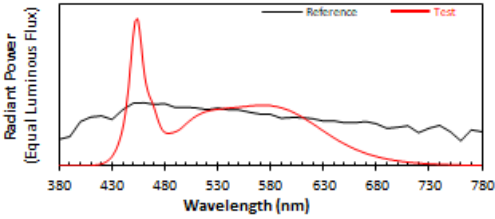
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0006	0.1870	535	0.3793	112.2865	690	0.0850	25.1717
385	0.0004	0.1124	540	0.3827	113.2850	695	0.0734	21.7335
390	0.0002	0.0555	545	0.3880	114.8355	700	0.0636	18.8167
395	0.0003	0.0776	550	0.3919	116.0101	705	0.0542	16.0543
400	0.0004	0.1056	555	0.3947	116.8246	710	0.0464	13.7380
405	0.0007	0.2082	560	0.3981	117.8504	715	0.0401	11.8797
410	0.0020	0.5814	565	0.4032	119.3408	720	0.0339	10.0462
415	0.0051	1.5150	570	0.4076	120.6504	725	0.0288	8.5359
420	0.0129	3.8257	575	0.4100	121.3612	730	0.0245	7.2627
425	0.0296	8.7595	580	0.4119	121.9205	735	0.0215	6.3522
430	0.0644	19.0708	585	0.4120	121.9448	740	0.0185	5.4733
435	0.1320	39.0808	590	0.4094	121.1946	745	0.0152	4.5033
440	0.2537	75.0976	595	0.4029	119.2459	750	0.0128	3.7989
445	0.4994	147.8088	600	0.3951	116.9581	755	0.0103	3.0599
450	0.8842	261.7340	605	0.3834	113.4772	760	0.0092	2.7233
455	0.9703	287.2118	610	0.3689	109.2071	765	0.0088	2.6079
460	0.6566	194.3405	615	0.3498	103.5284	770	0.0072	2.1214
465	0.4809	142.3474	620	0.3305	97.8344	775	0.0062	1.8211
470	0.3893	115.2223	625	0.3087	91.3704	780	0.0044	1.3118
475	0.2804	82.9963	630	0.2854	84.4865	785	0.0046	1.3703
480	0.2267	67.1038	635	0.2608	77.1944	790	0.0033	0.9893
485	0.2224	65.8209	640	0.2369	70.1352	795	0.0024	0.7093
490	0.2310	68.3860	645	0.2133	63.1347	800	0.0029	0.8486
495	0.2524	74.6971	650	0.1904	56.3541			
500	0.2855	84.4994	655	0.1682	49.7997			
505	0.3141	92.9649	660	0.1485	43.9650			
510	0.3404	100.7463	665	0.1302	38.5272			
515	0.3592	106.3278	670	0.1137	33.6582			
520	0.3703	109.6108	675	0.0986	29.1934			
525	0.3793	112.2865	680	0.0850	25.1717			
530	0.3827	113.2850	685	0.0734	21.7335			

TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1
Date: 2022/3/23

Manufacturer: Beyond LED Technology
Model: BLT-SWP08M-60HBSPA1-BRW50



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.3129
y 0.3307
u' 0.1973
v' 0.4692

CIE 13.3-1995 (CRI)
R_a 83
R₉ 2

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

Calculated Efficacy Data for family models:

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
BLT-SWP08M-60HBSPSA1-BRW50	8052.0	58.12	138.54
BLT-SWP08M-60HBSPSA1-BRW51	8072.3	58.23	138.63
BLT-SWP08M-60HBSPSA1-BRW52	8092.6	58.23	138.98
BLT-SWP08M-60HBSPSA1-BRW53	8113.0	58.23	139.33
BLT-SWP08M-60HBSPSA1-BRW54	8153.6	58.34	139.76

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

$$8072.3 = (8153.6 - 8052) / 5 + 8052$$

$$8092.6 = (8153.6 - 8052) / 5 + 8072.3$$

$$8113.0 = (8153.6 - 8052) / 5 + 8092.6$$

$$8133.3 = (8153.6 - 8052) / 5 + 8113.0$$

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

$$58.23 = (58.34 + 58.12) / 2$$

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

$$138.63 = 8072.3 / 58.23$$

$$138.98 = 8092.6 / 58.23$$

$$139.33 = 8113.0 / 58.23$$

$$139.68 = 8133.3 / 58.23$$

3. Test Equipment

Equipment Name	Model No.	Serial No.	Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2022-01-18
AC Power Source	CHP-500C	DYBWD010159	2022-01-25
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2022-01-25
Digital Power Meter	WT500	DYDWQ20010	2022-01-25
Integral Sphere (2M)	2M	DYJCE120067	2022-01-18
Digital Power Meter	WT500	DYDWQ200006	2022-01-25
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2022-01-18
Expand Uncertainty: Photometric Measurement (Sphere): 2.08%, k=2 Chromaticity Measurement(Sphere):25.6K, k=2 Photometric Measurement(Goniophotometer):2.645%, k=2			

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