



Report No.: BLC2106046E-B

## LM-79-08 Test Report

For

# Beyond LED Technology

(Brand Name: Beyond LED Technology)

## Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

### Architectural Flood and Spot Luminaires

Model name(s): BLT-S-GB-150WJ30T3A6-GR10SP50

Remark: "a" can be any two letters tofor lamp colors; "b" can be "3RP", "3NP", "5RP", "5NP", "7RP", "7NP" or blank for photocell type provided or not;

"c" can be "10SP", "20SP" or blank for Surge-Protective Device type provided or not;

"d" can be "PS", "MS", "DPS", "DMS", "DMS" for Motion Sensor type provided or blank for no Motion Sensor provided;

"e" can be "AM", "DM", "YM", "A&D" or "FM" to represent mounting bracket types;

"f" can be "S" or blank for Socket provided or not;

"h" can be any digits for CCT.

Representative (Tested) Model:

BLT-S-GB-150WJ30T3A6-GR10SP50

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

Test & Report By:

*Sophie Yang*

Engineer: Sophie Yang

Date: 2021-08-24

Review By:

*Jason Luo*

Manager: Jason Luo



### 1.1 Product Information:

Model Number	BLT-S-GB-150WJ30T3A6-GR10SP50	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	120-277Vac, 50/60 Hz	
Nominal Power	300W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K, 4500K, 5000K, 5700K	
LED Manufacturer	Bridgelux Inc.	
LED Model	BXEM-40C-12H-6C	
Sample Number	BLC2106046E-B1(4000K),B2(5700K)	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s
<b>Photo</b>		



## 1.2 Test Specifications:

Date of Receipt	2021-06-29
Date of Test	2021-07-02
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

### 1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1^{\circ}$  vertical intervals and  $22.5^{\circ}$  horizontal intervals.

### 2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

### 3) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

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

<b>Test date</b>	2021-07-02	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	BLT-S-GB-150WJ30T3A6-GR10SP50		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210604	120.0	60	2.423	288.97	0.994	9.31
6E-B1	277.0	60	1.103	291.38	0.954	8.72
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

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

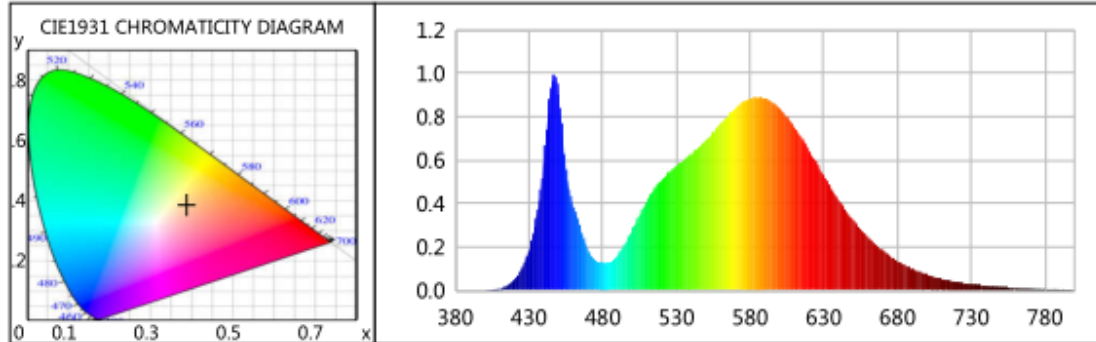
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	67	R9	-40
Frequency (Hz)	60	R2	79	R10	52
CCT (K)	3911	R3	89	R11	66
Duv	0.0016	R4	70	R12	45
Chromaticity (x, y)	x=0.3856 y=0.3833	R5	68	R13	69
Chromaticity (u', v')	u(u')=0.2259 v'=0.5052	R6	71	R14	94
Color Rendering Index (CRI)	72	R7	79	R15	60
R9	-40	R8	48	--	--
Rf	74	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-18				

**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)	50266.3	50854.6	>=10000(-10%)
Luminous Efficacy (lm/W)	173.95	174.53	Premium: >= 120(-3%)
Most worst Luminous/Highest	172.51		
Zonal lumens in the 0-90° zone (%)	100	--	Category 1: >=100(-1) Category 2: >=85(-3)
Zonal lumens in the 80-90°zone (%)	1.8	--	<=10(+3)
Beam Angle (°)	124.3	--	--
Center Beam Candle Power (cd)	12564	--	--



