



Report No.:UTC2403042E-B

## LM-79-08 Test Report

For

# Beyond LED Technology

(Brand Name: Beyond)

1939 Parker Court, Stone Mountain, GA 30087

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

### Architectural Flood and Spot Luminaires

Model name(s): BLT-S-G12C-300WBT3SH2-BR10SP50

Remark“a” can be any two letters for lamp colors; “b” can be “3RP”, “3NP”, “5RP”, “5NP”, “7RP”, “7NP” for Photocontrol type provided or blank for no Photocontrol provided; “c” can be “10SP”, “20SP” for Surge-Protective Device type provided or blank for no Surge-Protective Device provided; “d” can be “DM”, “DM1”, “DP”, “DP1” or blank for DC Motion Sensor, DC PIR Sensor provided or not; “e” can be “AM”, “DM”, “DM1”, “DM2”, “YM”, “A&D”, “FM” for mounting bracket type; “f” can be any digits for CCT; “W” for wattage adjustable.

Representative (Tested) Model:

AST-S-G12C-300WBHT3DH1-abcde40W

AST-S-G12C-300WBHT3DH1-abcde50W

AST-S-G12C-300WBHT3DH1-abcde57W

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

Test & Report By:

*Winnie Wu*

Engineer: Winnie Wu

Date: 2024-04-18

Review By:

*Jason Luo*

Manager: Jason Luo

### 1.1 Product Information:

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED Technology	
Model Number	BLT-S-G12C-300WBT3SH2-BR10SP50	
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	277-480Vac, 50/60 Hz	
Nominal Power	300W(Power adjustable)	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K, 5000K,5700K (Color tunable)	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-4080RC35005A1, L128-5780RC35005A1	
Sample Number	UTC2403042E-B1	
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	2024-03-27
Date of Test	2024-03-29
Test item	<ol style="list-style-type: none"> <li>Total Luminous Flux</li> <li>Luminous Distribution Intensity</li> <li>Luminous Efficacy</li> <li>Correlated Color Temperature</li> <li>Color Rendering Index</li> <li>Chromaticity Coordinate</li> <li>Electrical Parameters</li> </ol>
Reference Standard	<ol style="list-style-type: none"> <li>IES LM-79-2019 Electrical and Photometric Measurements of Solid-State Lighting Products</li> <li>ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products</li> <li>CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li> <li>CIE 15-2004 Technical Report Colorimetry</li> <li>IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li> <li>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. Goniophotometer far field detector  $f1' = 1.42\%$ , Test distance: 14.14m

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

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . 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. Use 2m diameter integrated sphere (94-98% coating reflectance) and  $4\pi$  geometry.

Self-absorption:

AST-S-G12C-300WBHT3DH1-abcdefW:1.2431

### 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.

Laboratory: UTEST TECHNICAL LABORATORY CO.LTD A2LA Certificate# 4810.01

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Report Format Number BL-FM-SA-012

## 2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

<b>Test date</b>	2024-03-29	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	Horizontal	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	BLT-S-G12C-300WBT3SH2- BR10SP50	<b>Operation time(min)</b>	110

### Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC240304	277.0	60	1.109	305.94	0.996	7.75
2E-B1	480.0	60	0.649	301.1	0.966	9.58
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

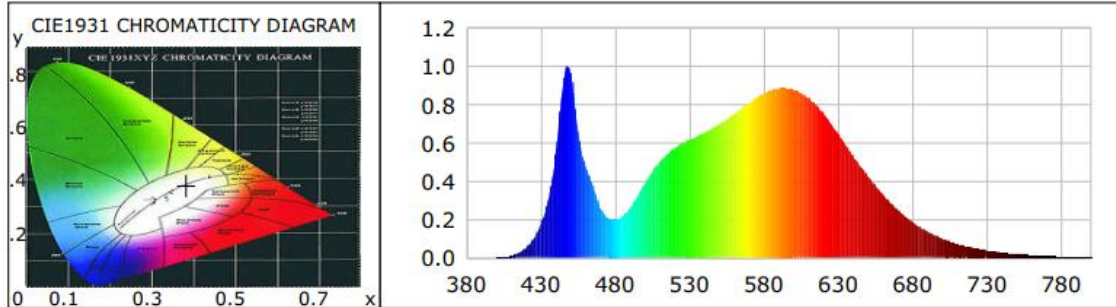
### Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	277.0	R1	79	R9	-1
Frequency (Hz)	60	R2	86	R10	69
CCT (K)	3835	R3	93	R11	79
Duv	-0.0002	R4	81	R12	61
Chromaticity (x, y)	x=0.3832 y=0.3779	R5	79	R13	80
Chromaticity (u', v')	u(u')=0.2264v'=-0.5025	R6	82	R14	96
Color Rendering Index (CRI)	81	R7	84	R15	72
R9	-1	R8	61	--	--
Rf	82	--	--	--	--
Rg	97	--	--	--	--
Rcs,h1(%)	-13				

### Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	277.0	480.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	46445.5	45689.8	>=10000(-10%)
Luminous Efficacy (lm/W)	151.81	151.74	Premium: >= 120(-3%)
Most worst Luminous/Highest	149.34		
Zonal lumens in the 0-90° zone (%)	100	--	Category 1: >=100(-1) Category 2: >=85(-3)
Zonal lumens in the 80-90°zone (%)	2.5	--	<=10(+3)
Beam Angle (°)	119.3	--	--
Center Beam Candle Power (cd)	11164	--	--

