



Report No.:BLC2008004E-E

## M-79-08 Test Report

For

### Beyond LED Technology (Brand Name: Beyond)

1939 Parker Court, Stone Mountain, GA 30087

## Replacement Lamps for Outdoor Pole/Arm-Mounted Decorative Luminaires (UL Type B)

Model name(s): AST-CLW08C-036WBCA1-SCA30/40/50K

Remark: a= the lamp base type, can be E for E39 lamp base, EX for EX39 lamp base.  
d= dimming type: "L" for Continuous dimming and "S" for Segmented dimmer  
c= CAXX for color tunable, XX can be two digital.

Representative (Tested) Model:

AST-CLW08C-036WBCA1-adCA30K(Tested at 0% CCT Setting) AST-  
CLW08C-036WBCA1-adCA40K(Tested at 50% CCT Setting) AST-  
CLW08C-036WBCA1-adCA50K(Tested at 100% CCT Setting)

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

Test & Report By:

*Grace Li*

Engineer: Grace Li

Date: Sept 9, 2020

Review By:

*Jason Luo*

Manager: Jason Luo



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### 1.1 Product Information:

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED Technology	
Model Number	AST-CLW08C-036WBCA1-SCA30/40/50K	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Replacement Lamps for Outdoor Pole/Arm-Mounted Decorative Luminaires (UL Type B)	
Rated Voltage / Frequency	100-277 VAC, 50/60 Hz	
Nominal Power	36W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,4000K,5000K(Color tunable)	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-XX80RA35000H1	
Sample Number	BLC2008004E-E1	
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	Aug 6, 2020
Date of Test	Aug 7, 2020
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  $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ , measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at  $1\text{ }^{\circ}$  vertical intervals and  $22.5\text{ }^{\circ}$  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  $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$ . The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

### 3) Electrical Measurements:

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

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

<b>Test date</b>	2020-08-07	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AST-CLW08C-036WBCA1- (Tested at 0% CCT Setting)		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC200800	120.0	60	0.2853	33.72	0.985	11.54
4E-E1	277.0	60	0.1316	32.88	0.902	11.94
<b>DLC Pass Criteria</b>					$\geq 0.9(-3\%)$	$\leq 20(+5)$

**Chromaticity Measurement - Sphere-Spectroradiometer Method in King Luminaire K400 Series (Mogul Socket Version):**

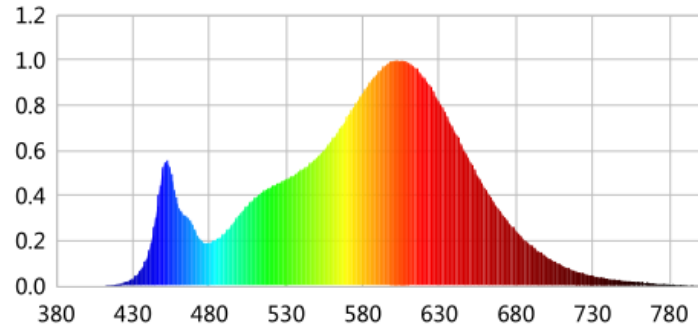
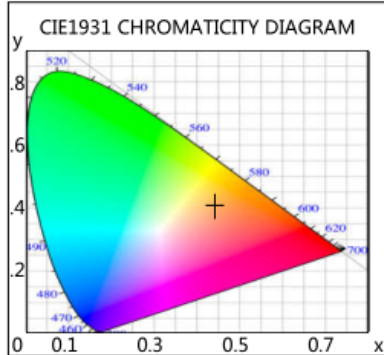
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	2
Frequency (Hz)	60	R2	92	R10	82
CCT (K)	2934	R3	94	R11	80
Duv	-0.0002	R4	80	R12	73
Chromaticity (x, y)	x=0.4414 y=0.4051	R5	82	R13	83
Chromaticity (u', v')	u(u')=0.2530 v'(v')=0.5225	R6	91	R14	98
Color Rendering Index (CRI)	82	R7	80	R15	72
R9	2	R8	56	--	--
Rf	84	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-12	--	--	--	--

**Photometric Measurement – Goniophotometer Method in King Luminaire K400 Series (Mogul Socket Version):**

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	4203.3	4066.3	250-5000lm (-10%)
Luminous Efficacy (lm/W)	124.65	123.67	Standard: $\geq 105(-3\%)$
Most worst Luminous/Highest Watts	120.59		
Zonal lumens in the 0-90 ° zone (%)	79.10	--	$\geq 65(-3)$
Beam Angle ( ° )	193.0	--	--
Center Beam Candle Power (cd)	135	--	--