**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	0.2336	525	0.5436	534.6811	670	0.1821	179.1772
385	0.0003	0.2758	530	0.5707	561.3442	675	0.1568	154.2425
390	0.0004	0.4382	535	0.5987	588.9158	680	0.1351	132.8623
395	0.0004	0.4244	540	0.6287	618.4722	685	0.1152	113.3353
400	0.0010	1.0230	545	0.6564	645.6684	690	0.0992	97.5949
405	0.0030	2.9586	550	0.6906	679.3541	695	0.0845	83.1413
410	0.0083	8.1768	555	0.7292	717.2996	700	0.0732	72.0057
415	0.0212	20.8921	560	0.7684	755.8904	705	0.0625	61.5088
420	0.0473	46.5283	565	0.8051	791.9927	710	0.0522	51.3645
425	0.0975	95.8961	570	0.8383	824.5884	715	0.0450	44.2806
430	0.1861	183.0914	575	0.8686	854.4615	720	0.0389	38.2968
435	0.3311	325.6602	580	0.8856	871.1137	725	0.0329	32.3226
440	0.5925	582.8383	585	0.8887	874.2025	730	0.0279	27.4140
445	0.9367	921.4560	590	0.8863	871.8681	735	0.0239	23.5486
450	0.9099	895.0548	595	0.8683	854.1349	740	0.0209	20.5653
455	0.5624	553.2232	600	0.8404	826.7119	745	0.0178	17.4972
460	0.3884	382.0859	605	0.7993	786.2137	750	0.0146	14.3400
465	0.2849	280.2030	610	0.7537	741.4266	755	0.0129	12.7359
470	0.1839	180.8717	615	0.7013	689.8773	760	0.0108	10.6441
475	0.1387	136.3885	620	0.6454	634.8571	765	0.0095	9.3091
480	0.1262	124.1423	625	0.5851	575.5525	770	0.0086	8.4823
485	0.1301	127.9507	630	0.5272	518.5697	775	0.0068	6.6643
490	0.1577	155.1400	635	0.4716	463.8834	780	0.0063	6.2098
495	0.2103	206.8302	640	0.4181	411.3216	785	0.0045	4.3783
500	0.2759	271.3683	645	0.3678	361.8154	790	0.0044	4.3743
505	0.3438	338.1480	650	0.3218	316.5198	795	0.0030	2.9474
510	0.4099	403.1685	655	0.2814	276.8159	800	0.0024	2.3600
515	0.4640	456.4470	660	0.2439	239.9143			
520	0.5081	499.8157	665	0.2115	208.0427			



# TM30

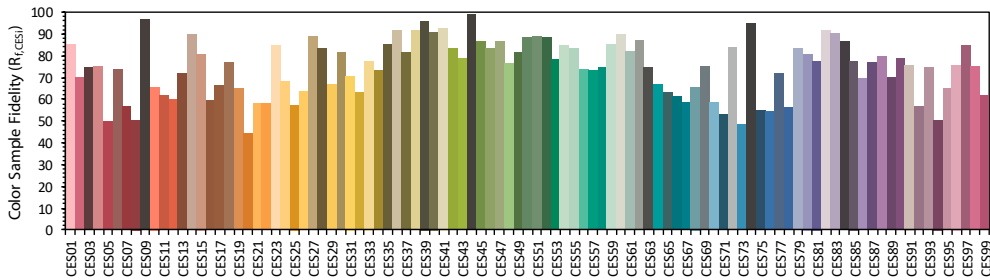
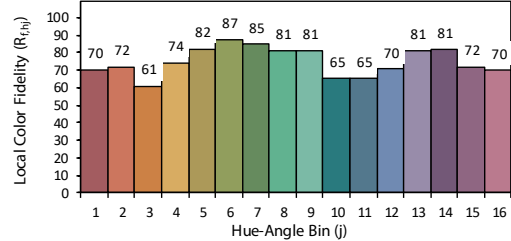
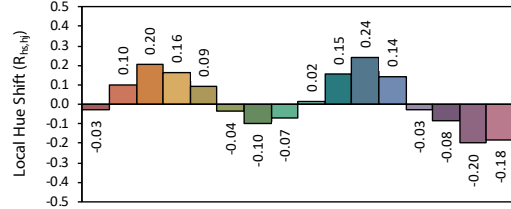
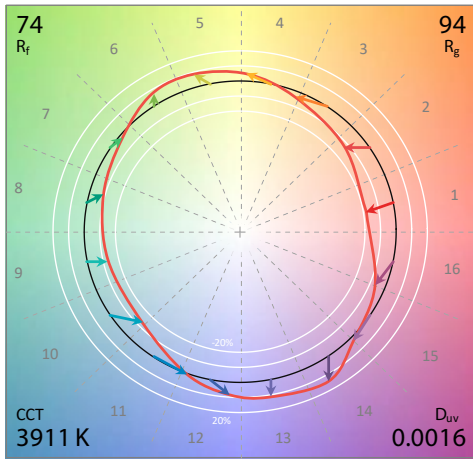
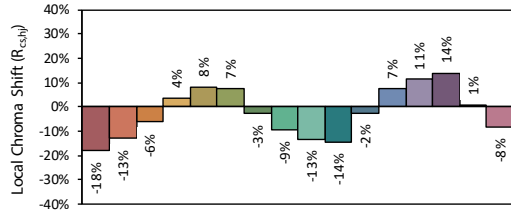
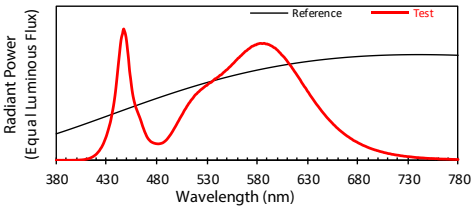
## ANSI / IES TM-30-18 Color Rendition Report