**Spectral Power Distribution & Chromaticity Diagram**



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0009	0.7526	535	0.5976	506.5859	690	0.2485	210.6628
385	0.0004	0.3061	540	0.6155	521.7580	695	0.2164	183.4539
390	0.0004	0.3599	545	0.6332	536.7890	700	0.1867	158.2513
395	0.0009	0.7502	550	0.6546	554.9594	705	0.1606	136.1852
400	0.0020	1.7212	555	0.6731	570.6646	710	0.1380	116.9754
405	0.0046	3.9243	560	0.6973	591.1272	715	0.1177	99.7606
410	0.0111	9.4232	565	0.7236	613.4032	720	0.0997	84.5608
415	0.0256	21.6881	570	0.7513	636.9270	725	0.0859	72.8598
420	0.0515	43.6655	575	0.7809	661.9924	730	0.0726	61.5861
425	0.0972	82.3727	580	0.8087	685.6150	735	0.0627	53.1233
430	0.1746	148.0202	585	0.8364	709.0628	740	0.0531	44.9772
435	0.3029	256.7700	590	0.8589	728.1061	745	0.0446	37.8492
440	0.5452	462.1832	595	0.8748	741.6436	750	0.0379	32.1679
445	0.9064	768.3947	600	0.8844	749.7797	755	0.0323	27.3880
450	0.9681	820.6949	605	0.8866	751.6675	760	0.0280	23.7012
455	0.6657	564.3633	610	0.8793	745.4030	765	0.0234	19.8277
460	0.4809	407.7248	615	0.8609	729.8052	770	0.0207	17.5836
465	0.3762	318.8985	620	0.8327	705.9200	775	0.0172	14.5495
470	0.2631	223.0640	625	0.7982	676.6569	780	0.0151	12.7861
475	0.2095	177.6428	630	0.7523	637.7718	785	0.0132	11.1828
480	0.2032	172.3008	635	0.6999	593.3600	790	0.0113	9.5982
485	0.2179	184.6985	640	0.6461	547.7031	795	0.0088	7.4810
490	0.2584	219.0451	645	0.5884	498.8349	800	0.0076	6.4847
495	0.3219	272.9229	650	0.5331	451.9448			
500	0.3893	330.0172	655	0.4763	403.8326			
505	0.4491	380.7114	660	0.4240	359.4442			
510	0.5029	426.3249	665	0.3735	316.6500			
515	0.5420	459.4765	670	0.3286	278.5759			
520	0.5721	484.9727	675	0.2875	243.7066			
525	0.5976	506.5859	680	0.2485	210.6628			
530	0.6155	521.7580	685	0.2164	183.4539			

**TM30**

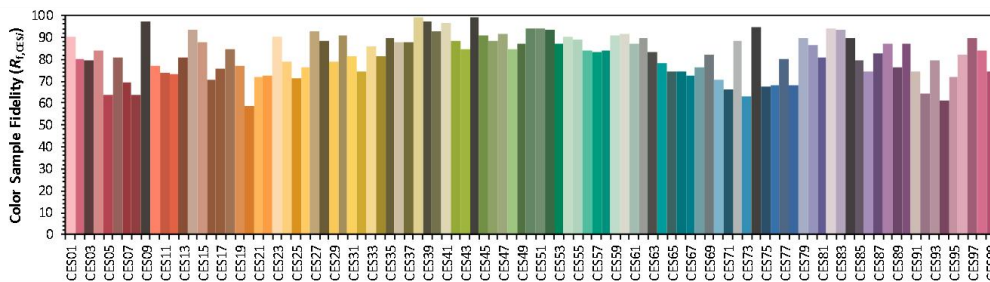
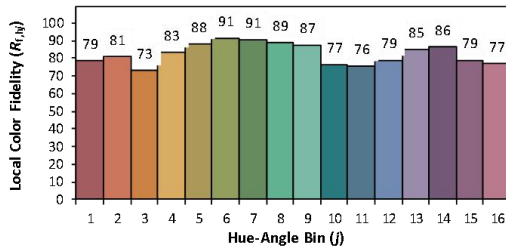
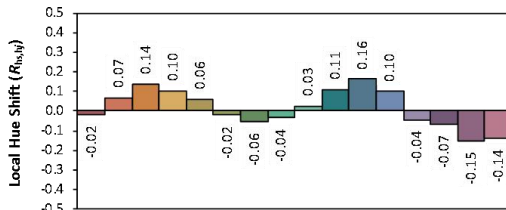
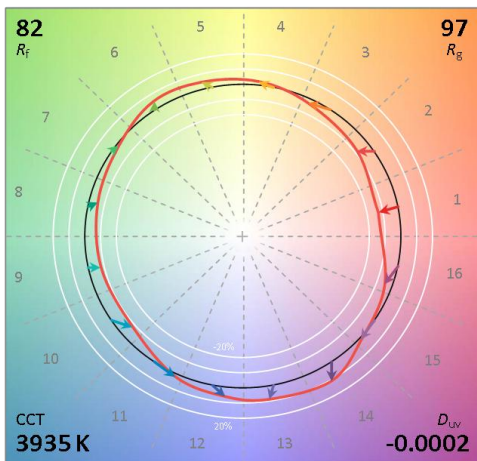
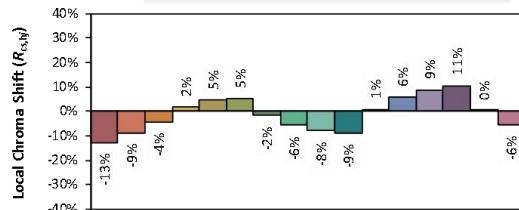
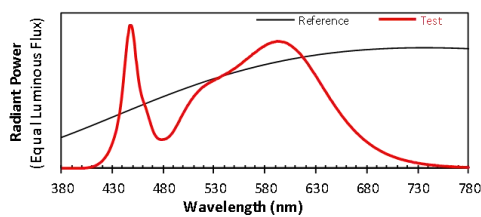
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-4080RC35005A1

