



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-SB19-300WBT3A1-BR10SPYMW50

Remark: "a" can be any two letters to represent lamp colors.

"b" represent photocell, which can be "3NP", "3RP", "5NP", "5RP", "7NP", "7RP" for Photocell type provided or blank for no Photocell provided.

"c" represent surge protector, can be "10SP", "20SP" for Surge-Protective Device type provided or blank for no Surge-Protective Device provided. "d" can be "DM", "DP" or blank for DC Motion Sensor, DC PIR Sensor provided or not.

"e" represent bracket, can be "AM", "DM", "YM", "A&D" and "FM".

"g" can be any digits to represent CCT.

Representative (Tested) Model:

BLT-SB19-300WBT3A1-BR10SPYMW50

BLT-SB19-300WBT3A1-BR10SPYMW50

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

Test & Report By:

Winnie Wu

Engineer: Winnie Wu

Date: 2023-01-18

Review By:

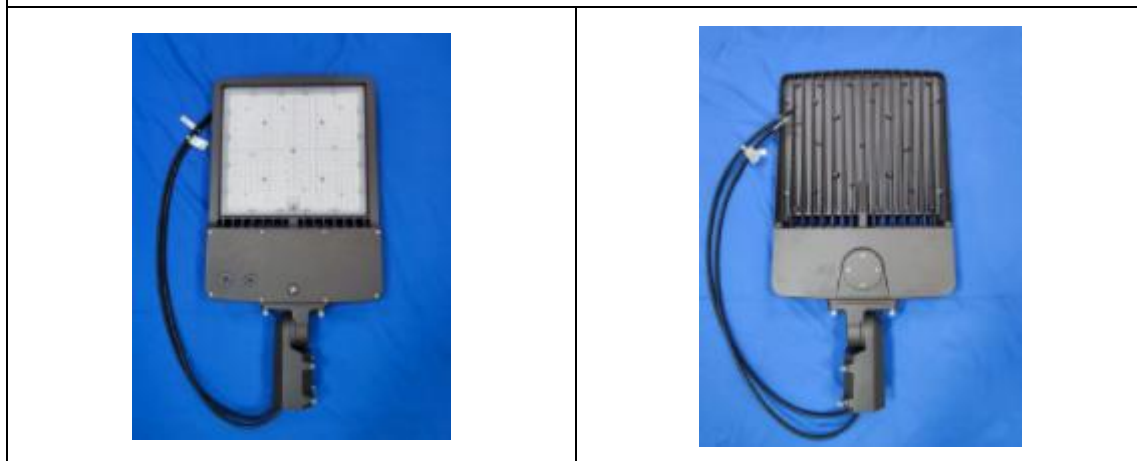
Jason Luo

Manager: Jason Luo

1.1 Product Information:

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED Technology	
Model Number	BLT-SB19-300WBT3A1-BR10SPYMW50	
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	120-277 Vac, 50/60 Hz	
Nominal Power	300W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,4500K,5000K,5700K,6500K	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-XX80RC35003P1	
Sample Number	BLC2212019E-E1(4000K),E2(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	2023-01-10
Date of Test	2023-01-11
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

<p>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. Goniophotometer far field detector fl’=1.42%, Test distance: 14.14m</p>
<p>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 °C ± 1 °C. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm. Self-absorption: AST-S-G19-300WBT3A1-abcde40:1.021 AST-S-G19-300WBT3A1-abcde65:1.023</p>
<p>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 °C ± 1 °C. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.</p>

2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2023-01-11	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-SB19-300WBT3A1-BR10SPYMW50		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC221201	120.0	60	2.502	297.82	0.992	8.16
9E-E1	277.0	60	1.188	298.37	0.907	15.92
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

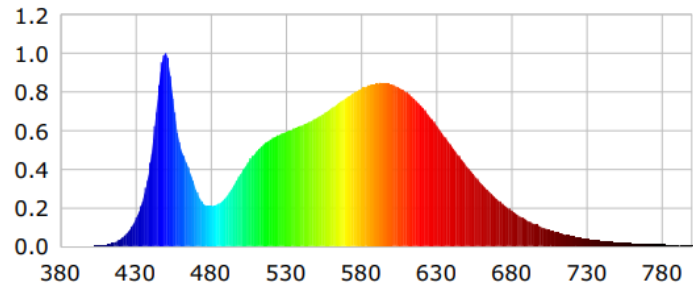
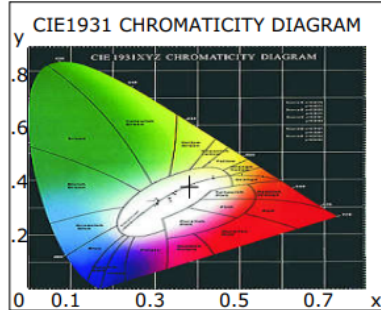
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	4
Frequency (Hz)	60	R2	88	R10	72
CCT (K)	3961	R3	94	R11	80
Duv	-0.0006	R4	81	R12	61
Chromaticity (x, y)	x=0.3817 y=0.3762	R5	81	R13	82
Chromaticity (u', v')	u(u')=0.2262 v'(v')=0.5015	R6	84	R14	97
Color Rendering Index (CRI)	82	R7	85	R15	74
R9	4	R8	63	--	--
Rf	83	--	--	--	--
Rg	96	--	--	--	--
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)	41260.0	41658.4	>=10000(-10%)
Luminous Efficacy (lm/W)	138.54	139.62	Premium: >= 120(-3%)
Most worst Luminous/Highest	138.28		
Zonal lumens in the 0-90 °zone (%)	100	--	Category 1: >=100(-1) Category 2: >=85(-3)
Zonal lumens in the 80-90 °zone (%)	2.9	--	<=10(+3)
Beam Angle (°)	125.8	--	--
Center Beam Candle Power (cd)	9277	--	--