**Source:** BXEM-40C-12H-6C

**Date:** 2021/7/2

**Manufacturer:** Beyond Led Technology

**Model:** BLT-S-GB-150WJ30T3A6-GR10SP50



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

$x$  0.3856  
 $y$  0.3833  
 $U'$  0.2259  
 $v'$  0.5052

CIE 13.3-1995 (CRI)	
$R_a$	72
$R_9$	-40

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	10,266.3	20.4%	20.4%
0-40	17,640.3	35.1%	35.1%
0-60	35,923.0	71.5%	71.5%
60-90	14,340.1	28.5%	28.5%
70-100	6,042.2	12%	12%
90-120	0	0%	0%
0-90	50,263.1	100%	100%
90-180	0	0%	0%
0-180	50,263.1	100%	100%

### Lumens Per Zone

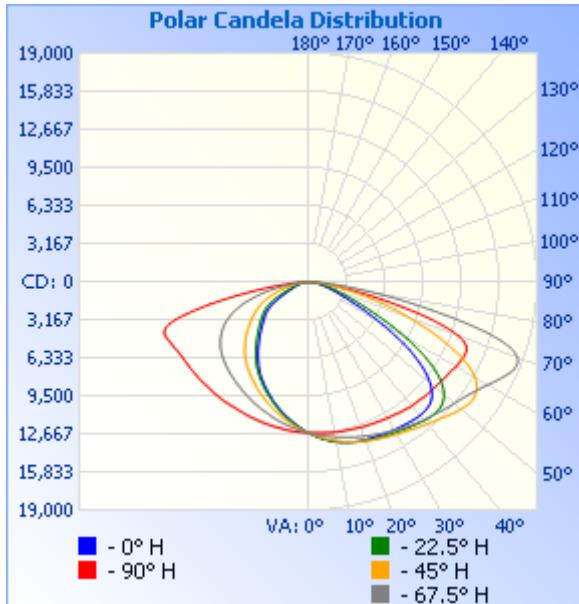
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	1,194.9	2.4%	90-100	0	0%
10-20	3,496.1	7.0%	100-110	0	0%
20-30	5,575.3	11.1%	110-120	0	0%
30-40	7,374.0	14.7%	120-130	0	0%
40-50	8,831.7	17.6%	130-140	0	0%
50-60	9,450.9	18.8%	140-150	0	0%
60-70	8,297.9	16.5%	150-160	0	0%
70-80	5,150.2	10.2%	160-170	0	0%
80-90	892.0	1.8%	170-180	0	0%