### 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	0.0358	525	0.4552	40.7801	670	0.3257	29.1725
385	0.0003	0.0303	530	0.4715	42.2336	675	0.2815	25.2148
390	0.0003	0.0276	535	0.4897	43.8706	680	0.2420	21.6749
395	0.0002	0.0152	540	0.5132	45.9726	685	0.2065	18.4965
400	0.0006	0.0543	545	0.5372	48.1184	690	0.1787	16.0069
405	0.0006	0.0498	550	0.5680	50.8790	695	0.1506	13.4921
410	0.0010	0.0938	555	0.6038	54.0850	700	0.1276	11.4328
415	0.0035	0.3169	560	0.6479	58.0401	705	0.1077	9.6487
420	0.0078	0.6982	565	0.6963	62.3766	710	0.0907	8.1215
425	0.0165	1.4794	570	0.7476	66.9748	715	0.0758	6.7923
430	0.0341	3.0534	575	0.8027	71.9033	720	0.0630	5.6412
435	0.0697	6.2438	580	0.8571	76.7799	725	0.0533	4.7705
440	0.1419	12.7120	585	0.9036	80.9489	730	0.0443	3.9710
445	0.3063	27.4395	590	0.9474	84.8711	735	0.0364	3.2563
450	0.5263	47.1492	595	0.9802	87.8069	740	0.0325	2.9097
455	0.5004	44.8254	600	0.9977	89.3718	745	0.0274	2.4562
460	0.3494	31.2984	605	0.9987	89.4624	750	0.0229	2.0524
465	0.3076	27.5538	610	0.9899	88.6745	755	0.0205	1.8336
470	0.2536	22.7217	615	0.9616	86.1439	760	0.0171	1.5275
475	0.1973	17.6756	620	0.9242	82.7880	765	0.0140	1.2510
480	0.1916	17.1595	625	0.8711	78.0362	770	0.0120	1.0769
485	0.2086	18.6899	630	0.8133	72.8518	775	0.0083	0.7477
490	0.2333	20.8956	635	0.7505	67.2290	780	0.0066	0.5931
495	0.2738	24.5294	640	0.6839	61.2672	785	0.0039	0.3499
500	0.3191	28.5846	645	0.6162	55.1986	790	0.0075	0.6721
505	0.3580	32.0738	650	0.5518	49.4270	795	0.0029	0.2572
510	0.3915	35.0696	655	0.4890	43.8081	800	0.0025	0.2278
515	0.4163	37.2964	660	0.4300	38.5162			
520	0.4376	39.2035	665	0.3757	33.6553			

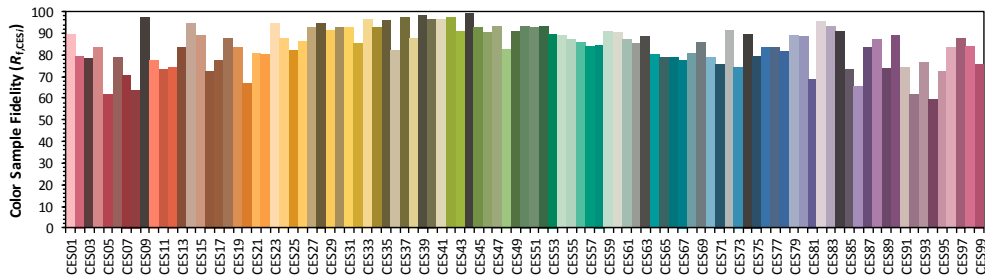
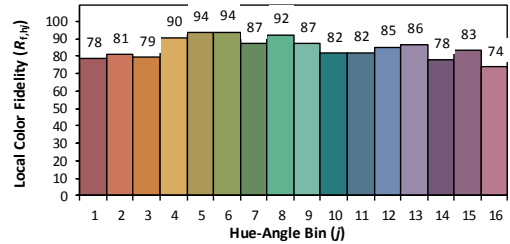
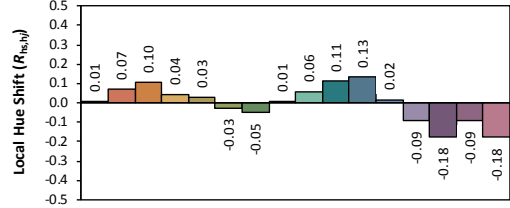
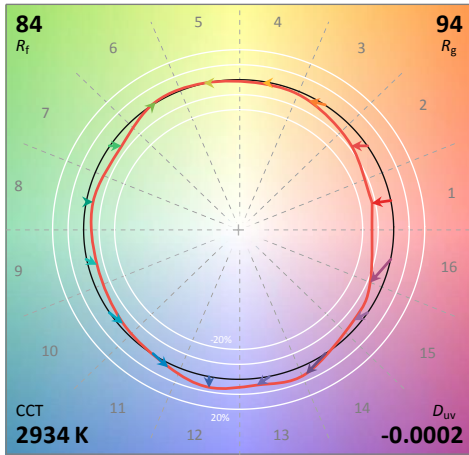
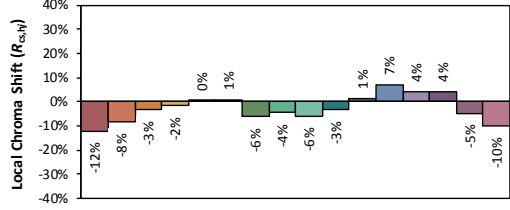
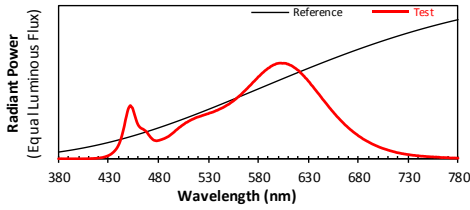


