Certificate#4810.01

LM-79-08 Test Report

For

Beyond LED Technology

(Brand Name: Beyond LED Technology)

High-Bay Luminaires for Commercial and Industrial Buildings

Model name(s): BLT-HB05B-240WS1BT2D1-WH30/40/50

Remark: “a” can be any two letters to represent lamp colors; BH=Black, WH=White or Customized; “b” can be “S” or blank for Surge-Protective Device provided or not; “c” can be “M” or blank for Motion Sensor, PIR sensor provided or not; “e” can be any digits for CCT.

Representative (Tested) Model:
BLT-HB05B-240WS1BT2D1-WH30/40/50

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

Test & Report By:

Sophie Yang

Engineer: Sophie Yang

Date:2021-01-28

Review By:

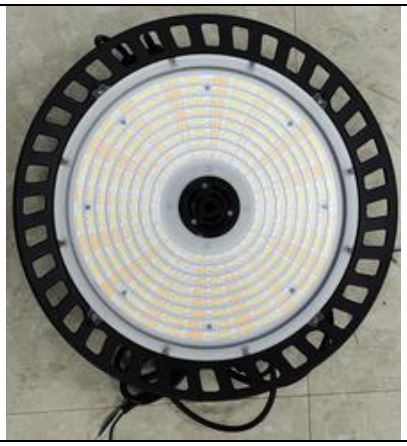
Jason Luo

Manager: Jason Luo

1.1 Product Information:

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED Technology	
Model Number	BLT-HB05B-240WS1BT2D1-WH30/40/50	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	High-Bay Luminaires for Commercial and Industrial Buildings	
Rated Voltage / Frequency	120-277Vac, 50/60 Hz	
Nominal Power	240W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K, 4000K, 5000K(Color tunable)	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-3080RA35003H1	
Sample Number	BLC2101026E-F1	
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	2021-01-20
Date of Test	2021-01-26
Test item	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	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 °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.
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 ºC ±1 ºC. 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 ºC ±1 ºC. 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	2021-01-26	Test Ambient:	25.2 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-HB05B-240WS1BT2D1-WH30/40/50 ested at 0% CCT Setting)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC2101026E-F1	120.0	60	2.021	242.31	0.999	3.87
	277.0	60	0.873	233.69	0.966	5.69
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	2886
Duv	-0.0023
Chromaticity (x, y)	x=0.4417 y=0.3998
Chromaticity (u', v')	u(u')=0.2555 v'=0.5204
Color Rendering Index (CRI)	82
R9	3
Rf	83
Rg	97
Rcs,h1(%)	-12

Special Color Rendering Indices			
R1	80	R9	3
R2	91	R10	79
R3	96	R11	80
R4	80	R12	74
R5	81	R13	83
R6	90	R14	98
R7	80	R15	72
R8	56	--	--
--	--	--	--
--	--	--	--
--	--	--	--

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)	34921.7	34046.3	>=10000(-10%)
Luminous Efficacy (lm/W)	144.12	145.69	Premium: >= 135(-3%)
Most worst Luminous/Highest	140.51		
Zonal lumens in the 20-50º (%)	65.10	--	>=30(-10)
Beam Angle (º)	89.2	--	--
Center Beam Candle Power (cd)	16781	--	--

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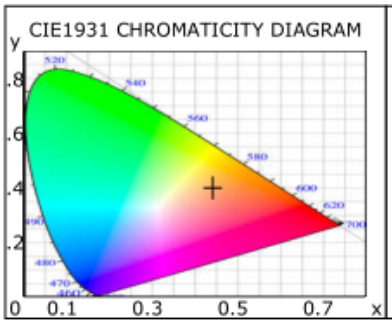
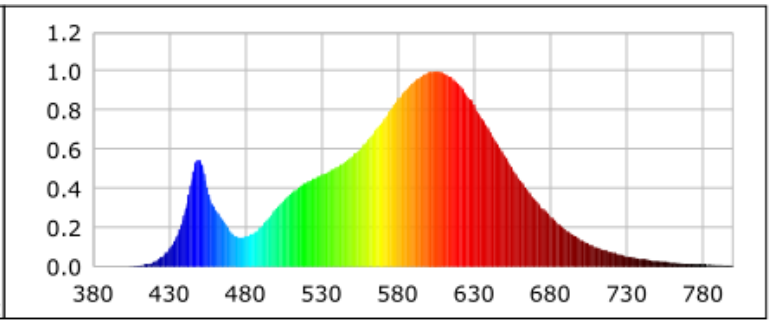
Spectral Power Distribution & Chromaticity Diagram



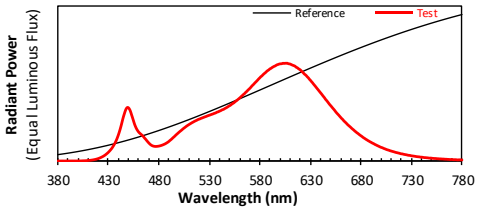


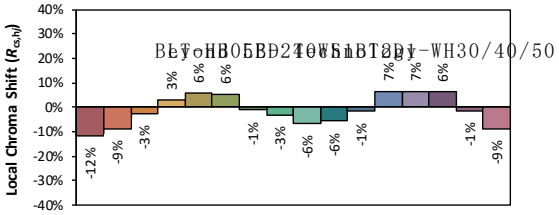
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0002	0.1460	525	0.4486	332.8145	670	0.3433	254.6628
385	0.0005	0.3688	530	0.4681	347.3202	675	0.2982	221.2250
390	0.0003	0.2568	535	0.4876	361.7313	680	0.2580	191.4317
395	0.0004	0.3232	540	0.5098	378.1890	685	0.2217	164.4713
400	0.0007	0.5251	545	0.5342	396.3482	690	0.1915	142.0374
405	0.0021	1.5237	550	0.5651	419.2622	695	0.1641	121.7756
410	0.0052	3.8472	555	0.6013	446.1215	700	0.1395	103.5200
415	0.0118	8.7257	560	0.6440	477.8102	705	0.1190	88.2716
420	0.0248	18.3661	565	0.6903	512.1662	710	0.1020	75.7070
425	0.0482	35.7842	570	0.7418	550.3255	715	0.0867	64.3596
430	0.0883	65.4787	575	0.7978	591.8632	720	0.0735	54.5506
435	0.1535	113.8813	580	0.8509	631.2775	725	0.0637	47.2961
440	0.2670	198.0900	585	0.8994	667.2482	730	0.0530	39.3158
445	0.4520	335.3340	590	0.9422	699.0124	735	0.0452	33.5604
450	0.5437	403.3819	595	0.9713	720.5868	740	0.0395	29.3271
455	0.4097	303.9631	600	0.9932	736.8581	745	0.0334	24.7446
460	0.2971	220.3875	605	0.9996	741.6325	750	0.0288	21.3986
465	0.2467	183.0345	610	0.9912	735.3842	755	0.0243	18.0150
470	0.1856	137.7013	615	0.9678	718.0386	760	0.0207	15.3331
475	0.1514	112.3462	620	0.9317	691.2205	765	0.0178	13.2329
480	0.1524	113.0790	625	0.8818	654.2255	770	0.0154	11.3984
485	0.1695	125.7428	630	0.8258	612.6573	775	0.0122	9.0222
490	0.2006	148.8413	635	0.7629	565.9994	780	0.0108	7.9766
495	0.2462	182.6738	640	0.6981	517.9579	785	0.0084	6.2512
500	0.2942	218.2307	645	0.6307	467.9253	790	0.0084	6.2549
505	0.3369	249.9151	650	0.5670	420.6849	795	0.0066	4.9161
510	0.3736	277.1831	655	0.5040	373.9454	800	0.0050	3.7444
515	0.4041	299.7753	660	0.4457	330.6943			
520	0.4281	317.5875	665	0.3921	290.8737			