Certificate#4810.01

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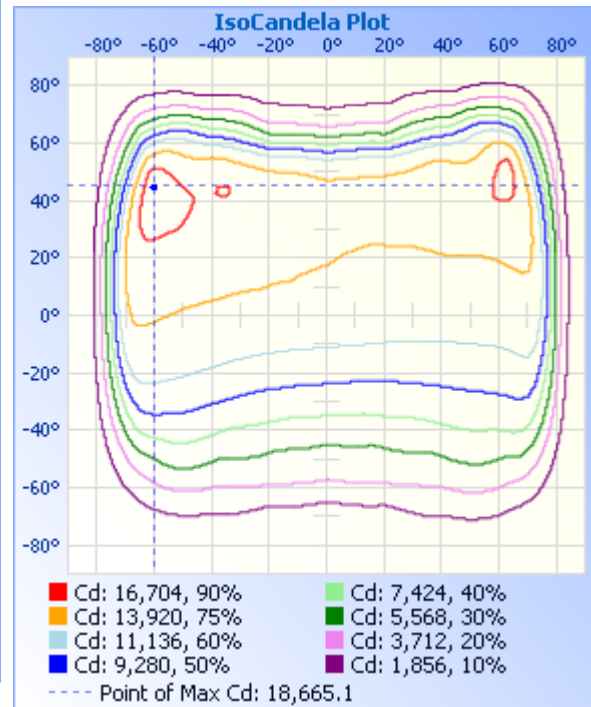
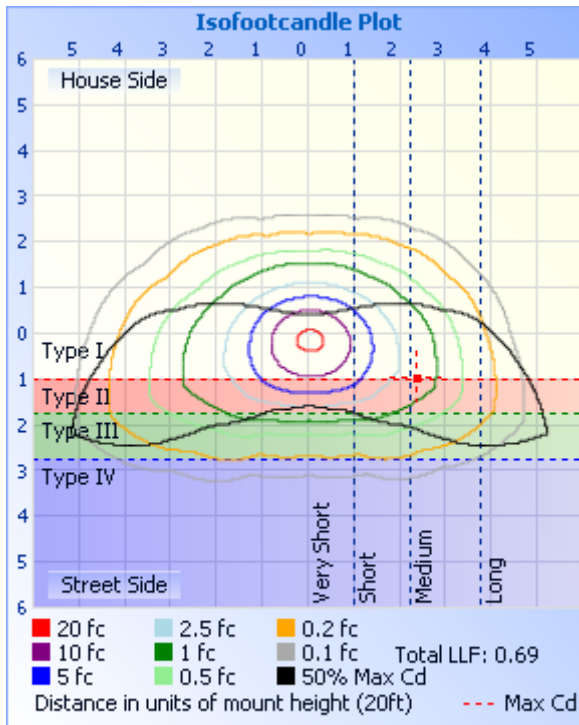
**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width
17.0ft	43.5 fc	38.6 ft 106.5 ft
34.0ft	10.9 fc	77.2 ft 213.0 ft
51.0ft	4.83 fc	115.8 ft 319.6 ft
68.0ft	2.72 fc	154.4 ft 426.1 ft
85.0ft	1.74 fc	193.0 ft 532.6 ft
102.0ft	1.21 fc	231.6 ft 639.1 ft

■ Vert. Spread: 97.2°  
■ Horiz. Spread: 144.6°







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Ca ndela 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	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564	12564
1	12675	12674	12676	12631	12574	12528	12500	12458	12448	12460	12473	12507	12559	12602	12639	12660	12675
2	12790	12782	12771	12687	12577	12491	12424	12345	12299	12346	12387	12453	12545	12632	12709	12759	12790
3	12904	12882	12854	12746	12586	12454	12349	12234	12175	12225	12286	12393	12537	12660	12778	12874	12904
4	13005	12988	12941	12799	12610	12418	12265	12121	12046	12100	12182	12313	12528	12690	12839	12960	13005
5	13106	13098	13023	12852	12623	12382	12182	12004	11913	11968	12085	12250	12511	12698	12903	13050	13106
6	13195	13192	13119	12902	12640	12354	12091	11884	11784	11841	11990	12193	12492	12729	12995	13126	13195
7	13283	13277	13201	12950	12676	12303	12001	11746	11646	11675	11896	12139	12481	12752	13052	13202	13283
8	13364	13358	13279	13005	12688	12263	11912	11621	11507	11546	11786	12092	12467	12780	13111	13278	13364
9	13461	13440	13362	13062	12706	12225	11819	11493	11372	11419	11677	12028	12446	12802	13162	13343	13461
10	13531	13512	13436	13118	12719	12182	11725	11365	11233	11284	11567	11965	12414	12831	13212	13406	13531
11	13593	13587	13508	13172	12739	12143	11632	11239	11093	11150	11433	11894	12400	12872	13265	13457	13593
12	13647	13653	13589	13222	12758	12096	11540	11112	10950	11013	11328	11832	12392	12897	13290	13509	13647
13	13706	13719	13650	13295	12770	12062	11422	10984	10818	10883	11226	11763	12375	12919	13331	13556	13706
14	13757	13780	13711	13351	12763	12020	11325	10838	10658	10746	11115	11701	12350	12941	13375	13603	13757
15	13808	13838	13773	13409	12781	11978	11230	10707	10511	10602	11006	11631	12353	12966	13413	13645	13808
16	13847	13889	13831	13461	12796	11941	11131	10576	10359	10464	10896	11544	12333	12990	13451	13692	13847
17	13884	13934	13892	13520	12812	11894	11032	10440	10211	10322	10781	11479	12319	13017	13481	13722	13884
18	13920	13977	13951	13570	12830	11849	10944	10307	10061	10183	10670	11413	12305	13016	13519	13755	13920
19	13958	14024	14011	13628	12845	11796	10849	10174	9922	10023	10559	11351	12282	13040	13552	13780	13958
20	13990	14063	14100	13675	12887	11756	10757	10035	9753	9881	10447	11293	12272	13062	13579	13811	13990
21	13997	14105	14157	13734	12905	11713	10651	9902	9602	9739	10331	11226	12258	13081	13608	13845	13997
22	14025	14146	14214	13789	12921	11668	10555	9769	9462	9601	10226	11159	12238	13098	13634	13864	14025
23	14046	14210	14260	13841	12939	11624	10446	9635	9311	9456	10104	11092	12223	13128	13672	13878	14046
24	14071	14256	14314	13905	12956	11578	10323	9499	9165	9320	9993	11029	12212	13147	13696	13904	14071
25	14096	14293	14367	13959	12978	11542	10223	9342	9015	9160	9886	10961	12203	13169	13728	13928	14096
26	14147	14335	14433	14034	12999	11507	10130	9210	8867	9019	9773	10899	12185	13196	13756	13944	14147
27	14175	14374	14492	14094	13027	11465	10029	9069	8704	8872	9631	10832	12170	13224	13776	13966	14175
28	14204	14413	14549	14152	13053	11425	9934	8928	8548	8726	9519	10768	12156	13248	13805	13975	14204