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	0.1864	535	0.5739	499.0349	690	0.2461	214.0414
385	0.0003	0.2811	540	0.5916	514.4134	695	0.2133	185.4558
390	0.0005	0.4495	545	0.6085	529.1711	700	0.1849	160.7449
395	0.0005	0.4361	550	0.6253	543.7582	705	0.1586	137.9422
400	0.0013	1.1716	555	0.6416	557.9115	710	0.1360	118.2461
405	0.0025	2.2007	560	0.6627	576.3055	715	0.1161	100.9252
410	0.0069	6.0258	565	0.6858	596.3193	720	0.0992	86.2633
415	0.0166	14.4313	570	0.7137	620.6469	725	0.0843	73.3408
420	0.0367	31.9561	575	0.7419	645.1375	730	0.0712	61.8834
425	0.0727	63.2617	580	0.7682	668.0151	735	0.0614	53.3657
430	0.1354	117.7075	585	0.7949	691.2162	740	0.0522	45.4122
435	0.2412	209.7829	590	0.8156	709.2748	745	0.0442	38.4454
440	0.4327	376.2857	595	0.8328	724.1823	750	0.0371	32.2748
445	0.7756	674.4189	600	0.8418	732.0145	755	0.0330	28.6908
450	1.0000	869.5842	605	0.8441	734.0338	760	0.0277	24.0626
455	0.7686	668.3500	610	0.8383	729.0151	765	0.0237	20.6412
460	0.5161	448.7776	615	0.8240	716.4955	770	0.0196	17.0533
465	0.4132	359.3091	620	0.7985	694.3643	775	0.0161	14.0268
470	0.2999	260.7948	625	0.7649	665.1463	780	0.0137	11.9391
475	0.2235	194.3197	630	0.7254	630.8027	785	0.0122	10.5956
480	0.2084	181.1886	635	0.6780	589.5608	790	0.0106	9.2248
485	0.2198	191.1350	640	0.6273	545.4784	795	0.0083	7.2429
490	0.2532	220.1576	645	0.5725	497.7987	800	0.0071	6.1709
495	0.3112	270.6020	650	0.5208	452.9159			
500	0.3756	326.6529	655	0.4669	406.0465			
505	0.4349	378.1507	660	0.4159	361.6963			
510	0.4854	422.1132	665	0.3688	320.7020			
515	0.5242	455.7969	670	0.3241	281.8257			
520	0.5535	481.2821	675	0.2837	246.7285			
525	0.5739	499.0349	680	0.2461	214.0414			
530	0.5916	514.4134	685	0.2133	185.4558			