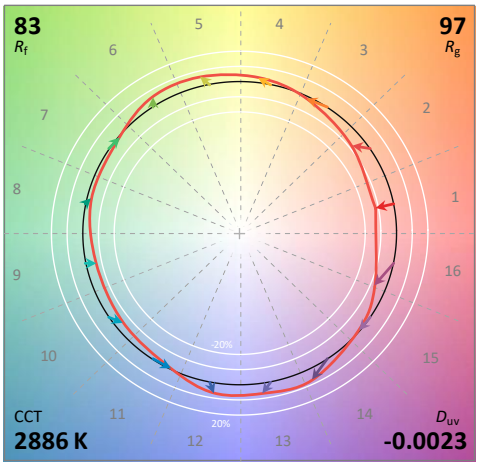
TM30

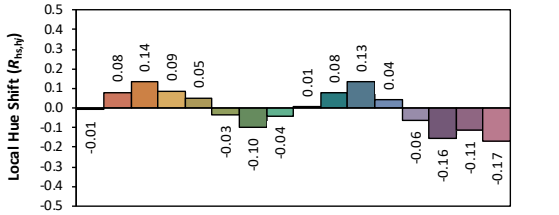
ANSI/IES TM-30-18 Color Rendition Report

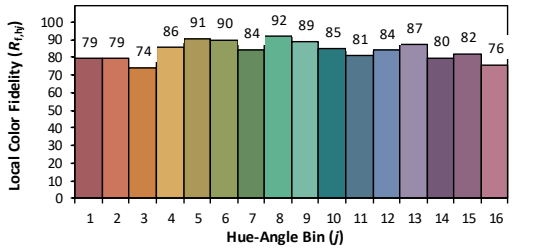
Source:	L128-3080RA35003H1	**Manufacturer:**	Beyond LED Technology
Date:	2021/1/26	**Model:**	BLT-HB05B-240WS1BT2D1-WH30/40/50

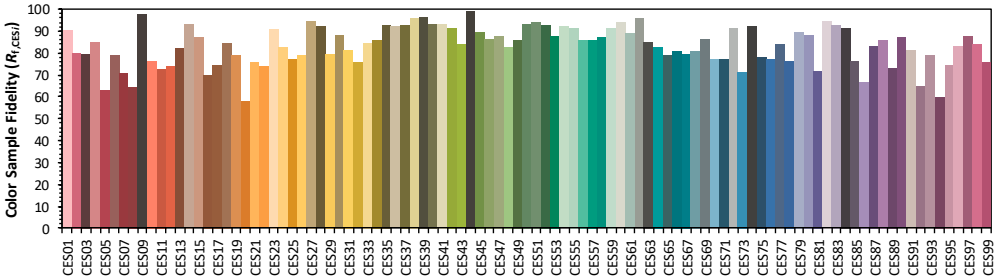












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4417
y	0.3998
u'	0.2555
v'	0.5204

CIE 13.3-1995 (CRI)

R_a	82
R_9	3

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

Zonal Lumen Tabulation

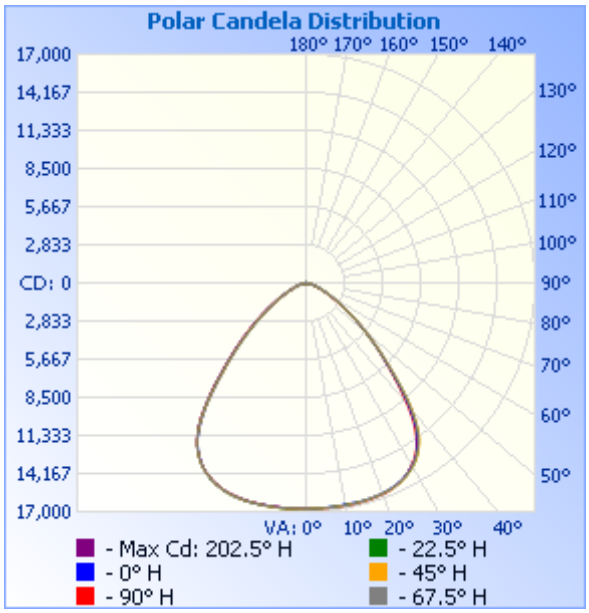
Zonal Lumen Summary

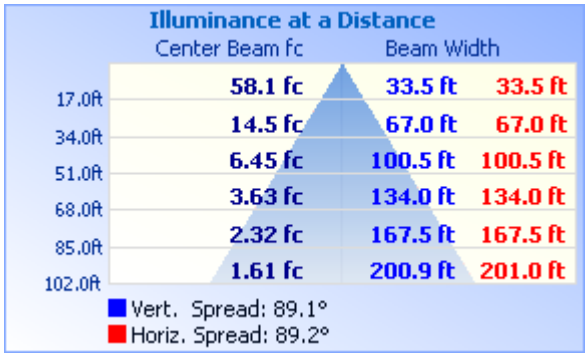
Zone	Lumens	% Lamp	% Luminaire
0-30	13,856	39.7%	39.7%
0-40	22,603.1	64.7%	64.7%
0-60	32,609.7	93.4%	93.4%
60-90	2,223.9	6.4%	6.4%
70-100	677.2	1.9%	1.9%
90-120	14.8	0%	0%
0-90	34,833.6	99.7%	99.8%
90-180	83.0	0.2%	0.2%
0-180	34,916.6	100%	100%