Manufacturer: ASmart LIGHT CO., LTD

Date: 2024/3/29

Model: AST-S-G12C-300WBHT3DH1-abcde40W



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

$x$  0.3832  
 $y$  0.3779  
 $u'$  0.2265  
 $v'$  0.5025

CIE 13.3-1995  
(CRI)  
 $R_a$  81  
 $R_g$  -1

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

## Zonal Lumen Tabulation

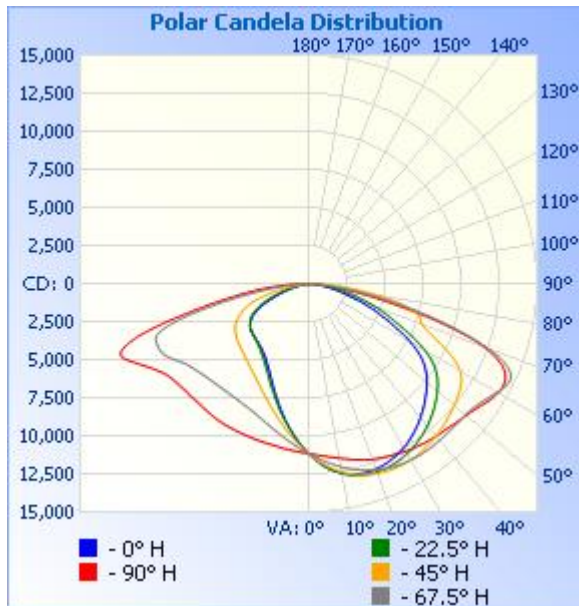
### Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	9,010.4	19.4%	19.4%
0-40	15,398.0	33.2%	33.2%
0-60	31,495.9	67.8%	67.8%
60-90	14,947.2	32.2%	32.2%
70-100	6,538.6	14.1%	14.1%
90-120	0	0%	0%
0-90	46,443.1	100%	100%
90-180	0	0%	0%
0-180	46,443.1	100%	100%

### Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	1,059.8	2.3%	90-100	0	0%
10-20	3,082.1	6.6%	100-110	0	0%
20-30	4,868.5	10.5%	110-120	0	0%
30-40	6,387.6	13.8%	120-130	0	0%
40-50	7,610.1	16.4%	130-140	0	0%
50-60	8,487.8	18.3%	140-150	0	0%
60-70	8,408.6	18.1%	150-160	0	0%
70-80	5,358.9	11.5%	160-170	0	0%
80-90	1,179.6	2.5%	170-180	0	0%

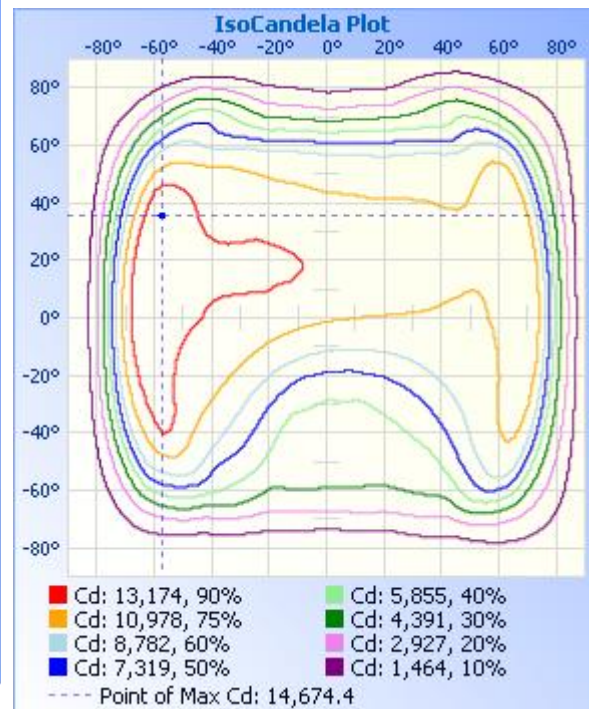
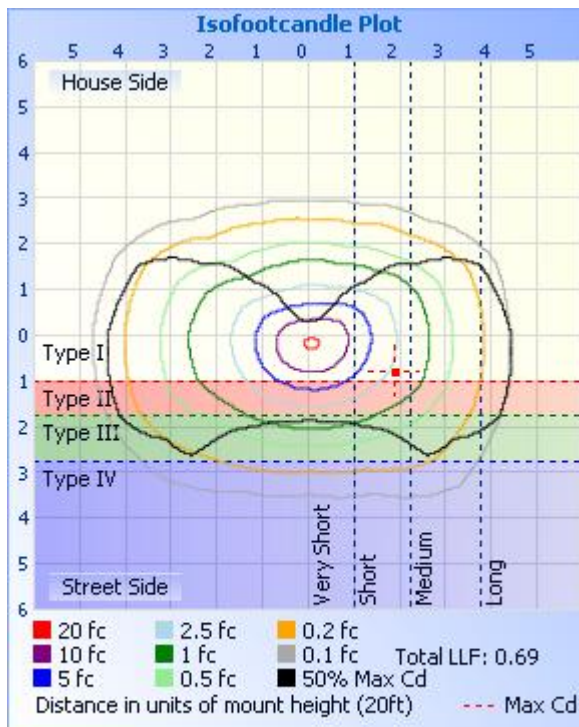
**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
17.0ft	38.6 fc	59.1 ft	113.5 ft
34.0ft	9.66 fc	118.1 ft	227.1 ft
51.0ft	4.29 fc	177.2 ft	340.6 ft
68.0ft	2.41 fc	236.3 ft	454.1 ft
85.0ft	1.55 fc	295.4 ft	567.6 ft
102.0ft	1.07 fc	354.4 ft	681.2 ft