TM30

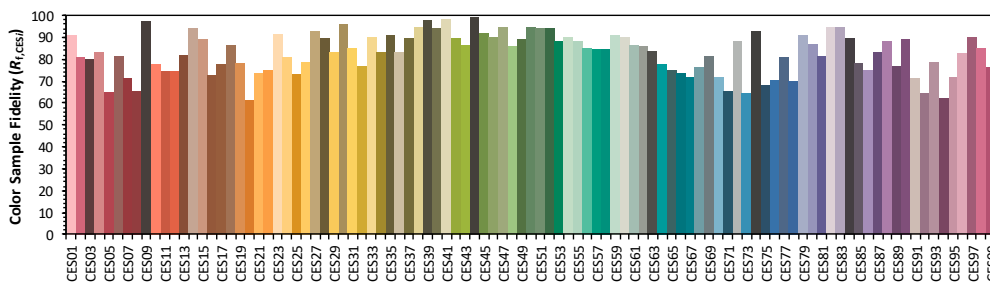
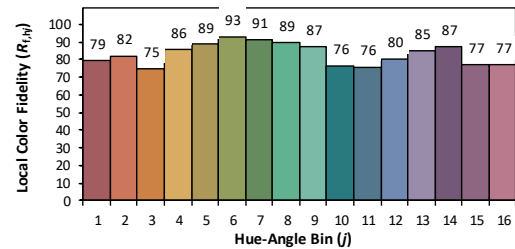
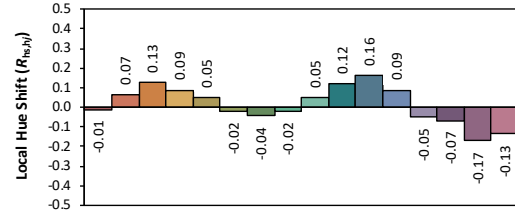
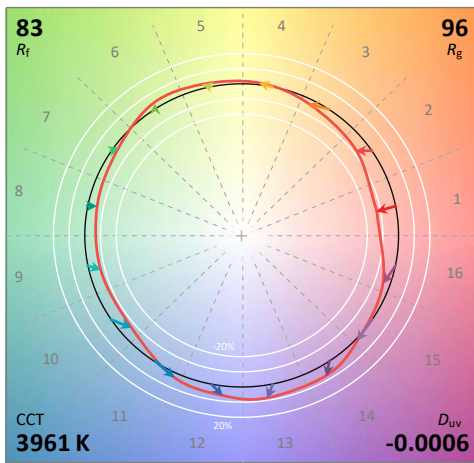
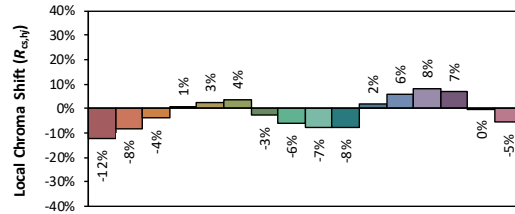
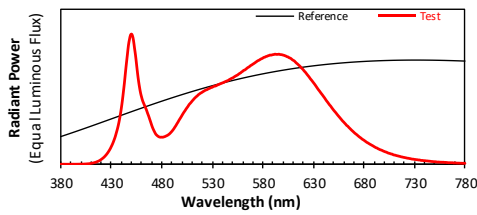
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RC35003P1

Manufacturer: Beyond LED Technology

Date: 2023/1/11

Model: BLT-SB19-300WBT3A1-BR10SPYMW50



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

x 0.3817
 y 0.3762
 u' 0.2262
 v' 0.5015

CIE 13.3-1995 (CRI)	
R_a	82
R_9	4

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

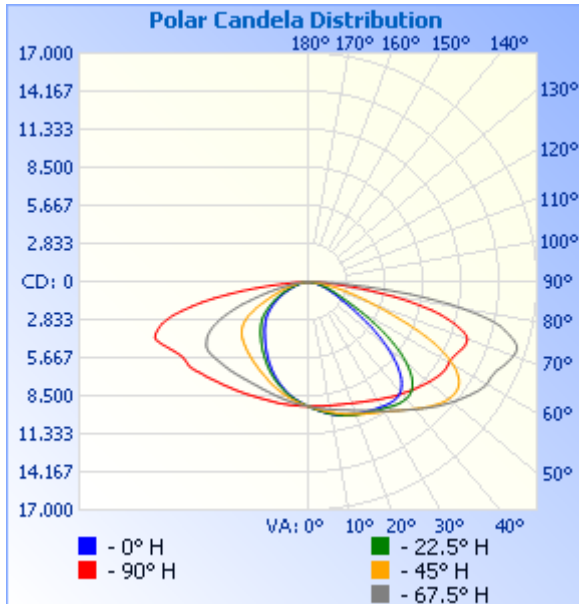


Zonal Lumen Tabulation

Zonal Lumen Summary			
Zone	Lumens	% Lamp	% Luminaire
0-30	7,772.7	18.8%	18.8%
0-40	13,593.1	32.9%	32.9%
0-60	28,491.7	69.1%	69.1%
60-90	12,766.1	30.9%	30.9%
70-100	5,957.6	14.4%	14.4%
90-120	0	0%	0%
0-90	41,257.9	100%	100%
90-180	0	0%	0%
0-180	41,257.9	100%	100%

Lumens Per Zone					
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	885.9	2.1%	90-100	0	0%
10-20	2,624.5	6.4%	100-110	0	0%
20-30	4,262.2	10.3%	110-120	0	0%
30-40	5,820.5	14.1%	120-130	0	0%
40-50	7,181.9	17.4%	130-140	0	0%
50-60	7,716.7	18.7%	140-150	0	0%
60-70	6,808.5	16.5%	150-160	0	0%
70-80	4,771.1	11.6%	160-170	0	0%
80-90	1,186.5	2.9%	170-180	0	0%