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Certificate#4810.01

29	14227	14443	14607	14219	13082	11388	9820	8776	8378	8570	9415	10706	12146	13274	13807	13999	14227
30	14250	14486	14652	14287	13102	11340	9719	8630	8207	8415	9304	10644	12143	13304	13840	14026	14250
31	14279	14534	14713	14356	13133	11301	9625	8476	8001	8260	9194	10587	12130	13325	13872	14053	14279
32	14286	14585	14797	14409	13158	11261	9525	8323	7822	8100	9088	10501	12129	13352	13902	14081	14286
33	14320	14642	14863	14478	13182	11229	9423	8162	7639	7935	8981	10436	12126	13386	13941	14113	14320
34	14350	14711	14936	14560	13225	11189	9308	7997	7455	7771	8871	10379	12129	13424	13981	14145	14350
35	14380	14768	15014	14633	13267	11133	9203	7834	7264	7576	8756	10318	12132	13459	14047	14178	14380
36	14413	14811	15109	14698	13313	11097	9090	7643	7070	7408	8633	10258	12127	13498	14089	14217	14413
37	14439	14868	15185	14780	13346	11062	8980	7474	6881	7235	8496	10211	12118	13535	14135	14260	14439
38	14466	14935	15245	14844	13384	11019	8863	7298	6697	7061	8378	10151	12114	13573	14167	14302	14466
39	14483	14998	15338	14921	13423	10977	8722	7124	6512	6874	8256	10089	12120	13615	14233	14361	14483
40	14492	15047	15424	15003	13449	10940	8598	6949	6328	6699	8126	10033	12120	13654	14295	14406	14492
41	14484	15109	15537	15067	13461	10902	8468	6759	6151	6526	7991	9971	12119	13696	14386	14445	14484
42	14467	15153	15637	15131	13486	10856	8333	6594	5963	6358	7859	9897	12081	13763	14462	14472	14467
43	14453	15181	15715	15210	13506	10813	8193	6431	5808	6200	7712	9833	12097	13804	14539	14496	14453
44	14405	15198	15821	15277	13529	10752	8050	6270	5651	6028	7567	9777	12088	13857	14622	14507	14405
45	14323	15197	15938	15351	13578	10703	7899	6105	5477	5874	7422	9716	12097	13910	14721	14510	14323
46	14213	15187	16065	15447	13604	10649	7751	5951	5334	5724	7276	9644	12099	13973	14827	14503	14213
47	14052	15130	16195	15528	13622	10598	7594	5800	5195	5580	7120	9577	12106	14029	14920	14472	14052
48	13810	15029	16305	15605	13647	10536	7431	5657	5059	5440	6954	9512	12122	14097	15014	14407	13810
49	13566	14905	16446	15682	13673	10469	7245	5523	4923	5288	6805	9434	12114	14162	15126	14304	13566
50	13260	14732	16516	15785	13702	10404	7084	5363	4785	5156	6654	9360	12118	14228	15241	14164	13260
51	12892	14497	16613	15880	13737	10339	6922	5233	4658	5031	6499	9286	12122	14304	15340	13963	12892
52	12450	14189	16705	15974	13770	10264	6750	5097	4524	4906	6321	9199	12120	14394	15442	13718	12450
53	11957	13834	16795	16085	13795	10174	6568	4963	4386	4780	6166	9106	12135	14486	15549	13397	11957
54	11403	13393	16815	16207	13838	10081	6395	4824	4239	4646	6017	9011	12144	14571	15584	13033	11403
55	10795	12919	16818	16337	13878	9977	6224	4676	4060	4518	5862	8890	12137	14700	15656	12590	10795
56	10129	12343	16771	16481	13917	9863	6055	4529	3887	4380	5702	8789	12142	14820	15672	12057	10129
57	9430	11692	16676	16646	13954	9738	5862	4380	3682	4240	5553	8673	12158	14928	15622	11471	9430
58	8632	10997	16531	16817	14007	9599	5686	4216	3446	4085	5399	8547	12169	15064	15576	10799	8632
59	7921	10238	16298	16983	14079	9425	5509	4025	3156	3898	5245	8413	12189	15215	15428	10153	7921