■ Vert. Spread: 120.2°  
■ Horiz. Spread: 146.7°





**Candela Table - Type C**

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	360
0	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164	11164
1	11350	11348	11338	11275	11197	11121	11053	11004	10959	10955	11006	11058	11136	11196	11285	11318	11350
2	11530	11531	11492	11370	11231	11081	10940	10833	10754	10764	10844	10959	11108	11240	11393	11469	11530
3	11706	11704	11646	11487	11273	11047	10830	10653	10548	10560	10679	10857	11078	11281	11499	11631	11706
4	11892	11868	11786	11594	11318	11015	10714	10456	10340	10358	10494	10741	11043	11322	11594	11770	11892
5	12042	12029	11925	11699	11363	10980	10601	10275	10122	10145	10322	10633	11021	11364	11692	11906	12042
6	12180	12186	12078	11802	11417	10946	10473	10092	9906	9933	10155	10531	11002	11408	11786	12022	12180
7	12303	12314	12202	11913	11470	10912	10364	9912	9670	9710	9993	10434	10978	11451	11885	12135	12303
8	12421	12441	12329	12011	11526	10888	10252	9707	9456	9504	9836	10340	10955	11488	11963	12242	12421
9	12523	12552	12444	12114	11578	10870	10138	9521	9237	9298	9672	10248	10936	11528	12040	12335	12523
10	12616	12659	12558	12210	11638	10848	10023	9332	9015	9092	9492	10147	10912	11570	12110	12426	12616
11	12709	12754	12655	12301	11696	10828	9901	9143	8788	8879	9332	10058	10884	11610	12174	12503	12709
12	12784	12836	12753	12398	11760	10816	9792	8953	8558	8669	9177	9970	10868	11653	12236	12563	12784
13	12838	12912	12844	12497	11836	10805	9689	8765	8347	8486	9030	9883	10851	11692	12289	12624	12838
14	12884	12976	12922	12579	11905	10803	9582	8549	8128	8267	8882	9804	10845	11727	12339	12672	12884
15	12920	13026	13000	12654	11971	10795	9473	8417	7914	8068	8732	9722	10836	11762	12378	12705	12920
16	12947	13076	13068	12739	12039	10788	9365	8207	7712	7878	8577	9637	10827	11798	12412	12728	12947
17	12961	13108	13127	12808	12105	10796	9257	8026	7516	7677	8464	9564	10822	11812	12438	12748	12961
18	12963	13132	13179	12879	12167	10809	9164	7853	7327	7499	8319	9492	10811	11842	12463	12756	12963
19	12961	13158	13228	12944	12231	10820	9077	7689	7130	7329	8193	9428	10802	11867	12483	12757	12961
20	12950	13161	13262	13013	12280	10831	8991	7513	6958	7168	8057	9361	10795	11890	12496	12746	12950
21	12929	13160	13292	13062	12322	10849	8906	7355	6792	7004	7948	9304	10789	11908	12503	12730	12929
22	12900	13158	13323	13121	12363	10868	8828	7214	6633	6854	7835	9250	10780	11921	12502	12712	12900
23	12865	13149	13350	13170	12406	10896	8744	7068	6482	6690	7712	9200	10776	11937	12505	12681	12865
24	12829	13138	13367	13210	12445	10926	8677	6935	6337	6547	7603	9153	10769	11945	12500	12654	12829
25	12780	13104	13385	13250	12499	10957	8610	6812	6194	6417	7500	9111	10768	11954	12489	12620	12780
26	12727	13075	13388	13284	12540	10988	8547	6686	6073	6293	7404	9072	10769	11959	12472	12566	12727

27	12664	13042	13391	13315	12576	11024	8492	6573	5958	6166	7306	9039	10764	11963	12450	12515	12664
28	12600	13008	13389	13339	12614	11067	8492	6465	5854	6055	7214	9008	10765	11961	12426	12452	12600
29	12535	12954	13381	13353	12671	11115	8462	6365	5756	5950	7127	8985	10770	11954	12394	12390	12535
30	12457	12907	13377	13372	12720	11160	8421	6268	5656	5846	7048	8962	10770	11948	12362	12326	12457
31	12378	12847	13358	13391	12752	11208	8388	6172	5579	5758	6973	8945	10765	11940	12324	12261	12378
32	12295	12781	13334	13404	12791	11258	8364	6089	5508	5672	6893	8927	10758	11931	12296	12192	12295
33	12197	12716	13308	13414	12831	11309	8342	6013	5440	5587	6822	8916	10759	11920	12248	12115	12197
34	12100	12650	13269	13417	12863	11358	8326	5938	5382	5516	6751	8911	10750	11915	12201	12030	12100
35	11990	12577	13237	13419	12899	11416	8318	5872	5321	5446	6688	8909	10744	11886	12153	11945	11990
36	11894	12502	13203	13421	12931	11472	8310	5803	5271	5381	6627	8909	10734	11863	12100	11858	11894
37	11789	12414	13164	13422	12964	11532	8303	5744	5228	5322	6573	8912	10721	11839	12044	11762	11789
38	11681	12331	13125	13417	12994	11586	8298	5692	5189	5266	6510	8917	10712	11805	11985	11665	11681
39	11563	12240	13079	13409	13020	11638	8301	5642	5152	5216	6457	8923	10703	11783	11916	11557	11563
40	11448	12157	13038	13401	13057	11690	8300	5594	5115	5177	6404	8934	10695	11741	11859	11449	11448
41	11312	12059	12989	13402	13094	11744	8296	5557	5086	5138	6356	8943	10680	11710	11793	11342	11312
42	11195	11955	12936	13396	13116	11791	8297	5513	5060	5101	6312	8957	10665	11677	11726	11221	11195
43	11067	11851	12883	13386	13142	11858	8292	5483	5037	5067	6264	8978	10660	11648	11647	11104	11067
44	10941	11740	12824	13386	13176	11920	8285	5450	5013	5038	6228	8997	10672	11618	11577	10987	10941
45	10811	11631	12762	13392	13217	11971	8276	5416	4993	5012	6194	9022	10687	11580	11498	10860	10811
46	10674	11519	12705	13397	13265	12026	8265	5384	4972	4983	6155	9047	10703	11537	11421	10739	10674
47	10549	11397	12650	13397	13321	12083	8247	5350	4956	4960	6120	9079	10707	11496	11336	10613	10549
48	10419	11278	12594	13405	13377	12144	8220	5317	4936	4934	6087	9115	10701	11459	11260	10489	10419
49	10277	11159	12532	13417	13425	12202	8189	5286	4918	4910	6056	9149	10714	11421	11178	10359	10277
50	10139	11030	12465	13430	13482	12254	8154	5240	4891	4886	6027	9193	10740	11381	11095	10227	10139
51	9994	10891	12406	13457	13553	12306	8109	5198	4866	4858	5996	9239	10768	11341	11008	10085	9994
52	9834	10753	12346	13498	13617	12365	8052	5149	4829	4825	5955	9290	10789	11305	10917	9955	9834
53	9653	10606	12277	13555	13698	12427	7988	5094	4795	4788	5924	9347	10830	11290	10838	9809	9653
54	9472	10445	12213	13612	13790	12500	7911	5027	4751	4748	5886	9410	10869	11269	10758	9673	9472
55	9272	10245	12133	13694	13888	12593	7829	4950	4685	4704	5842	9492	10916	11263	10670	9507	9272
56	9037	10044	12053	13790	14002	12690	7728	4868	4622	4642	5793	9569	10986	11259	10588	9331	9037
57	8781	9811	11953	13919	14113	12820	7630	4783	4549	4583	5745	9659	11060	11256	10495	9150	8781