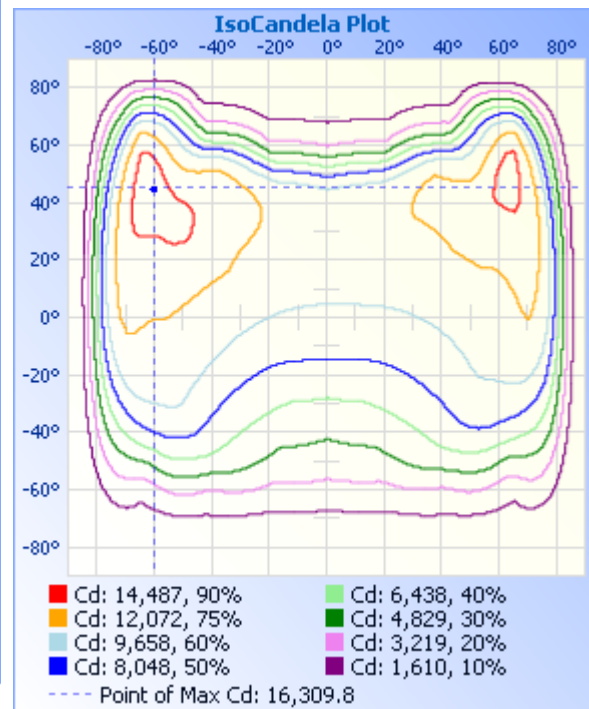
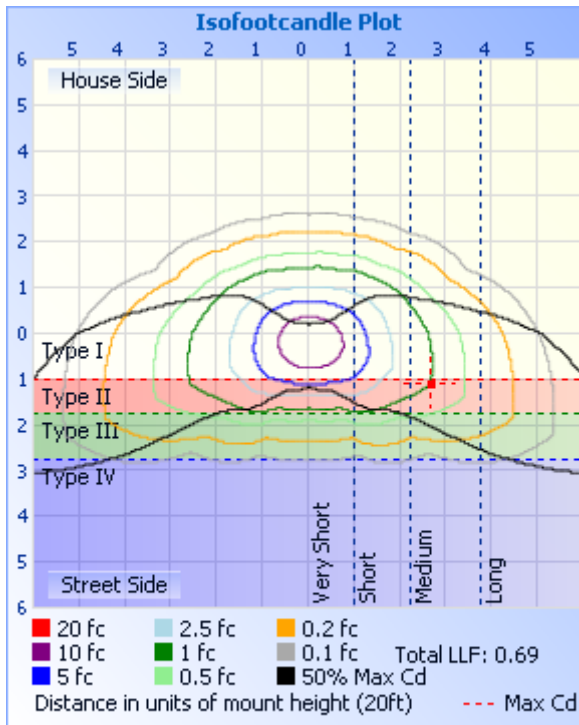
Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
17.0ft	32.1 fc	49.6 ft	145.2 ft
34.0ft	8.0 fc	99.1 ft	290.4 ft
51.0ft	3.6 fc	148.7 ft	435.6 ft
68.0ft	2.0 fc	198.2 ft	580.8 ft
85.0ft	1.3 fc	247.8 ft	726.0 ft
102.0ft	0.9 fc	297.4 ft	871.2 ft

■ Vert. Spread: 111.1°
■ Horiz. Spread: 153.6°





Report No.: BLC2212019E-E

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	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277	9277
1	9348	9349	9330	9306	9274	9246	9228	9214	9204	9197	9219	9247	9276	9301	9322	9343	9348
2	9423	9420	9389	9334	9276	9219	9178	9143	9116	9137	9170	9221	9272	9332	9378	9411	9423
3	9504	9490	9444	9380	9283	9199	9132	9069	9043	9064	9116	9186	9268	9352	9429	9488	9504
4	9575	9561	9498	9420	9284	9173	9087	9004	8966	8987	9063	9157	9265	9387	9480	9556	9575
5	9649	9635	9560	9456	9295	9146	9015	8929	8885	8920	9009	9131	9262	9413	9538	9626	9649
6	9726	9707	9624	9491	9303	9133	8958	8849	8805	8840	8941	9103	9267	9441	9592	9695	9726
7	9801	9782	9682	9520	9317	9104	8908	8778	8717	8765	8886	9074	9266	9471	9652	9772	9801
8	9873	9855	9739	9569	9325	9083	8861	8693	8641	8687	8831	9040	9273	9505	9712	9843	9873
9	9947	9928	9810	9598	9337	9062	8801	8614	8546	8604	8771	9009	9270	9538	9771	9909	9947
10	10013	9995	9868	9644	9354	9041	8736	8530	8457	8528	8710	8980	9274	9572	9831	9973	10013
11	10086	10054	9930	9686	9372	9020	8689	8441	8354	8435	8637	8952	9284	9599	9888	10032	10086
12	10141	10124	9998	9729	9384	9003	8627	8354	8254	8333	8580	8919	9287	9641	9943	10097	10141
13	10196	10179	10063	9791	9404	8974	8574	8264	8134	8239	8510	8893	9289	9679	10003	10156	10196
14	10258	10240	10124	9847	9430	8950	8509	8162	8034	8143	8450	8862	9302	9715	10058	10208	10258
15	10302	10303	10191	9899	9461	8931	8440	8081	7925	8047	8384	8841	9302	9754	10109	10264	10302