# TM30

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

**Source:** L128-XX80RA35000H1  
**Date:** 2020/8/7

**Manufacturer:** ASHART LIGHT CO., LTD  
**Model:** AST-CLW08C-036WBCA1-ad30K (Tested at 0% CCT Setting)



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

$x$  0.4414  
 $y$  0.4051  
 $u'$  0.2530  
 $v'$  0.5225

CIE 13.3-1995 (CRI)	
R <sub>a</sub>	82
R <sub>9</sub>	2

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**

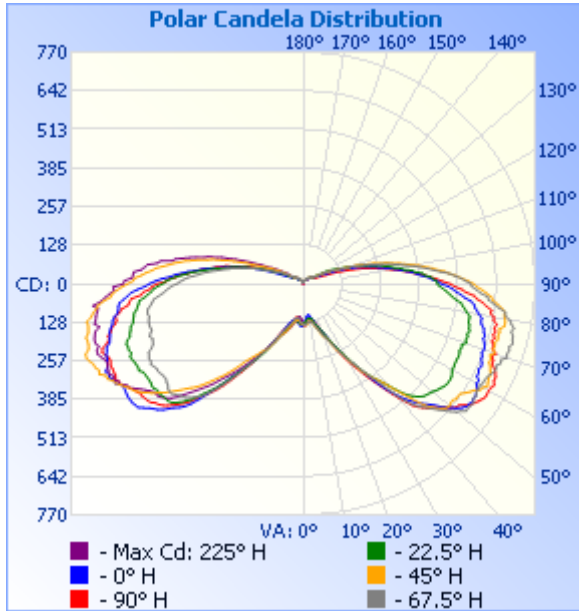
Zone	Lumens	% Lamp	% Luminaire
0-30	149.2	3.5%	3.5%
0-40	375.3	8.9%	8.9%
0-60	1,362.3	32.4%	32.4%
60-90	1,960.5	46.6%	46.6%
70-100	1,769.7	42.1%	42.1%
90-120	810.1	19.3%	19.3%
0-90	3,322.8	79.1%	79%
90-180	880.9	21%	21%
0-180	4,203.7	100%	100%

**Lumens Per Zone**

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	12.0	0.3%	90-100	460.9	11%
10-20	39.1	0.9%	100-110	255.3	6.1%
20-30	98.1	2.3%	110-120	93.8	2.2%
30-40	226.1	5.4%	120-130	33.8	0.8%
40-50	419.9	10.0%	130-140	19.4	0.5%
50-60	567.1	13.5%	140-150	10.6	0.3%
60-70	651.8	15.5%	150-160	4.8	0.1%
70-80	682.3	16.2%	160-170	1.8	0%
80-90	626.5	14.9%	170-180	0.4	0%