58	8474	9542	11833	14041	14204	12956	7519	4684	4459	4509	5686	9770	11157	11271	10402	8927	8474
59	8137	9231	11694	14167	14286	13097	7395	4579	4358	4435	5626	9898	11279	11301	10301	8672	8137
60	7776	8887	11516	14300	14349	13238	7271	4454	4246	4342	5558	10053	11431	11359	10184	8397	7776
61	7393	8489	11250	14424	14400	13374	7130	4334	4046	4247	5474	10202	11600	11439	10044	8080	7393
62	6991	8058	10954	14544	14433	13487	6994	4193	3914	4133	5386	10340	11766	11540	9859	7724	6991
63	6542	7634	10589	14630	14423	13533	6858	3978	3726	3951	5287	10479	11971	11672	9635	7381	6542
64	6146	7170	10187	14674	14367	13505	6719	3793	3561	3806	5173	10592	12187	11826	9362	6986	6146
65	5758	6758	9715	14651	14256	13367	6576	3637	3330	3641	5041	10669	12410	12008	9031	6606	5758
66	5346	6369	9283	14528	14086	13081	6388	3424	3106	3465	4903	10707	12646	12180	8645	6232	5346
67	4977	5985	8858	14292	13828	12593	6182	3242	2892	3252	4771	10719	12879	12360	8220	5875	4977
68	4649	5624	8511	13878	13441	12033	5900	3025	2613	3061	4636	10719	13101	12547	7728	5541	4649
69	4284	5270	8162	13352	12979	11370	5490	2801	2373	2851	4434	10717	13199	12692	7286	5215	4284
70	3924	4950	7958	12682	12379	10713	5064	2579	2127	2625	4259	10691	13122	12748	6867	4852	3924
71	3596	4592	7810	11833	11655	10050	4645	2347	1886	2367	4067	10589	12810	12651	6489	4516	3596
72	3234	4267	7726	10978	10658	9439	4159	2088	1646	2106	3831	10292	12277	12342	6222	4202	3234
73	2914	3922	7636	10045	9636	8759	3731	1859	1452	1856	3524	9833	11616	11733	6021	3832	2914
74	2631	3570	7503	9107	8522	7990	3249	1643	1280	1601	3231	9189	10631	10988	5866	3481	2631
75	2337	3260	7277	8098	7330	7073	2856	1445	1093	1415	2899	8425	9642	9961	5756	3125	2337
76	2069	2937	6940	7180	6279	6186	2465	1251	923	1235	2590	7520	8533	8935	5633	2772	2069
77	1828	2632	6541	6205	5320	5348	2113	1052	768	1063	2283	6549	7597	7874	5461	2466	1828
78	1605	2365	6002	5351	4451	4544	1742	876	642	901	1935	5683	6713	6831	5218	2182	1605
79	1432	2108	5416	4606	3700	3776	1436	742	546	729	1640	4849	5916	5868	4881	1931	1432
80	1237	1881	4832	3794	3042	3074	1152	638	399	621	1367	4045	5156	5029	4507	1697	1237
81	1079	1641	4195	3152	2422	2503	912	448	258	509	1077	3350	4513	4188	4093	1470	1079
82	903	1432	3630	2489	1931	1965	736	281	98	372	835	2771	3943	3508	3602	1277	903
83	771	1240	3092	1945	1500	1515	562	161	32	240	687	2257	3406	2913	3149	1090	771
84	649	1053	2552	1456	1146	1097	418	130	27	166	551	1799	2824	2353	2708	933	649
85	522	880	2054	1054	805	849	286	109	24	123	435	1397	2290	1901	2323	767	522
86	404	684	1480	745	478	523	187	87	28	85	330	994	1767	1459	1974	611	404
87	288	474	966	400	234	231	81	51	26	58	199	679	1209	969	1544	453	288
88	175	268	426	168	63	50	34	25	25	32	114	425	763	645	1094	304	175



Report No.:UTC2403042E-B

89	90	101	80	64	28	33	28	23	23	29	48	149	326	351	604	162	90
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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
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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
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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
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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
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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



Report No.:UTC2403042E-B

120	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
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
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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



Report No.:UTC2403042E-B

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
153	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
155	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
157	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
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163	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
165	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
167	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
169	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
171	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
173	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
175	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
177	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
179	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

## BUG Rating

### Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	5258.6	11.3	11.3
FM (30-60)	13437.4	28.9	28.9
FH (60-80)	7938.0	17.1	17.1
FVH (80-90)	798.3	1.7	1.7
BL (0-30)	3751.8	8.1	8.1
BM (30-60)	9051.9	19.5	19.5
BH (60-80)	5828.4	12.5	12.5
BVH (80-90)	381.2	0.8	0.8
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	46445.6	99.9	100.0
<b>BUG Rating</b>	<b>B5-U0-G5</b>		

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

<b>Test date</b>	2024-03-29	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	Horizontal	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AST-S-G12C-300WBHT3DH1-abcde5 0W	<b>Operation time(min)</b>	110