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Certificate#4810.01

16	10352	10356	10253	9952	9481	8918	8370	7971	7824	7953	8317	8818	9305	9797	10166	10327	10352
17	10386	10394	10316	10016	9512	8897	8301	7873	7712	7849	8247	8783	9306	9838	10219	10373	10386
18	10420	10457	10377	10074	9540	8895	8237	7769	7597	7753	8178	8761	9315	9879	10264	10402	10420
19	10456	10489	10442	10138	9587	8886	8170	7669	7477	7651	8112	8740	9323	9920	10318	10454	10456
20	10481	10532	10502	10216	9621	8870	8096	7559	7364	7553	8044	8715	9332	9965	10359	10480	10481
21	10509	10573	10565	10285	9668	8867	8036	7451	7245	7443	7978	8698	9346	10013	10406	10520	10509
22	10533	10608	10623	10357	9702	8861	7970	7349	7127	7340	7913	8682	9362	10049	10455	10540	10533
23	10558	10643	10693	10429	9750	8856	7909	7241	7006	7238	7837	8668	9387	10097	10499	10573	10558
24	10594	10679	10744	10522	9795	8843	7844	7136	6886	7135	7771	8657	9401	10152	10538	10605	10594
25	10622	10718	10826	10601	9853	8842	7783	7028	6754	7015	7713	8646	9427	10204	10576	10631	10622
26	10660	10760	10889	10695	9899	8843	7719	6915	6639	6913	7657	8628	9451	10253	10623	10659	10660
27	10689	10812	10965	10786	9958	8842	7664	6804	6515	6812	7593	8628	9476	10300	10663	10686	10689
28	10721	10855	11030	10890	10021	8855	7608	6693	6391	6707	7537	8630	9518	10347	10718	10725	10721
29	10750	10903	11099	11011	10078	8870	7555	6585	6260	6588	7483	8626	9538	10403	10755	10765	10750
30	10788	10947	11180	11110	10149	8891	7498	6485	6139	6483	7423	8621	9578	10457	10798	10804	10788
31	10819	10996	11271	11227	10215	8903	7453	6368	6023	6380	7370	8627	9601	10518	10846	10838	10819
32	10847	11053	11382	11333	10288	8917	7386	6264	5909	6276	7311	8629	9638	10584	10902	10883	10847
33	10875	11105	11484	11459	10353	8935	7337	6161	5789	6178	7261	8638	9678	10642	10965	10936	10875
34	10893	11167	11598	11578	10417	8954	7292	6059	5677	6076	7214	8661	9702	10701	11015	10980	10893



Report No.: BLC2212019E-E

Certificate#4810.01

35	10904	11227	11710	11700	10494	8986	7245	5964	5546	5966	7161	8661	9748	10765	11088	11032	10904
36	10904	11279	11820	11833	10584	9001	7207	5853	5440	5864	7111	8677	9777	10830	11160	11077	10904
37	10884	11318	11944	11972	10662	9039	7165	5755	5330	5763	7059	8696	9818	10894	11228	11104	10884
38	10837	11353	12077	12108	10731	9065	7118	5661	5228	5666	7012	8718	9864	10964	11313	11130	10837
39	10776	11355	12220	12262	10794	9097	7079	5563	5122	5559	6965	8729	9914	11050	11402	11148	10776
40	10680	11361	12362	12408	10866	9130	7031	5477	5018	5466	6914	8749	9955	11138	11504	11154	10680
41	10551	11341	12493	12548	10940	9155	6986	5389	4918	5371	6869	8771	10000	11219	11600	11138	10551
42	10377	11294	12650	12699	11021	9189	6946	5282	4824	5277	6824	8786	10043	11306	11706	11095	10377
43	10177	11213	12784	12860	11102	9220	6887	5195	4728	5184	6766	8796	10097	11423	11815	11026	10177
44	9938	11110	12931	13014	11174	9242	6847	5113	4618	5087	6713	8819	10165	11500	11942	10923	9938
45	9656	10961	13061	13175	11257	9269	6800	5014	4527	4989	6664	8835	10219	11610	12060	10779	9656
46	9339	10767	13186	13345	11331	9297	6759	4928	4431	4895	6622	8849	10289	11746	12178	10609	9339
47	9006	10553	13314	13495	11408	9318	6721	4839	4338	4798	6565	8866	10347	11868	12301	10397	9006
48	8606	10268	13428	13642	11490	9348	6679	4748	4237	4708	6516	8888	10394	11989	12429	10139	8606
49	8197	9965	13526	13802	11574	9391	6635	4656	4125	4592	6461	8915	10453	12121	12534	9855	8197
50	7760	9618	13593	13954	11645	9419	6584	4552	4014	4494	6405	8945	10524	12249	12624	9521	7760
51	7311	9225	13653	14100	11741	9451	6534	4450	3893	4377	6342	8959	10616	12391	12708	9150	7311
52	6841	8809	13691	14258	11799	9478	6467	4334	3767	4260	6264	8991	10697	12524	12760	8751	6841
53	6371	8363	13708	14399	11873	9520	6401	4204	3636	4114	6183	9011	10752	12669	12801	8318	6371