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60	7188	9517	16026	17195	14151	9266	5324	3823	2876	3699	5087	8268	12214	15406	15254	9473	7188
61	6438	8691	15664	17396	14204	9075	5135	3601	2602	3481	4909	8114	12244	15579	15000	8692	6438
62	5745	7967	15197	17619	14248	8876	4915	3355	2349	3208	4746	7954	12279	15769	14648	7987	5745
63	5184	7151	14621	17836	14293	8651	4710	3059	2106	2937	4574	7786	12334	15976	14273	7197	5184
64	4553	6339	13994	18052	14343	8406	4497	2769	1905	2656	4394	7598	12409	16196	13708	6436	4553
65	4053	5714	13289	18247	14364	8139	4278	2482	1736	2378	4208	7368	12445	16458	13121	5743	4053
66	3641	5108	12506	18468	14364	7843	4048	2203	1592	2118	3994	7148	12496	16676	12471	5166	3641
67	3302	4579	11702	18596	14297	7518	3797	1966	1464	1878	3792	6920	12560	16954	11781	4598	3302
68	2949	4073	10937	18664	14134	7123	3563	1751	1345	1699	3584	6668	12648	17190	11021	4128	2949
69	2644	3665	10064	18665	13831	6734	3322	1589	1243	1544	3349	6364	12678	17427	10240	3673	2644
70	2393	3288	9231	18524	13365	6306	3076	1441	1155	1408	3126	6059	12701	17653	9473	3313	2393
71	2165	2958	8446	18165	12633	5821	2793	1318	1067	1278	2896	5734	12623	17795	8704	2987	2165
72	1952	2650	7676	17614	11738	5355	2530	1183	977	1164	2642	5379	12447	17858	7931	2709	1952
73	1764	2390	6841	16694	10672	4886	2288	1076	892	1066	2407	4984	12067	17752	7226	2427	1764
74	1572	2139	6074	15561	9456	4413	2052	984	815	973	2158	4612	11466	17463	6448	2187	1572
75	1404	1896	5312	14007	8053	3891	1803	887	744	872	1941	4229	10610	16813	5734	1939	1404
76	1265	1691	4633	12330	6777	3422	1562	797	674	786	1729	3821	9462	15764	5083	1736	1265
77	1135	1501	3928	10603	5597	3002	1320	703	600	703	1518	3428	8378	14346	4486	1556	1135
78	1001	1322	3296	9066	4506	2570	1084	621	534	626	1275	2979	7172	12660	3813	1374	1001
79	890	1168	2668	7615	3545	2127	841	544	465	546	1057	2518	6069	11017	3221	1223	890
80	775	1027	2193	6163	2643	1676	670	469	402	471	851	2060	4919	9283	2662	1067	775
81	666	878	1726	4954	1978	1327	533	393	333	401	677	1611	3875	7697	2191	927	666
82	574	749	1409	3913	1448	1019	414	324	277	339	525	1259	2966	6234	1778	806	574
83	482	642	1125	2984	1046	734	314	256	217	276	407	967	2241	5035	1424	682	482
84	392	534	874	2143	715	489	212	189	164	210	303	709	1611	3887	1156	583	392
85	324	431	675	1526	475	316	134	127	111	147	215	501	1159	2884	889	471	324
86	242	322	476	986	292	186	80	77	70	92	138	323	778	1967	659	362	242
87	170	229	304	600	149	92	33	32	24	63	77	194	462	1272	463	270	170
88	105	144	170	294	42	29	14	15	17	22	39	103	244	739	282	178	105
89	62	70	75	93	16	10	0	0	8	14	25	41	99	319	148	112	62
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	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	0	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	0	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



Report No.: BLC2106046E-B

## BUG Rating

### Lum. Classification System (LCS)

<u>LCS Zone</u>	<u>Lumens</u>	<u>%Lamp</u>	<u>%Lum</u>
FL (0-30)	5714.7	11.4	11.4
FM (30-60)	16349.6	32.5	32.5
FH (60-80)	9187.2	18.3	18.3
FVH (80-90)	666.1	1.3	1.3
BL (0-30)	4551.6	9.1	9.1
BM (30-60)	9311.5	18.5	18.5
BH (60-80)	4259.9	8.5	8.5
BVH(80-90)	225.7	0.4	0.4
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	50266.3	100.0	100.0
<b>BUG Rating</b>	<b>B5-U0-G4</b>		