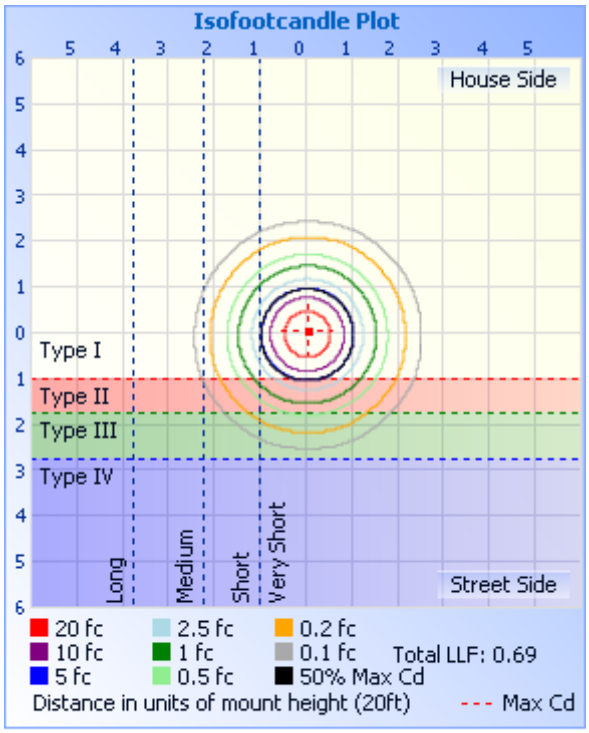
Lumens Per Zone

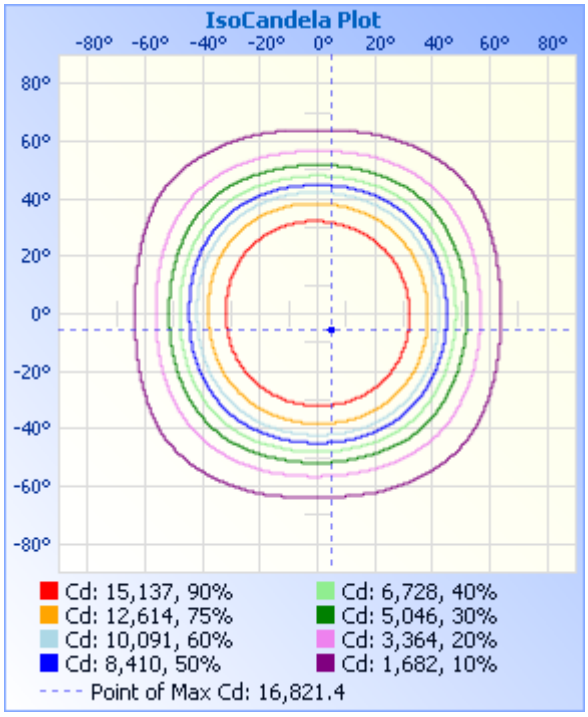
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	1,601.6	4.6%	90-100	5.0	0%
10-20	4,745.1	13.6%	100-110	4.2	0%
20-30	7,509.8	21.5%	110-120	5.6	0%
30-40	8,746.6	25.0%	120-130	8.2	0%
40-50	6,491.0	18.6%	130-140	13.2	0%
50-60	3,515.6	10.1%	140-150	16.6	0%
60-70	1,551.7	4.4%	150-160	15.6	0%
70-80	592.1	1.7%	160-170	10.9	0%
80-90	80.2	0.2%	170-180	3.8	0%

Photometric Data









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	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781	16781
1	16768	16771	16770	16784	16792	16777	16792	16790	16789	16791	16782	16772	16786	16782	16777	16770	16768
2	16757	16767	16768	16790	16783	16780	16802	16794	16794	16799	16783	16774	16781	16783	16775	16761	16757
3	16751	16764	16768	16783	16786	16773	16808	16801	16799	16808	16792	16773	16780	16776	16771	16756	16751
4	16743	16758	16773	16786	16784	16786	16811	16804	16798	16816	16799	16768	16777	16771	16768	16752	16743
5	16738	16752	16762	16783	16775	16793	16807	16806	16798	16821	16806	16770	16779	16767	16765	16746	16738
6	16736	16751	16765	16786	16777	16796	16814	16805	16796	16816	16809	16778	16774	16768	16757	16738	16736
7	16728	16745	16767	16783	16775	16800	16810	16810	16791	16820	16819	16784	16776	16765	16751	16737	16728
8	16720	16746	16769	16781	16776	16806	16805	16805	16788	16820	16818	16788	16777	16767	16749	16731	16720
9	16715	16742	16763	16785	16782	16807	16805	16806	16790	16811	16811	16793	16785	16766	16740	16726	16715
10	16708	16741	16762	16782	16789	16807	16798	16804	16786	16812	16811	16803	16788	16775	16741	16726	16708
11	16711	16739	16758	16781	16794	16807	16796	16802	16783	16811	16808	16804	16787	16774	16749	16725	16711
12	16713	16742	16757	16773	16791	16800	16799	16800	16785	16811	16795	16800	16786	16764	16750	16725	16713
13	16718	16742	16753	16765	16789	16802	16800	16801	16783	16804	16784	16795	16786	16767	16751	16732	16718
14	16719	16736	16751	16750	16780	16798	16795	16800	16782	16795	16780	16782	16776	16763	16742	16734	16719
15	16708	16729	16742	16741	16779	16795	16797	16800	16777	16792	16779	16761	16761	16751	16741	16730	16708
16	16702	16718	16731	16721	16769	16792	16790	16790	16770	16782	16770	16748	16748	16734	16721	16715	16702
17	16685	16701	16714	16708	16755	16778	16784	16773	16759	16763	16757	16731	16725	16713	16703	16698	16685
18	16665	16686	16695	16694	16737	16762	16766	16761	16738	16737	16737	16715	16696	16688	16681	16675	16665
19	16642	16662	16667	16679	16706	16738	16733	16732	16700	16711	16701	16682	16667	16651	16650	16643	16642
20	16608	16629	16641	16649	16682	16710	16699	16691	16657	16670	16664	16647	16632	16622	16611	16607	16608
21	16571	16594	16609	16620	16654	16665	16653	16640	16607	16618	16609	16596	16584	16575	16565	16562	16571
22	16522	16557	16577	16575	16606	16616	16592	16576	16542	16559	16544	16536	16528	16527	16513	16513	16522
23	16471	16514	16531	16515	16550	16546	16509	16498	16469	16476	16465	16461	16449	16445	16467	16460	16471
24	16415	16457	16461	16441	16466	16460	16431	16409	16377	16381	16388	16380	16352	16370	16386	16394	16415
25	16342	16387	16392	16359	16376	16358	16326	16310	16278	16286	16291	16285	16246	16270	16299	16313	16342
26	16257	16286	16295	16263	16269	16250	16225	16193	16167	16182	16158	16166	16141	16143	16186	16216	16257
27	16130	16181	16188	16165	16146	16130	16080	16060	16039	16046	16039	16039	16020	16019	16053	16096	16130
28	16003	16061	16079	16049	16007	15988	15935	15915	15891	15904	15892	15889	15881	15882	15915	15959	16003