Report No.: BLC2212019E-E

Certificate#4810.01

54	5880	7836	13688	14537	11948	9541	6328	4071	3484	3973	6087	9035	10808	12817	12807	7802	5880
55	5340	7328	13631	14692	12009	9574	6243	3907	3343	3826	5983	9037	10839	12946	12778	7311	5340
56	4857	6810	13518	14820	12063	9599	6130	3758	3204	3653	5860	9023	10845	13089	12712	6800	4857
57	4401	6264	13353	14987	12104	9599	6004	3598	3060	3492	5718	8991	10840	13198	12594	6273	4401
58	3990	5718	13117	15101	12103	9581	5854	3430	2915	3331	5558	8915	10853	13282	12410	5684	3990
59	3615	5139	12848	15215	12089	9519	5680	3253	2758	3169	5371	8821	10888	13348	12180	5164	3615
60	3254	4638	12494	15286	12073	9410	5468	3086	2608	3002	5156	8696	10957	13412	11887	4657	3254
61	2968	4168	12039	15325	12076	9264	5208	2923	2464	2841	4889	8581	11050	13499	11530	4194	2968
62	2714	3751	11563	15321	12118	9061	4945	2759	2302	2665	4622	8432	11162	13636	11091	3775	2714
63	2497	3378	11011	15374	12182	8862	4657	2577	2152	2511	4330	8220	11282	13796	10520	3362	2497
64	2283	3017	10391	15441	12262	8638	4351	2412	1999	2358	4015	7986	11410	14002	9878	3032	2283
65	2108	2743	9620	15534	12347	8380	4000	2251	1851	2199	3675	7708	11543	14235	9156	2750	2108
66	1952	2496	8844	15697	12449	8072	3676	2088	1706	2035	3376	7370	11694	14462	8314	2501	1952
67	1802	2270	8005	15849	12533	7673	3353	1932	1569	1880	3114	7007	11839	14698	7602	2269	1802
68	1667	2062	7165	15982	12589	7263	3050	1769	1429	1739	2868	6565	11979	14948	6858	2051	1667
69	1528	1871	6420	16112	12609	6799	2748	1621	1308	1583	2608	6122	12094	15197	6124	1876	1528
70	1405	1715	5689	16214	12583	6304	2498	1465	1190	1440	2393	5644	12118	15435	5503	1720	1405
71	1285	1571	5096	16288	12452	5727	2275	1319	1079	1303	2193	5148	11991	15681	4878	1568	1285
72	1167	1417	4545	16310	12158	5163	2068	1173	981	1169	1999	4527	11794	15779	4349	1414	1167



Report No.: BLC2212019E-E

Certificate#4810.01

73	1053	1285	4023	16208	11733	4548	1856	1053	893	1059	1823	3997	11562	15695	3852	1280	1053
74	940	1153	3530	15913	11277	3929	1675	942	814	941	1634	3511	11268	15544	3404	1154	940
75	839	1034	3095	15525	10731	3325	1482	844	726	844	1453	3059	10836	15400	2950	1036	839
76	748	923	2684	15102	10148	2835	1314	740	655	747	1283	2594	10352	15216	2570	909	748
77	657	808	2349	14635	9413	2418	1150	636	579	656	1132	2263	9608	14843	2207	792	657
78	571	711	1995	13939	8485	2043	983	546	512	559	992	1887	8836	14099	1871	690	571
79	497	604	1690	12929	7559	1668	862	462	446	485	879	1613	8077	12933	1579	594	497
80	423	516	1410	11747	6544	1411	722	391	385	412	742	1393	7101	11825	1304	497	423
81	353	423	1182	10617	5481	1185	589	320	318	340	618	1140	5986	10531	1079	409	353
82	280	352	953	9010	4509	939	473	255	256	269	501	899	4983	8908	862	339	280
83	224	270	745	7661	3499	701	377	193	195	212	400	641	3854	7202	658	263	224
84	162	203	573	5887	2473	460	280	133	136	152	294	439	2875	5472	488	187	162
85	112	139	409	4423	1659	299	177	89	83	104	191	271	1936	3940	350	127	112
86	66	82	258	2917	977	186	96	36	42	51	103	161	1072	2443	217	80	66
87	36	43	128	1736	442	93	32	20	22	16	47	85	439	1115	102	38	36
88	23	19	59	742	84	39	19	17	14	21	26	49	79	338	51	33	23
89	16	14	30	86	39	20	15	14	12	17	19	31	46	50	31	21	16
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Report No.: BLC2212019E-E

Certificate#4810.01

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



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Certificate#4810.01

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
122	0	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	0
124	0	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	0
126	0	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	0
128	0	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	0



Report No.: BLC2212019E-E

Certificate#4810.01

130	0	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	0
132	0	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	0
134	0	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	0
136	0	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	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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141	0	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	0
143	0	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	0
145	0	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	0
147	0	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	0



Report No.: BLC2212019E-E

Certificate#4810.01

149	0	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	0
151	0	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	0
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
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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



Report No.: BLC2212019E-E

Certificate#4810.01

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



BUG Rating

Lum. Classification System (LCS)