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC240304	277.0	60	1.067	294.37	0.996	7.63
2E-B1	480.0	60	0.624	289.52	0.966	9.7
<b>DLC Pass Criteria</b>					>= 0.9(-3%)	<= 20(+5)

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

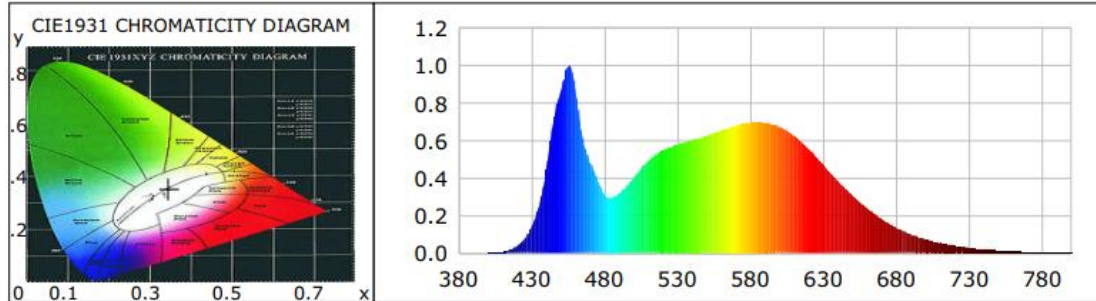
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	277.0	R1	81	R9	6
Frequency (Hz)	60	R2	90	R10	75
CCT (K)	4984	R3	95	R11	79
Duv	0.0017	R4	80	R12	58
Chromaticity (x, y)	x=0.3459 y=0.3556	R5	81	R13	84
Chromaticity (u', v')	u(u')=0.2104v'=0.4867	R6	85	R14	97
Color Rendering Index (CRI)	83	R7	86	R15	75
R9	6	R8	66	--	--
Rf	83	--	--	--	--
Rg	95	--	--	--	--
Rcs,h1(%)	-13				

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

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	277.0	480.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	48786.9	48052.1	>=10000(-10%)
Luminous Efficacy (lm/W)	165.73	165.97	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	163.24		



**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	0.5669	535	0.5641	562.8826	690	0.1807	180.3353
385	0.0005	0.5141	540	0.5783	577.1106	695	0.1577	157.3470
390	0.0008	0.7688	545	0.5900	588.7715	700	0.1355	135.2506
395	0.0005	0.4778	550	0.6039	602.5732	705	0.1175	117.2791
400	0.0011	1.1458	555	0.6124	611.0880	710	0.1002	99.9483
405	0.0027	2.6502	560	0.6259	624.6004	715	0.0863	86.0837
410	0.0076	7.5572	565	0.6403	638.9382	720	0.0737	73.5489
415	0.0173	17.2306	570	0.6548	653.3986	725	0.0633	63.1615
420	0.0366	36.5575	575	0.6673	665.9374	730	0.0538	53.7334
425	0.0737	73.5783	580	0.6788	677.4053	735	0.0461	46.0436
430	0.1393	139.0316	585	0.6904	688.9322	740	0.0397	39.5950
435	0.2490	248.4587	590	0.6956	694.1009	745	0.0342	34.1252
440	0.4448	443.8409	595	0.6970	695.4898	750	0.0284	28.2978
445	0.7024	700.8784	600	0.6951	693.6741	755	0.0240	23.9662
450	0.8605	858.6516	605	0.6866	685.1947	760	0.0206	20.5403
455	0.9955	993.3475	610	0.6727	671.2404	765	0.0183	18.2824
460	0.8812	879.3374	615	0.6519	650.5288	770	0.0148	14.7637
465	0.6167	615.4201	620	0.6255	624.1863	775	0.0140	13.9357
470	0.4884	487.4127	625	0.5927	591.4477	780	0.0114	11.4003
475	0.3946	393.8063	630	0.5546	553.4245	785	0.0101	10.0928
480	0.3122	311.5618	635	0.5136	512.4702	790	0.0084	8.4089
485	0.2947	294.0651	640	0.4700	468.9650	795	0.0061	6.1272
490	0.3155	314.8722	645	0.4267	425.7634	800	0.0057	5.6935
495	0.3535	352.7308	650	0.3855	384.6499			
500	0.4017	400.8445	655	0.3441	343.3948			
505	0.4488	447.8438	660	0.3066	305.9991			
510	0.4928	491.7778	665	0.2716	271.0360			
515	0.5230	521.8882	670	0.2387	238.2362			
520	0.5462	545.0186	675	0.2089	208.4655			
525	0.5641	562.8826	680	0.1807	180.3353			
530	0.5783	577.1106	685	0.1577	157.3470			