29	15862	15930	15937	15900	15832	15809	15760	15739	15723	15742	15736	15726	15725	15707	15754	15802	15862
30	15708	15777	15794	15727	15654	15615	15561	15541	15509	15551	15546	15540	15523	15529	15578	15644	15708
31	15529	15606	15617	15555	15456	15402	15332	15300	15291	15334	15338	15311	15313	15318	15374	15443	15529
32	15314	15409	15413	15333	15224	15160	15089	15048	15045	15078	15071	15075	15075	15068	15136	15213	15314
33	15056	15149	15175	15078	14966	14875	14768	14751	14761	14789	14795	14794	14797	14807	14852	14934	15056
34	14754	14877	14926	14838	14662	14533	14444	14429	14438	14471	14470	14484	14481	14490	14560	14650	14754
35	14416	14575	14625	14523	14273	14160	14065	14045	14057	14086	14104	14111	14113	14136	14175	14282	14416
36	14036	14196	14274	14169	13869	13749	13644	13560	13580	13664	13678	13656	13698	13703	13779	13876	14036
37	13600	13784	13864	13746	13410	13283	13150	13062	13078	13163	13141	13167	13217	13254	13317	13405	13600
38	13095	13299	13338	13258	12890	12746	12552	12507	12514	12553	12574	12626	12677	12679	12799	12867	13095
39	12468	12720	12777	12666	12252	12096	11947	11897	11898	11929	11946	12004	12084	12084	12206	12320	12468
40	11850	12076	12161	12063	11618	11463	11319	11257	11234	11266	11257	11331	11377	11452	11575	11660	11850
41	11199	11458	11501	11419	10953	10802	10674	10606	10486	10581	10543	10626	10718	10795	10891	10989	11199
42	10465	10743	10743	10694	10292	10156	10050	9903	9826	9906	9832	9864	10059	10147	10271	10349	10465
43	9798	9989	10048	10026	9662	9548	9396	9296	9194	9190	9122	9202	9356	9450	9598	9664	9798
44	9130	9297	9366	9366	9005	8928	8850	8739	8633	8605	8539	8610	8752	8854	9000	9048	9130
45	8527	8659	8734	8739	8450	8370	8312	8141	8055	8034	7993	7982	8160	8260	8419	8466	8527
46	7959	8019	8140	8138	7924	7846	7802	7631	7568	7487	7473	7447	7613	7706	7871	7913	7959
47	7463	7482	7576	7624	7415	7331	7296	7114	7082	6950	6936	6931	7133	7209	7337	7386	7463
48	6965	6968	7101	7087	6928	6834	6757	6620	6607	6401	6472	6453	6627	6693	6829	6889	6965
49	6516	6441	6604	6574	6405	6308	6283	6155	6145	5927	6019	5993	6183	6246	6341	6363	6516
50	6067	5974	6155	6123	5962	5854	5831	5674	5661	5495	5591	5515	5744	5760	5892	5896	6067
51	5618	5565	5707	5671	5517	5409	5381	5242	5223	5074	5112	5095	5303	5333	5408	5455	5618
52	5175	5103	5259	5228	5085	4986	4951	4853	4812	4654	4710	4704	4888	4934	4985	5057	5175
53	4773	4730	4870	4842	4661	4544	4494	4476	4417	4284	4324	4337	4501	4564	4602	4660	4773
54	4378	4351	4456	4414	4234	4167	4113	4125	4051	3953	3978	3994	4157	4222	4246	4330	4378
55	4041	3999	4067	4068	3886	3818	3767	3772	3683	3648	3656	3646	3804	3893	3920	3992	4041
56	3708	3687	3725	3734	3560	3503	3446	3473	3379	3330	3319	3348	3482	3573	3583	3688	3708
57	3389	3410	3399	3426	3261	3183	3128	3195	3087	3057	3034	3060	3177	3289	3287	3419	3389
58	3102	3122	3112	3122	2954	2916	2859	2929	2821	2800	2763	2802	2900	2996	3004	3131	3102
59	2816	2848	2850	2871	2704	2678	2619	2690	2550	2560	2514	2561	2615	2753	2744	2846	2816

Certificate#4810.01

60	2577	2606	2578	2631	2465	2451	2390	2437	2319	2334	2282	2311	2376	2498	2501	2608	2577
61	2323	2366	2349	2403	2244	2248	2185	2228	2104	2109	2048	2103	2143	2272	2267	2359	2323
62	2099	2154	2119	2197	2026	2042	1971	2035	1918	1925	1860	1916	1933	2056	2032	2140	2099
63	1914	1961	1933	1985	1842	1866	1798	1838	1720	1753	1686	1728	1751	1871	1844	1932	1914
64	1723	1794	1740	1809	1670	1701	1631	1670	1565	1595	1530	1563	1572	1690	1672	1750	1723
65	1557	1629	1574	1650	1512	1548	1485	1518	1420	1450	1375	1421	1431	1520	1505	1593	1557
66	1426	1477	1423	1498	1372	1407	1339	1382	1289	1302	1251	1294	1291	1392	1368	1443	1426
67	1295	1344	1298	1360	1233	1269	1212	1256	1177	1187	1136	1175	1173	1255	1229	1312	1295
68	1163	1216	1167	1225	1120	1151	1103	1126	1057	1082	1030	1060	1058	1139	1128	1188	1163
69	1058	1107	1058	1112	1017	1048	1005	1025	964	976	932	962	961	1029	1019	1075	1058
70	961	1000	965	1007	916	950	907	929	875	887	846	876	866	933	923	971	961
71	865	910	871	917	829	851	823	840	796	808	773	799	784	846	837	878	865
72	783	827	788	829	745	765	744	750	712	728	702	711	706	763	757	804	783
73	709	741	715	748	673	693	674	677	642	655	629	639	637	692	692	715	709
74	636	667	644	664	598	619	597	607	578	582	559	571	572	616	626	638	636
75	573	593	576	598	529	545	536	540	514	519	500	513	506	552	554	576	573
76	506	527	511	525	470	482	473	473	449	456	446	452	452	490	488	499	506
77	442	461	456	472	413	421	421	411	394	404	392	395	397	431	439	447	442
78	386	409	401	410	362	370	367	358	347	346	331	342	346	377	382	389	386
79	338	350	351	355	304	307	305	305	296	290	284	296	296	320	324	337	338
80	281	290	282	297	257	259	248	258	246	243	226	245	242	264	262	281	281
81	235	230	226	248	210	211	199	201	191	193	172	188	198	213	210	224	235
82	180	175	170	198	163	159	151	152	148	131	122	137	149	157	157	169	180
83	137	127	123	144	115	108	100	96	101	87	76	83	108	109	104	114	137
84	71	77	76	88	66	63	52	57	50	48	41	55	53	66	56	72	71
85	32	44	49	46	27	28	20	28	25	23	22	26	26	31	37	39	32
86	17	21	25	29	0	0	14	11	17	16	15	18	0	13	20	24	17
87	11	14	18	17	0	0	0	8	12	8	13	17	0	0	13	14	11
88	7	12	9	14	0	0	9	10	9	11	0	14	0	0	7	10	7
89	11	9	11	13	0	0	0	0	9	10	11	14	0	0	0	9	11
90	9	7	11	11	0	0	0	0	9	9	0	10	0	0	0	10	9