<u>LCS Zone</u>	<u>Lumens</u>	<u>%Lamp</u>	<u>%Lum</u>
FL (0-30)	4312.3	10.5	10.5
FM (30-60)	12665.2	30.7	30.7
FH (60-80)	7505.9	18.2	18.2
FVH (80-90)	903.9	2.2	2.2
BL (0-30)	3460.2	8.4	8.4
BM (30-60)	8057.4	19.5	19.5
BH (60-80)	4072.8	9.9	9.9
BVH(80-90)	282.4	0.7	0.7
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	41260.1	100.1	100.0
BUG Rating	B4-U0-G5		

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2023-01-11	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-SB19-300WBT3A1-BR10SPYMW50		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC221201	120.0	60	2.507	298.73	0.993	8.01
9E-E2	277.0	60	1.190	299.36	0.908	16.07
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

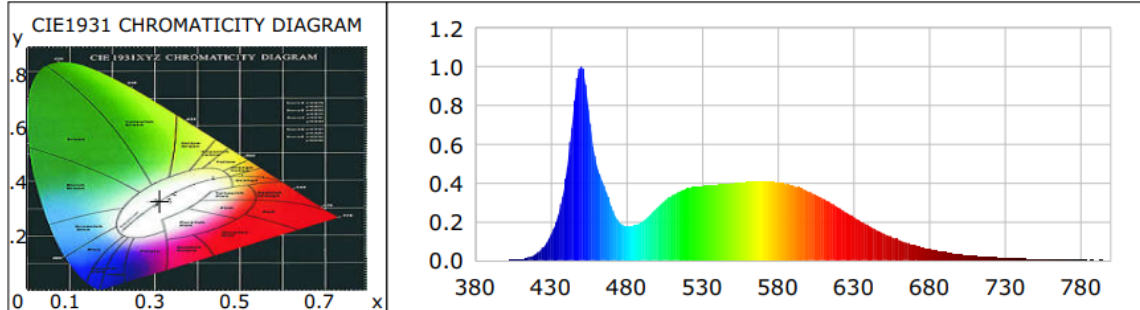
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	-2
Frequency (Hz)	60	R2	86	R10	65
CCT (K)	6703	R3	89	R11	81
Duv	0.0017	R4	82	R12	55
Chromaticity (x, y)	x=0.3100 y=0.3235	R5	81	R13	81
Chromaticity (u', v')	u(u')=0.1980 v'(v')=0.4649	R6	80	R14	94
Color Rendering Index (CRI)	81	R7	87	R15	75
R9	-2	R8	68	--	--
Rf	81	--	--	--	--
Rg	94	--	--	--	--
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)	41887.9	42344.5	>=10000(-10%)
Luminous Efficacy (lm/W)	140.22	141.45	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	139.92		

Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.7426	535	0.3787	655.7315	690	0.0795	137.6202
385	0.0004	0.7581	540	0.3829	662.9965	695	0.0670	116.0715
390	0.0004	0.7288	545	0.3875	670.8732	700	0.0585	101.3627
395	0.0005	0.9139	550	0.3896	674.6428	705	0.0497	86.0168
400	0.0010	1.6959	555	0.3932	680.7521	710	0.0430	74.4286
405	0.0022	3.8854	560	0.3972	687.7487	715	0.0373	64.5608
410	0.0057	9.8907	565	0.3993	691.3146	720	0.0317	54.8461
415	0.0148	25.5446	570	0.4037	699.0745	725	0.0264	45.7726
420	0.0324	56.0908	575	0.4057	702.4133	730	0.0232	40.0875
425	0.0663	114.7502	580	0.4065	703.7915	735	0.0200	34.6054
430	0.1282	221.9058	585	0.4049	701.0199	740	0.0166	28.7210
435	0.2326	402.7681	590	0.4029	697.5858	745	0.0134	23.1641
440	0.4227	731.9071	595	0.3950	683.8794	750	0.0122	21.1004
445	0.7614	1318.3285	600	0.3860	668.2623	755	0.0098	16.9741
450	1.0000	1731.4551	605	0.3723	644.6123	760	0.0085	14.7899
455	0.7844	1358.1798	610	0.3569	617.9203	765	0.0070	12.1521
460	0.5083	880.1193	615	0.3389	586.7860	770	0.0061	10.5407
465	0.3920	678.6816	620	0.3183	551.1249	775	0.0055	9.5391
470	0.2811	486.6738	625	0.2969	514.0201	780	0.0039	6.8208
475	0.2006	347.3914	630	0.2726	471.9271	785	0.0042	7.2733
480	0.1779	308.0392	635	0.2483	429.9533	790	0.0033	5.7693
485	0.1804	312.3856	640	0.2250	389.5714	795	0.0036	6.2566
490	0.1972	341.4613	645	0.2014	348.6338	800	0.0022	3.7294
495	0.2310	399.9861	650	0.1794	310.6913			
500	0.2706	468.5032	655	0.1582	273.9080			
505	0.3056	529.1288	660	0.1385	239.7869			
510	0.3342	578.6299	665	0.1215	210.3505			
515	0.3548	614.3179	670	0.1062	183.9462			
520	0.3689	638.7428	675	0.0909	157.3845			
525	0.3787	655.7315	680	0.0795	137.6202			
530	0.3829	662.9965	685	0.0670	116.0715			