**TM30**

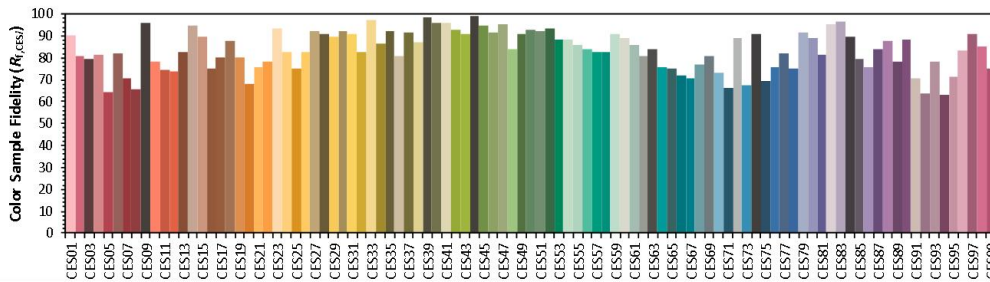
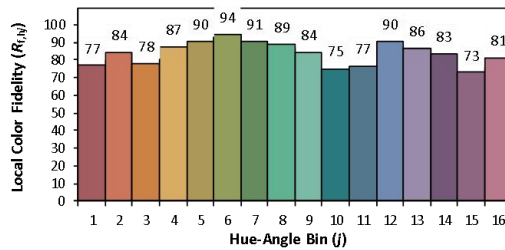
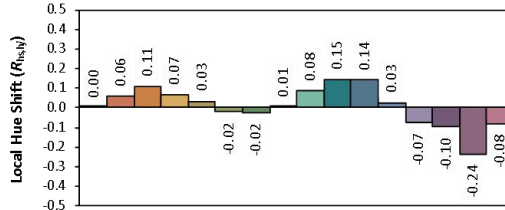
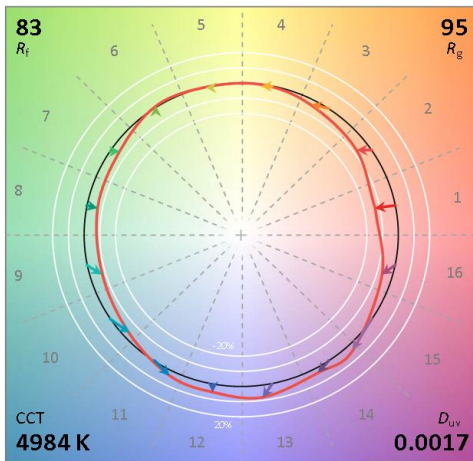
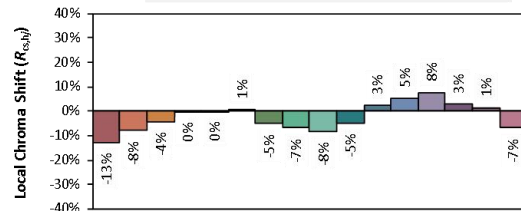
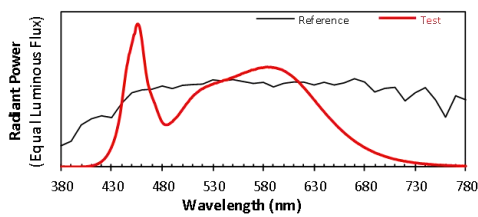
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-4080RC35005A1  
L128-5780RC35005A1

Manufacturer: ASHART LIGHT CO., LTD

Date: 2024/3/29

Model: AST-S-G12C-300WBHT3DH1-abcde50W



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

$x$  0.3459  
 $y$  0.3556  
 $u'$  0.2104  
 $v'$  0.4867

CIE 13.3-1995 (CRI)  
 $R_a$  83  
 $R_9$  6

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)

<b>Test date</b>	2024-03-29	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	Horizontal	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AST-S-G12C-300WBHT3DH1-abcde5 7W	<b>Operation time(min)</b>	110

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC240304	277.0	60	1.106	305	0.996	7.72
2E-B1	480.0	60	0.647	300.2	0.967	9.69
<b>DLC Pass Criteria</b>					>= 0.9(-3%)	<= 20(+5)

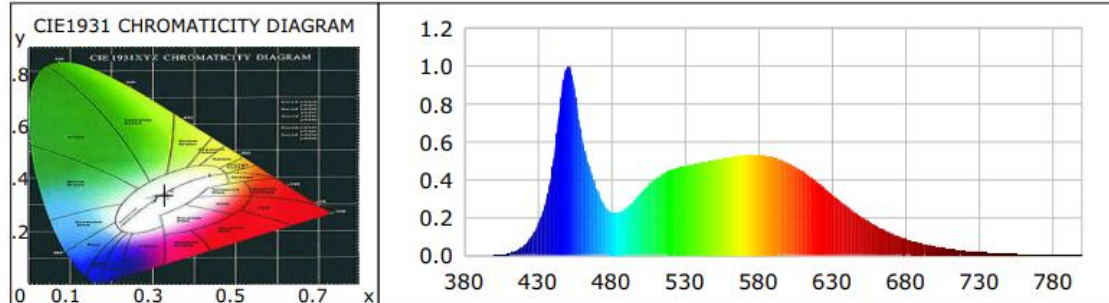
**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	277.0	R1	80	R9	0
Frequency (Hz)	60	R2	87	R10	68
CCT (K)	5781	R3	91	R11	81
Duv	0.0014	R4	82	R12	59
Chromaticity (x, y)	x=0.3263 y=0.3382	R5	81	R13	82
Chromaticity (u', v')	u(u')=0.2037v'=0.4752	R6	82	R14	95
Color Rendering Index (CRI)	82	R7	86	R15	75
R9	0	R8	66	--	--
Rf	82	--	--	--	--
Rg	95	--	--	--	--
Rcs,h1(%)	-14				

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

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	277.0	480.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	45782.4	45133.0	>=10000(-10%)
Luminous Efficacy (lm/W)	150.11	150.34	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	147.98		

**Spectral Power Distribution & Chromaticity Diagram**



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0005	0.5779	535	0.4641	574.6137	690	0.1170	144.8598
385	0.0007	0.8688	540	0.4726	585.0855	695	0.1013	125.4705
390	0.0012	1.5114	545	0.4796	593.8131	700	0.0883	109.3185
395	0.0009	1.1475	550	0.4899	606.5680	705	0.0755	93.4444
400	0.0013	1.6250	555	0.4950	612.7934	710	0.0652	80.7118
405	0.0041	5.1121	560	0.5026	622.2631	715	0.0550	68.0369
410	0.0105	13.0404	565	0.5116	633.3925	720	0.0475	58.8503
415	0.0237	29.3401	570	0.5182	641.5412	725	0.0398	49.2126
420	0.0475	58.8166	575	0.5252	650.2812	730	0.0342	42.3982
425	0.0900	111.4590	580	0.5286	654.4067	735	0.0293	36.2602
430	0.1591	197.0160	585	0.5321	658.7208	740	0.0254	31.4856
435	0.2722	336.9872	590	0.5309	657.2820	745	0.0219	27.1584
440	0.4675	578.8184	595	0.5269	652.3283	750	0.0177	21.9082
445	0.7803	965.9890	600	0.5192	642.7751	755	0.0160	19.8414
450	0.9971	1234.4668	605	0.5072	627.9722	760	0.0130	16.1486
455	0.8871	1098.3205	610	0.4904	607.0843	765	0.0117	14.4871
460	0.6290	778.7415	615	0.4683	579.7644	770	0.0100	12.3808
465	0.4756	588.8150	620	0.4443	550.1133	775	0.0086	10.6177
470	0.3589	444.2948	625	0.4166	515.7448	780	0.0068	8.4708
475	0.2664	329.7789	630	0.3870	479.0766	785	0.0060	7.4047
480	0.2290	283.4767	635	0.3544	438.7024	790	0.0051	6.3024
485	0.2290	283.4533	640	0.3227	399.4875	795	0.0045	5.5877
490	0.2482	307.3407	645	0.2899	358.8766	800	0.0032	3.9422
495	0.2848	352.6047	650	0.2593	321.0126			
500	0.3296	408.0750	655	0.2296	284.3044			
505	0.3699	457.9296	660	0.2028	251.0819			
510	0.4044	500.6903	665	0.1786	221.1689			
515	0.4297	532.0014	670	0.1563	193.5467			
520	0.4487	555.4680	675	0.1364	168.9037			
525	0.4641	574.6137	680	0.1170	144.8598			
530	0.4726	585.0855	685	0.1013	125.4705			