91	9	7	12	11	0	0	0	0	9	0	10	10	0	0	0	10	9
92	8	0	11	11	0	0	0	0	8	9	0	14	0	0	0	16	8
93	9	11	11	11	0	0	0	0	9	8	12	12	0	0	0	14	9
94	9	9	0	14	0	0	0	0	0	8	7	10	0	0	0	10	9
95	9	8	7	8	0	0	0	0	8	9	9	10	0	0	0	9	9
96	8	0	0	12	0	0	0	9	8	0	0	10	0	0	0	12	8
97	9	8	9	11	0	0	0	0	9	8	0	8	0	0	0	0	9
98	10	0	11	11	0	0	0	8	0	8	7	14	0	0	0	0	10
99	11	8	14	0	0	0	0	0	9	7	0	11	0	0	0	10	11
100	0	8	8	13	0	0	0	0	10	8	8	10	0	0	0	7	0
101	9	0	8	7	0	0	0	9	7	9	11	10	0	0	0	0	9
102	9	0	9	11	0	0	0	0	0	9	9	12	0	0	0	7	9
103	11	8	10	0	0	0	0	0	0	0	8	9	0	0	0	0	11
104	10	0	12	9	0	0	0	0	8	12	11	9	0	0	0	8	10
105	9	0	7	9	0	0	0	0	10	10	0	8	0	0	0	0	9
106	0	10	12	8	0	0	0	0	0	9	12	12	0	0	0	9	0
107	0	9	12	0	0	0	0	0	8	9	9	0	0	0	8	0	0
108	9	8	11	8	0	0	0	0	11	8	0	8	0	0	0	0	9
109	0	10	11	13	0	0	0	0	7	0	9	8	0	0	0	7	0
110	10	0	11	11	0	0	0	7	0	10	0	12	0	0	0	0	10
111	14	10	10	12	0	0	0	8	0	15	7	0	0	0	0	9	14
112	9	0	12	12	0	0	8	0	8	11	10	12	0	0	0	0	9
113	11	7	8	11	0	0	0	0	0	11	8	10	0	0	0	8	11
114	8	0	10	12	0	0	0	8	12	11	0	10	0	0	8	0	8
115	10	8	14	8	0	0	0	0	0	11	9	11	0	0	0	8	10
116	11	8	13	10	0	0	0	10	9	8	9	12	0	0	0	10	11
117	10	8	10	10	0	0	0	0	0	7	12	14	0	0	9	12	10
118	8	9	13	12	0	0	0	0	0	11	11	12	0	0	8	9	8
119	13	8	8	11	0	0	9	10	12	11	11	13	0	0	9	9	13
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121	11	12	13	12	0	0	0	9	13	12	8	15	0	0	8	9	11

122	13	8	11	13	0	0	0	11	9	10	14	13	0	0	0	17	13
123	11	9	15	14	0	0	0	12	12	15	11	12	0	0	9	12	11
124	9	9	13	15	0	0	0	8	14	11	10	18	0	0	10	0	9
125	9	11	16	16	0	0	0	9	13	9	12	14	0	9	10	14	9
126	12	11	16	18	0	0	10	11	13	15	11	16	0	0	10	13	12
127	11	13	16	16	0	0	0	13	16	9	16	15	0	0	8	16	11
128	14	14	15	14	0	0	10	16	16	13	18	20	0	8	13	16	14
129	11	15	18	16	0	0	10	17	13	17	15	18	0	9	12	16	11
130	16	17	16	15	0	0	10	14	16	16	19	14	0	8	13	16	16
131	20	16	22	18	0	0	11	14	13	19	21	22	0	15	13	19	20
132	16	19	19	20	0	0	11	17	17	16	18	19	0	14	13	19	16
133	19	19	15	19	0	7	17	17	18	17	19	17	9	10	13	17	19
134	20	16	20	23	0	9	13	21	22	22	17	24	9	11	17	19	20
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136	19	22	24	22	0	13	17	22	21	25	26	25	0	10	18	25	19
137	24	25	26	22	0	8	19	21	21	22	27	27	8	18	20	25	24
138	23	24	23	29	0	11	24	25	21	27	23	27	13	19	20	27	23
139	25	28	26	20	8	14	20	22	21	27	27	22	14	18	26	24	25
140	25	30	29	27	0	12	22	28	25	22	25	25	13	23	25	28	25
141	29	24	26	25	12	16	21	24	26	28	28	29	15	18	26	25	29
142	28	28	31	27	10	14	22	27	29	28	31	31	13	20	26	30	28
143	27	29	29	21	13	14	23	27	26	30	28	34	13	22	24	28	27
144	31	31	28	33	12	12	25	26	30	32	26	33	19	18	23	18	31
145	30	36	32	31	14	15	26	27	35	30	30	28	17	23	29	29	30
146	33	29	33	30	13	15	23	32	27	29	31	31	17	20	30	29	33
147	33	30	34	30	12	21	29	32	25	33	35	32	21	26	33	32	33
148	34	34	37	34	17	17	27	34	35	35	32	38	19	28	32	27	34
149	30	36	34	32	15	24	25	34	35	31	32	36	19	29	29	33	30
150	35	37	26	35	16	19	29	31	38	31	35	40	23	28	35	37	35
151	39	34	36	39	20	25	31	24	38	36	37	37	24	27	30	39	39
152	33	33	39	39	21	24	31	37	38	38	35	37	22	31	29	39	33

153	38	40	40	36	18	23	32	37	27	37	37	39	27	32	34	36	38
154	42	37	35	42	23	27	30	35	37	35	39	35	26	35	34	29	42
155	38	39	42	39	20	28	35	35	42	41	24	40	26	32	38	37	38
156	35	35	39	36	21	26	35	35	37	33	37	39	27	32	34	30	35
157	38	34	30	37	19	27	30	31	38	41	38	38	24	35	38	37	38
158	37	27	39	41	20	25	34	37	40	40	41	38	24	32	35	42	37
159	39	40	41	41	21	32	27	39	38	39	42	42	31	33	39	39	39
160	37	38	46	40	23	27	33	36	40	35	42	41	30	35	35	41	37
161	43	37	43	47	21	32	33	34	44	43	45	42	32	32	32	46	43
162	37	38	43	42	22	35	36	32	43	40	35	47	29	38	42	42	37
163	39	37	46	43	23	27	36	40	41	43	44	45	29	34	37	39	39
164	44	41	45	39	24	33	38	43	43	46	44	46	34	40	43	43	44
165	40	44	39	43	21	31	31	39	43	39	45	35	32	30	43	43	40
166	43	41	45	43	27	28	35	39	46	40	43	34	33	37	42	41	43
167	43	41	42	48	23	35	34	44	46	43	44	42	33	29	43	42	43
168	44	43	47	45	14	34	41	38	46	42	45	43	35	32	44	45	44
169	45	27	46	48	25	36	34	40	47	47	45	43	28	38	39	49	45
170	46	48	40	44	30	36	35	46	38	48	43	44	33	34	44	51	46
171	49	40	42	49	30	30	41	43	46	48	41	47	33	38	40	42	49
172	45	46	44	40	25	34	40	42	46	43	44	42	30	32	42	43	45
173	43	46	45	47	27	36	42	48	40	45	35	50	29	39	35	42	43
174	43	43	50	46	30	33	43	48	46	44	44	45	34	31	42	42	43
175	43	32	42	47	25	19	43	44	46	43	45	50	32	26	36	45	43
176	42	44	46	44	28	33	40	40	46	43	42	44	29	37	43	37	42
177	44	43	45	45	28	32	26	39	45	45	42	49	27	31	42	42	44
178	31	35	46	42	24	33	36	44	45	40	46	48	24	37	41	37	31
179	42	40	46	45	27	31	34	41	41	40	42	45	29	31	40	39	42
180	44	42	43	44	26	27	36	33	46	44	42	43	27	36	33	46	44