TM30

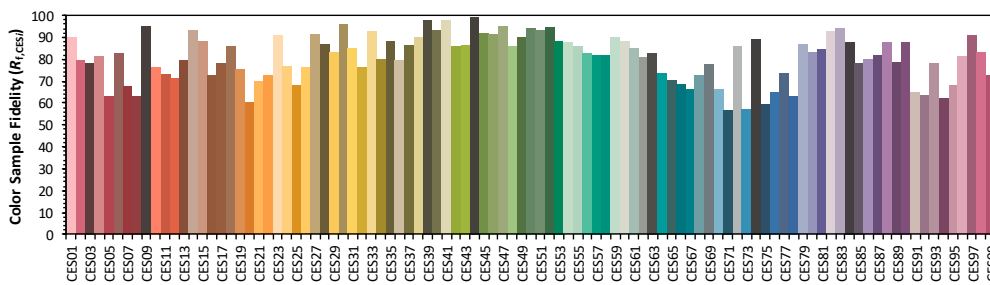
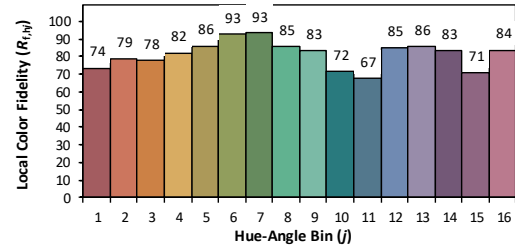
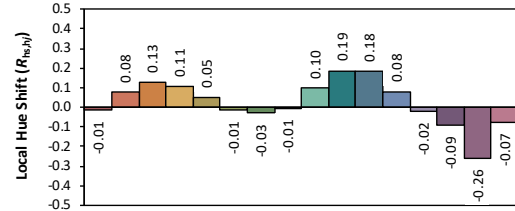
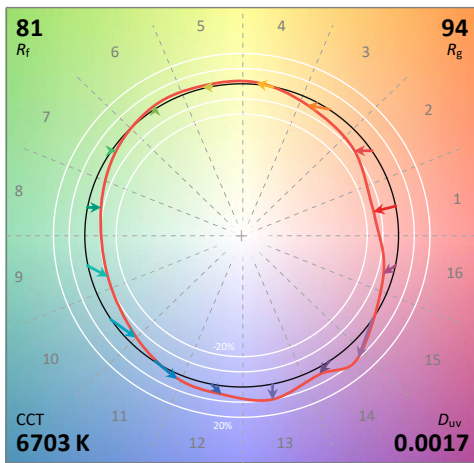
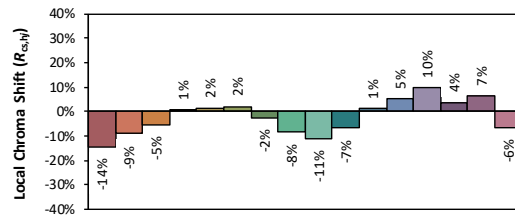
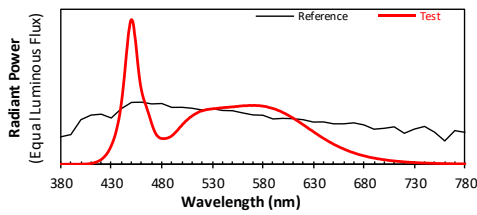
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RC35003P1

Manufacturer: Beyond LED Technology

Date: 2023/1/11

Model: BLT-SB19-300WBT3A1-BR10SPYMW50



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

x 0.3100
 y 0.3235
 u' 0.1980
 v' 0.4649

CIE 13.3-1995 (CRI)	
R_a	81
R_9	-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-SB19-300WBT3A1-BR10SPYMW50	41260.0	297.82	138.54
BLT-SB19-300WBT3A1-BR10SPYMW50	41417.0	298.28	138.85
BLT-SB19-300WBT3A1-BR10SPYMW50	41574.0	298.28	139.38
BLT-SB19-300WBT3A1-BR10SPYMW50	41730.9	298.28	139.91
BLT-SB19-300WBT3A1-BR10SPYMW50	41887.9	298.73	140.22

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

$$41417.0 = (41887.9 - 41260) / 4 + 41260$$

$$41574.0 = (41887.9 - 41260.0) / 4 + 41417.0$$

$$41730.9 = (41887.9 - 41260.0) / 4 + 41574.0$$

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

$$298.28 = (297.82 + 298.28) / 2$$

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

$$138.85 = 41417.0 / 298.28$$

$$139.38 = 41574.0 / 298.28$$

$$139.91 = 41730.9 / 298.28$$

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 *****