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

<b>Test date</b>	2021-07-02	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	BLT-S-GB-150WJ30T3A6-GR10SP50		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210604	120.0	60	2.416	288.14	0.994	9.27
6E-B2	277.0	60	1.099	290.84	0.955	8.78
<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	68	R9	-40
Frequency (Hz)	60	R2	75	R10	41
CCT (K)	5375	R3	80	R11	72
Duv	0.0028	R4	73	R12	47
Chromaticity (x, y)	x=0.3355 y=0.3492	R5	71	R13	69
Chromaticity (u', v')	u(u')=0.2058 v'=0.4821	R6	67	R14	89
Color Rendering Index (CRI)	71	R7	78	R15	62
R9	-40	R8	55	--	--
Rf	72	--	--	--	--
Rg	96	--	--	--	--
Rcs,h1(%)	-18				

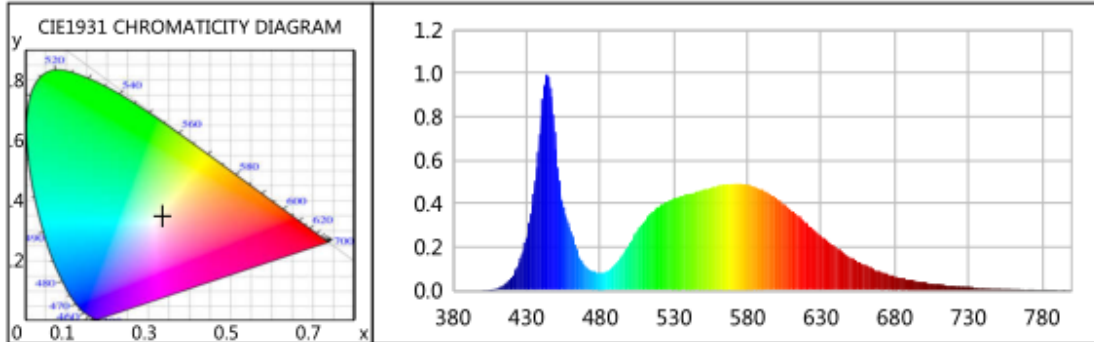
**Photometric Measurement – Sphere-Spectroradiometer Method:**

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	49323.8	49983.8	>=10000(-10%)
Luminous Efficacy (lm/W)	171.18	171.86	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	169.59		





### Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.5040	525	0.4070	608.7066	670	0.0864	129.2134
385	0.0002	0.3314	530	0.4217	630.6916	675	0.0748	111.8996
390	0.0004	0.6018	535	0.4328	647.2324	680	0.0642	95.9970
395	0.0008	1.1235	540	0.4444	664.6692	685	0.0562	83.9947
400	0.0014	2.0194	545	0.4522	676.3551	690	0.0479	71.6705
405	0.0034	5.0115	550	0.4626	691.8519	695	0.0417	62.4266
410	0.0106	15.8574	555	0.4721	706.1378	700	0.0363	54.3343
415	0.0271	40.5404	560	0.4802	718.2414	705	0.0303	45.3752
420	0.0607	90.8312	565	0.4880	729.8344	710	0.0262	39.1357
425	0.1278	191.1677	570	0.4901	733.0442	715	0.0226	33.8012
430	0.2444	365.5328	575	0.4917	735.4022	720	0.0200	29.9609
435	0.4478	669.6598	580	0.4865	727.5773	725	0.0170	25.4636
440	0.8043	1202.9639	585	0.4768	713.1235	730	0.0143	21.4248
445	0.9855	1473.9063	590	0.4639	693.7680	735	0.0121	18.1382
450	0.6464	966.7081	595	0.4445	664.8720	740	0.0106	15.7871
455	0.3843	574.8268	600	0.4225	631.9529	745	0.0088	13.2062
460	0.2741	409.9206	605	0.3958	592.0066	750	0.0075	11.2751
465	0.1697	253.7594	610	0.3679	550.2403	755	0.0072	10.7210
470	0.1089	162.8985	615	0.3404	509.1467	760	0.0060	8.9747
475	0.0880	131.6595	620	0.3097	463.2356	765	0.0052	7.7366
480	0.0797	119.1535	625	0.2787	416.8414	770	0.0040	5.9625
485	0.0881	131.7723	630	0.2505	374.6305	775	0.0038	5.6951
490	0.1170	174.9497	635	0.2232	333.7586	780	0.0030	4.5293
495	0.1624	242.8682	640	0.1983	296.5223	785	0.0026	3.9134
500	0.2156	322.4035	645	0.1742	260.5049	790	0.0028	4.1689
505	0.2698	403.5826	650	0.1531	228.9766	795	0.0034	5.1078
510	0.3190	477.0963	655	0.1331	199.1165	800	0.0019	2.7838
515	0.3573	534.3835	660	0.1157	172.9974			
520	0.3853	576.2759	665	0.1005	150.2921			