UGR

UGR Table - Corrected

Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	24.8	26.2	25.2	26.5	26.8	24.6	25.9	24.9	26.3	26.6
	3H	25.4	26.6	25.8	27.0	27.3	25.2	26.4	25.6	26.7	27.1
	4H	25.6	26.7	26.0	27.1	27.4	25.3	26.5	25.8	26.8	27.2
	6H	25.6	26.7	26.1	27.1	27.5	25.4	26.4	25.8	26.8	27.2
	8H	25.7	26.6	26.1	27.0	27.4	25.4	26.4	25.8	26.8	27.2
	12H	25.6	26.6	26.1	26.9	27.4	25.4	26.3	25.8	26.7	27.1
4H	2H	25.0	26.1	25.4	26.5	26.9	24.8	25.9	25.2	26.2	26.6
	3H	25.7	26.7	26.2	27.1	27.5	25.5	26.4	26.0	26.9	27.3
	4H	26.0	26.8	26.4	27.2	27.6	25.8	26.6	26.2	27.0	27.4
	6H	26.1	26.8	26.6	27.3	27.7	25.9	26.6	26.4	27.0	27.5
	8H	26.1	26.8	26.6	27.2	27.7	25.9	26.5	26.3	27.0	27.5
	12H	26.1	26.7	26.6	27.1	27.6	25.9	26.4	26.3	26.9	27.4
8H	4H	26.0	26.6	26.5	27.1	27.6	25.8	26.4	26.2	26.9	27.4
	6H	26.2	26.7	26.7	27.2	27.7	25.9	26.5	26.4	27.0	27.5
	8H	26.2	26.7	26.7	27.2	27.7	26.0	26.4	26.5	27.0	27.4
	12H	26.2	26.6	26.7	27.1	27.6	25.9	26.4	26.5	26.9	27.4
12H	4H	26.0	26.5	26.5	27.0	27.5	25.8	26.3	26.3	26.8	27.3
	6H	26.1	26.6	26.7	27.1	27.6	25.9	26.4	26.4	26.9	27.4
	8H	26.2	26.6	26.7	27.1	27.7	26.0	26.4	26.5	26.9	27.4

Maximum UGR = 27.7

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2021-01-26	Test Ambient:	25.2 ℃
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-HB05B-240WS1BT2D1-WH30/40/50 0(Tested at 50% CCT Setting)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210102 6E-F1	120.0	60	1.942	232.82	0.999	3.57
	277.0	60	0.836	223.69	0.966	5.30
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	3714
Duv	-0.0022
Chromaticity (x, y)	x=0.3920 y=0.3788
Chromaticity (u', v')	u(u')=0.2319 v'=0.5042
Color Rendering Index (CRI)	84
R9	16
Rf	85
Rg	97
Rcs,h1(%)	-11

Special Color Rendering Indices			
R1	83	R9	16
R2	91	R10	78
R3	95	R11	83
R4	84	R12	66
R5	84	R13	85
R6	87	R14	98
R7	85	R15	78
R8	66	--	--
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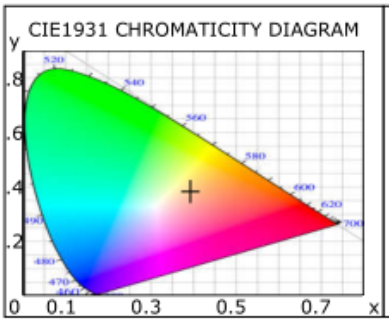
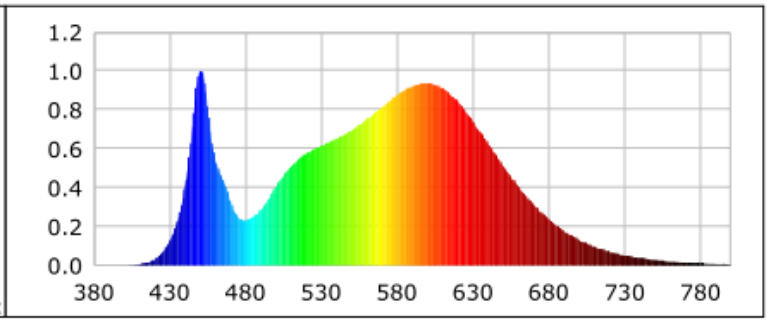
Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	37121.8	36157.2	>= 10000(-10%)
Luminous Efficacy (lm/W)	159.44	161.64	Premium: >= 135(-3%)
Most worst Luminous/Highest	155.30		