**TM30**

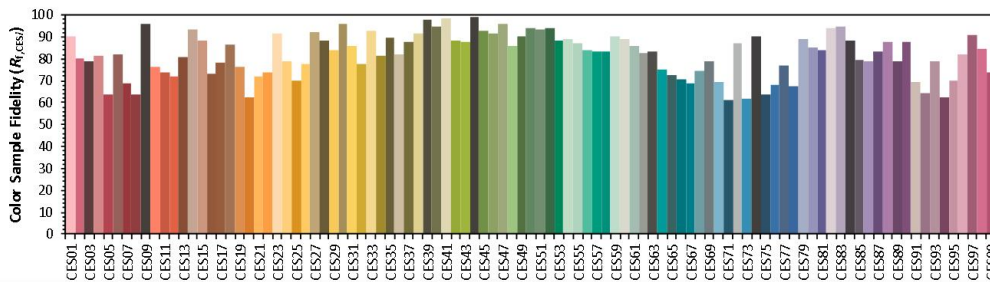
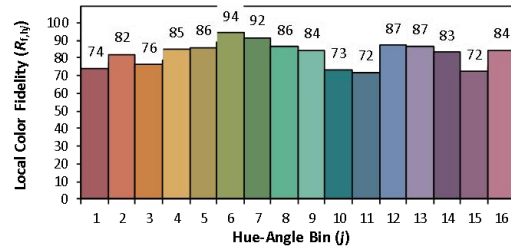
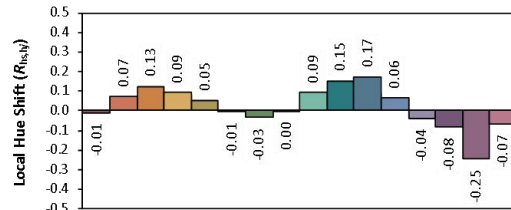
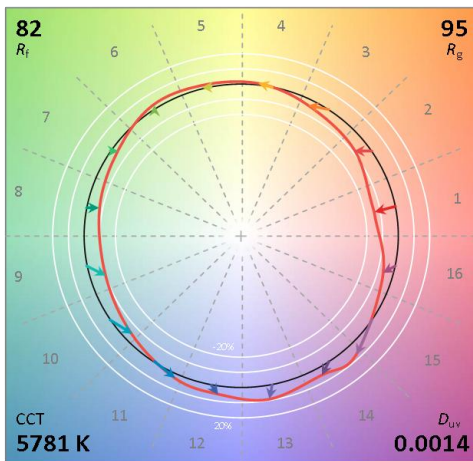
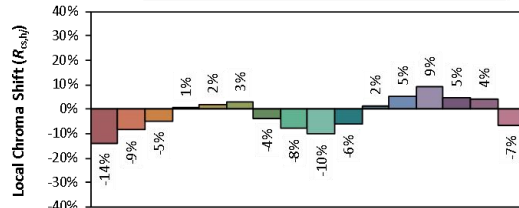
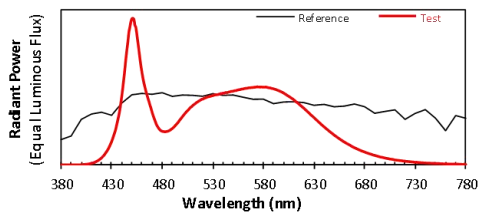
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-5780RC35005A1

Manufacturer: ASmart LIGHT CO., LTD

Date: 2024/3/29

Model: AST-S-G12C-300WBHT3DH1-abcde57W



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

$x$  0.3263  
 $y$  0.3382  
 $u'$  0.2037  
 $v'$  0.4752

CIE 13.3-1995 (CRI)  
 $R_a$  82  
 $R_9$  0

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

### 3. Test Equipment

Equipment Name	Model No.	Serial No.	Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2024-01-09
AC Power Source	CHP-500C	DYBWD010159	2024-01-08
Standard Lamp*	24V/150W	DYJYR040040	2024-01-17
Standard Lamp**	24V/100W	DYBWR030014	2024-01-17
Digital Power Meter	WT500	DYDWQ20010	2024-01-08
Integral Sphere (2M)	2M	DYJCE120067	2024-01-09
Digital Power Meter	WT500	DYDWQ200006	2024-01-08
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2024-01-09

\* Reference standard lamp (150W incandescent directional lamp) calibrated by Guangzhou Institute of Measurement and Testing Technology.

\*\* Reference standard lamp (100W incandescent omni-directional lamp) calibrated by Guangzhou Institute of Measurement and Testing Technology.

Expand Uncertainty:

Photometric Measurement (Sphere): 2.02%, k=2

Chromaticity Measurement(Sphere):24.8K, k=2

Photometric Measurement(Goniophotometer):2.88%, k=2

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