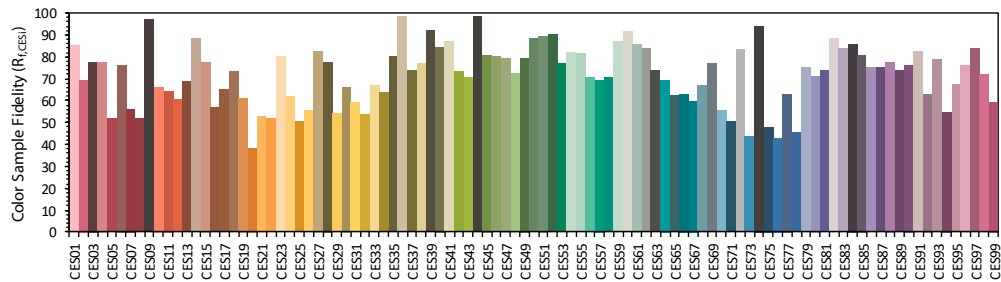
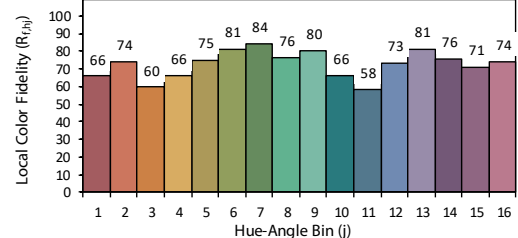
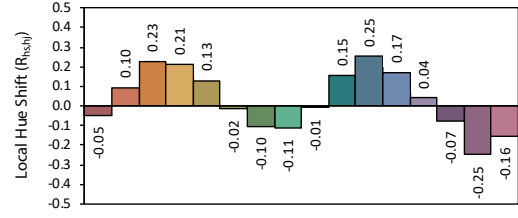
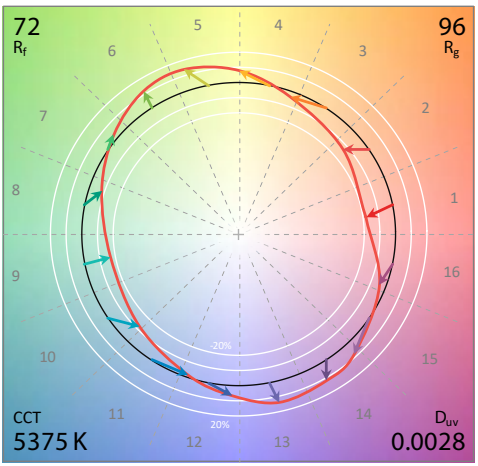
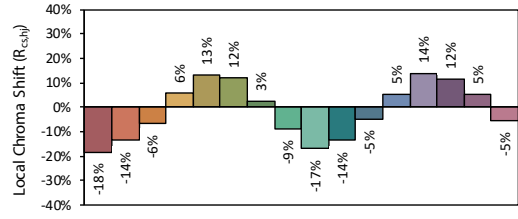
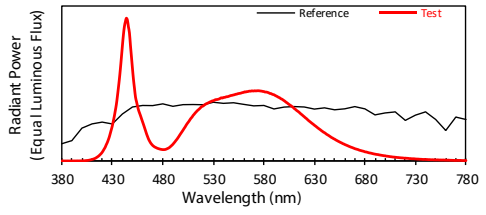


**TM30**

**ANSI / IES TM-30-18 Color Rendering Report**

**Source:** BXEM-40C-12H-6C  
**Date:** 2021/7/2

**Manufacturer:** Beyond LED Technology  
**Model:** BLT-S-GB-150WJ30T3A6-GR10SP50



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

$x$  0.3355  
 $y$  0.3492  
 $u'$  0.2058  
 $v'$  0.4821

CIE 13.3-1995 (CRI)	
$R_a$	71
$R_9$	-40

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-S-GB-150WJ30T3A6-GR10SP50	50266.3	288.97	173.95
BLT-S-GB-150WJ30T3A6-GR10SP51	50030.7	288.56	173.38
BLT-S-GB-150WJ30T3A6-GR10SP52	49795.1	288.35	172.69
BLT-S-GB-150WJ30T3A6-GR10SP53	49323.8	288.14	171.18

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

$$50030.7 = ( 49323.8 - 50266.3 ) / 4 + 50266.3$$

$$49795.1 = ( 49323.8 - 50266.3 ) / 4 + 50030.7$$

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

$$288.56 = ( 288.14 + 288.97 ) / 2$$

$$288.35 = ( 288.14 + 288.56 ) / 2$$

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

$$173.38 = 50030.7 / 288.56$$

$$172.69 = 49795.1 / 288.35$$



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### 3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2022-01-18
AC Power Source	CHP-500	DYBWD010159	2022-01-25
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2022-01-24
Digital Power Meter	WT500	DYDWQ20010	2022-01-25
Integral Sphere (2M)	2M	DYJCE120067	2022-01-18
Digital Power Meter	WT500	DYDWQ20006	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 \*\*\*\*\*