Certificate#4810.01

Spectral Power Distribution & Chromaticity Diagram



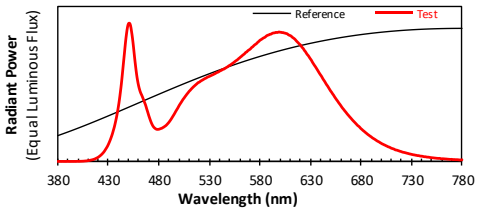


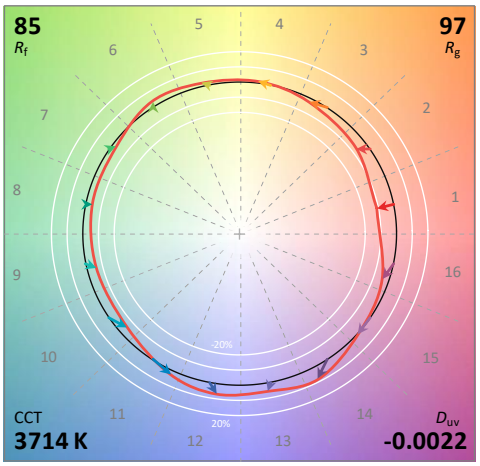
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0006	0.4556	525	0.5971	427.8194	670	0.3142	225.1502
385	0.0008	0.5631	530	0.6155	440.9938	675	0.2743	196.5375
390	0.0008	0.6059	535	0.6331	453.6597	680	0.2378	170.4018
395	0.0004	0.3222	540	0.6525	467.5148	685	0.2067	148.1252
400	0.0014	0.9915	545	0.6706	480.5217	690	0.1793	128.4599
405	0.0022	1.6013	550	0.6947	497.7812	695	0.1540	110.3486
410	0.0059	4.2477	555	0.7209	516.5255	700	0.1320	94.5493
415	0.0141	10.0775	560	0.7496	537.1309	705	0.1133	81.1872
420	0.0307	21.9837	565	0.7802	559.0566	710	0.0964	69.0570
425	0.0633	45.3655	570	0.8105	580.7239	715	0.0828	59.3155
430	0.1220	87.4164	575	0.8441	604.7884	720	0.0713	51.0945
435	0.2237	160.3147	580	0.8762	627.8005	725	0.0612	43.8535
440	0.3962	283.8767	585	0.8982	643.5502	730	0.0517	37.0153
445	0.7101	508.7837	590	0.9199	659.1460	735	0.0446	31.9910
450	0.9964	713.9438	595	0.9312	667.2319	740	0.0385	27.5609
455	0.8253	591.3748	600	0.9347	669.6953	745	0.0322	23.0817
460	0.5484	392.9162	605	0.9282	665.0380	750	0.0275	19.6761
465	0.4448	318.7065	610	0.9108	652.5769	755	0.0233	16.6668
470	0.3340	239.3097	615	0.8818	631.8572	760	0.0195	13.9772
475	0.2486	178.1162	620	0.8440	604.7207	765	0.0176	12.6355
480	0.2329	166.8937	625	0.7954	569.9465	770	0.0155	11.1098
485	0.2491	178.4768	630	0.7422	531.8166	775	0.0133	9.5072
490	0.2834	203.0640	635	0.6853	491.0290	780	0.0122	8.7391
495	0.3391	242.9696	640	0.6266	449.0001	785	0.0095	6.8293
500	0.4031	288.8104	645	0.5681	407.0546	790	0.0081	5.7753
505	0.4585	328.5103	650	0.5103	365.6598	795	0.0076	5.4584
510	0.5071	363.3446	655	0.4565	327.0588	800	0.0047	3.3353
515	0.5446	390.2440	660	0.4054	290.4536			
520	0.5734	410.8648	665	0.3577	256.2640			

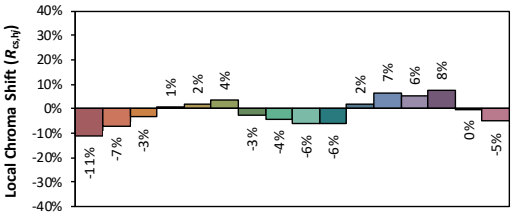
TM-30

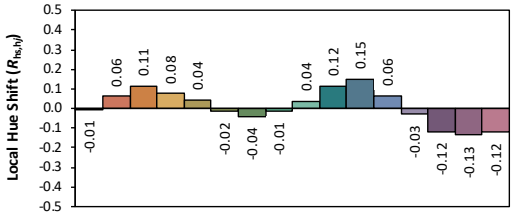
ANSI/IES TM-30-18 Color Rendition Report

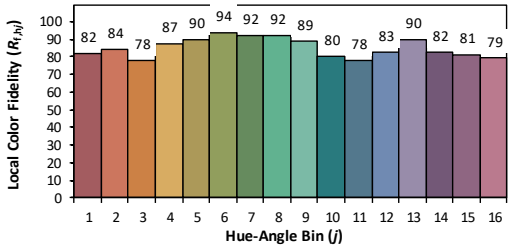
Source:	L128-3080RA35003H1	**Manufacturer:**	Beyond LED Technology
Date:	2021/1/26	**Model:**	BLT-HB05B-240WS1BT2D1-WH30/40/50

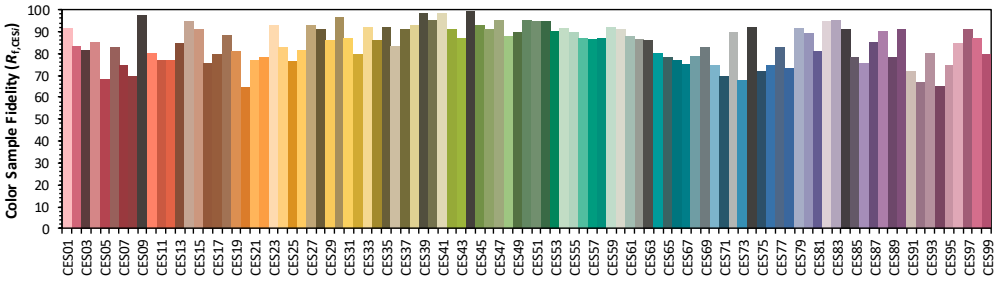












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3920
y	0.3788
u'	0.2319
v'	0.5042

CIE 13.3-1995 (CRI)

R_a	84
R_9	16

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

2.3 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2021-01-26	Test Ambient:	25.2 ºC
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-HB05B-240WS1BT2D1-WH30/40/50 0(Tested at 100% CCT Setting)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210102 6E-F1	120.0	60	2.020	242.12	0.999	3.62
	277.0	60	0.873	233.83	0.967	5.83
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	4870
Duv	0.0032
Chromaticity (x, y)	x=0.3496 y=0.3616
Chromaticity (u', v')	u(u')=0.2106 v'=0.4901
Color Rendering Index (CRI)	82
R9	9
Rf	83
Rg	96
Rcs,h1(%)	-12

Special Color Rendering Indices			
R1	80	R9	9
R2	86	R10	68
R3	91	R11	80
R4	82	R12	55
R5	80	R13	81
R6	81	R14	95
R7	88	R15	75
R8	68	--	--
--	--	--	--
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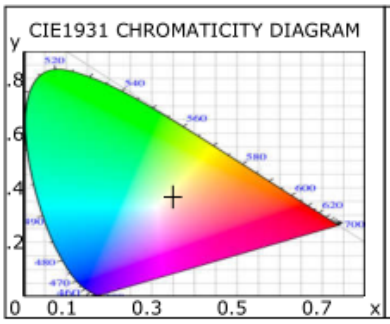
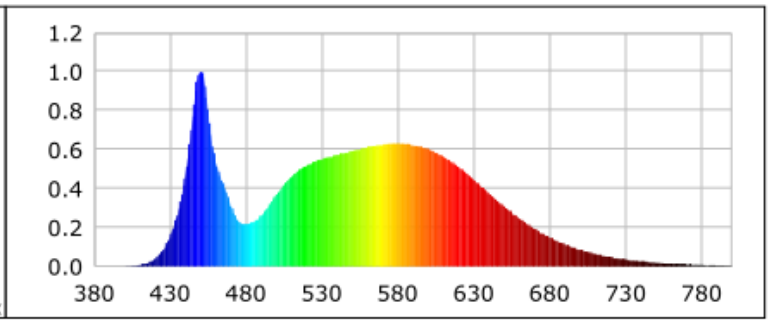
Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	36702.7	35741.8	>= 10000(-10%)
Luminous Efficacy (lm/W)	151.59	152.85	Premium: >= 135(-3%)
Most worst Luminous/Highest	147.62		

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	0.5112	525	0.5366	493.5100	670	0.1934	177.8793
385	0.0007	0.6340	530	0.5495	505.3920	675	0.1704	156.7230
390	0.0005	0.4158	535	0.5617	516.5836	680	0.1492	137.2123
395	0.0005	0.4625	540	0.5720	526.1159	685	0.1296	119.2382
400	0.0010	0.9124	545	0.5812	534.5231	690	0.1135	104.3687
405	0.0029	2.6853	550	0.5915	544.0161	695	0.0986	90.6456
410	0.0076	6.9582	555	0.6012	552.9661	700	0.0850	78.1421
415	0.0177	16.3062	560	0.6108	561.8182	705	0.0742	68.2255
420	0.0388	35.7145	565	0.6178	568.2285	710	0.0640	58.8304
425	0.0791	72.7889	570	0.6239	573.8232	715	0.0543	49.9246
430	0.1503	138.2756	575	0.6285	578.0343	720	0.0471	43.3583
435	0.2685	246.9660	580	0.6301	579.5041	725	0.0416	38.2472
440	0.4595	422.5960	585	0.6273	576.9222	730	0.0352	32.3541
445	0.7688	707.1335	590	0.6225	572.5227	735	0.0302	27.7600
450	1.0000	919.7493	595	0.6140	564.7378	740	0.0253	23.3008
455	0.8105	745.4842	600	0.6015	553.2060	745	0.0224	20.5726
460	0.5401	496.7840	605	0.5847	537.8229	750	0.0188	17.3218
465	0.4267	392.4145	610	0.5640	518.7757	755	0.0164	15.0877
470	0.3152	289.9389	615	0.5403	496.9778	760	0.0147	13.5111
475	0.2340	215.2164	620	0.5115	470.4327	765	0.0128	11.7879
480	0.2164	199.0228	625	0.4800	441.4766	770	0.0096	8.8253
485	0.2288	210.4532	630	0.4456	409.8525	775	0.0080	7.3674
490	0.2594	238.6172	635	0.4107	377.7130	780	0.0076	6.9537
495	0.3091	284.3139	640	0.3767	346.5116	785	0.0057	5.2436
500	0.3662	336.7811	645	0.3410	313.6205	790	0.0050	4.6070
505	0.4174	383.9143	650	0.3085	283.7285	795	0.0049	4.4713
510	0.4595	422.6468	655	0.2763	254.1508	800	0.0036	3.3439
515	0.4926	453.0855	660	0.2459	226.1693			
520	0.5181	476.5551	665	0.2193	201.7163			

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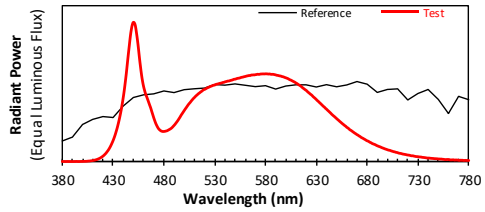
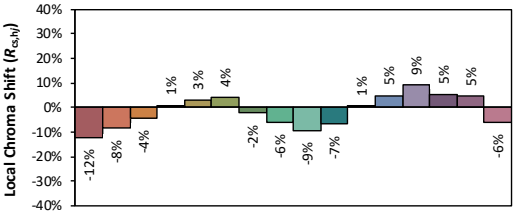
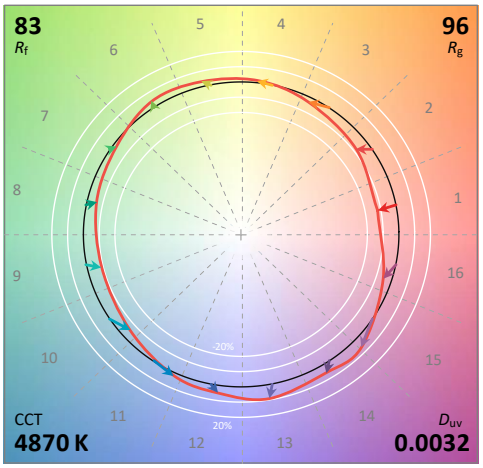
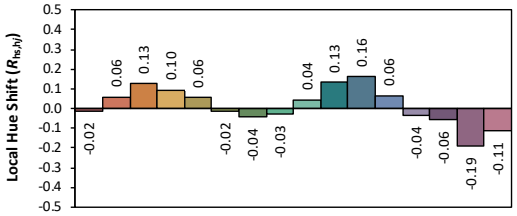
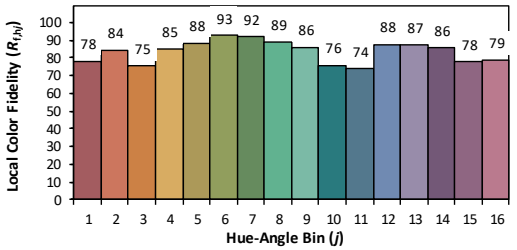
Date:	2021/1/26	**Model:**	BLT-HB05B-240WS1BT2D1-WH30/40/50

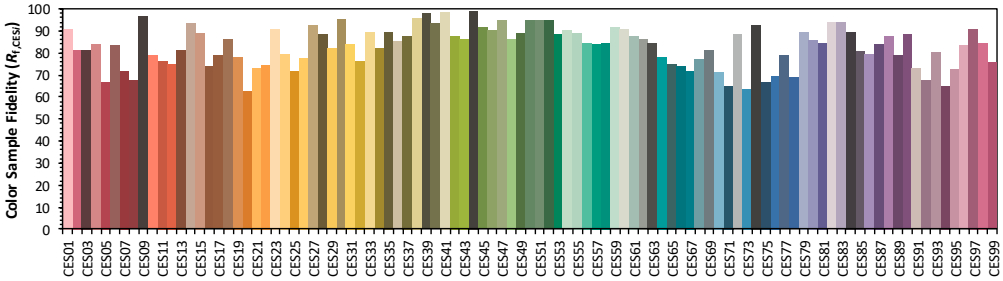












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3496
y	0.3616
u'	0.2106
v'	0.4901

CIE 13.3-1995 (CRI)

R_a	82
R_9	9

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3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometeric System	GPM-3000	DYHXF120001	2021-02-26
AC Power Source	CHP-500C	N/A	2021-03-29
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2021-03-01
Digital Power Meter	WT500	DYDWQ200006	2021-03-29
Integral Sphere (2M)	2M	DYJCE120067	2021-02-26
Digital Power Meter	WT500	DYDWQ200006	2021-03-29
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2021-02-26
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 ********