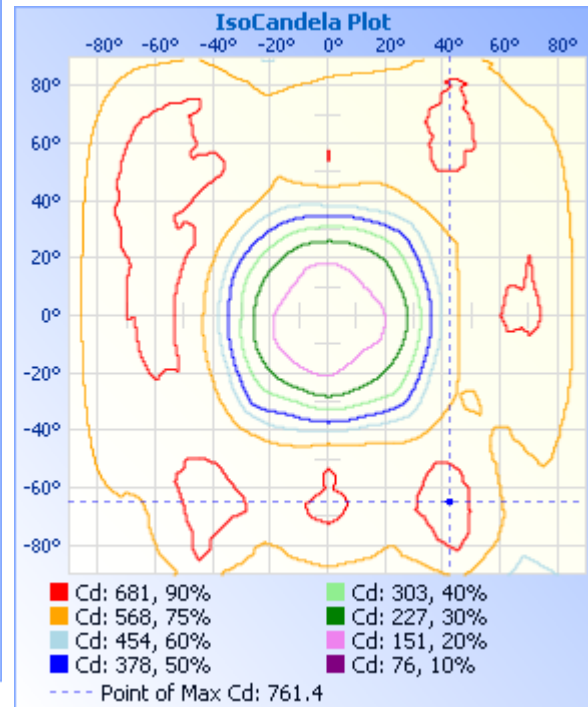
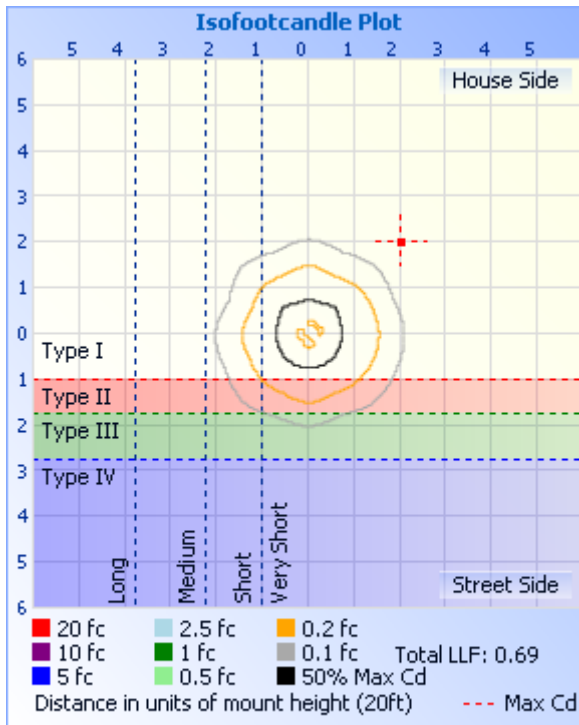


**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width
17.0ft	<b>0.47 fc</b>	
34.0ft	<b>0.12 fc</b>	
51.0ft	<b>0.05 fc</b>	
68.0ft	<b>0.03 fc</b>	
85.0ft	<b>0.02 fc</b>	
102.0ft	<b>0.01 fc</b>	







**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	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
1	129	132	135	136	137	139	139	139	138	137	134	131	128	126	125	127	129
2	127	132	137	139	140	144	147	146	142	136	133	129	122	120	121	124	127
3	124	129	138	138	139	146	151	150	141	135	132	129	121	118	118	121	124
4	120	126	137	135	136	147	151	149	138	133	131	127	121	114	115	119	120
5	116	123	136	134	131	146	148	146	137	132	128	124	120	111	112	117	116
6	111	121	134	132	131	143	143	141	133	130	125	119	119	110	111	114	111
7	109	119	130	130	130	143	138	137	131	126	123	116	114	110	112	112	109
8	107	118	126	127	128	139	133	135	130	124	123	115	114	110	115	110	107
9	105	118	124	127	128	136	129	132	128	123	124	114	115	110	118	109	105
10	106	118	125	127	127	131	126	128	127	124	124	115	114	112	122	110	106
11	110	117	125	128	126	127	125	124	125	124	127	117	115	116	125	111	110
12	113	118	129	131	125	123	124	124	125	126	128	119	116	119	128	115	113
13	118	121	132	133	125	121	125	125	124	128	131	122	122	125	133	119	118
14	121	125	138	137	127	120	126	126	124	133	135	127	126	131	139	126	121
15	125	130	144	141	128	122	129	127	127	136	142	130	129	139	146	133	125
16	131	136	150	147	133	125	132	129	129	141	146	134	133	146	153	139	131
17	140	142	156	155	139	129	135	133	132	146	152	138	136	151	156	149	140
18	147	148	163	162	143	134	140	137	135	152	159	143	141	155	162	154	147
19	154	154	172	167	150	140	147	143	140	157	165	147	147	159	167	159	154
20	160	161	181	174	160	147	155	150	146	164	171	153	153	165	171	164	160
21	167	168	187	183	170	155	163	159	154	172	176	159	157	172	176	169	167
22	175	176	191	189	179	163	171	168	164	178	180	165	163	179	180	175	175
23	184	186	198	198	188	172	180	179	174	185	186	174	171	187	186	184	184
24	196	197	208	208	199	182	188	190	183	194	194	183	180	196	195	195	196
25	208	208	220	218	210	193	198	200	193	203	203	194	190	205	204	206	208
26	221	221	234	230	226	207	208	212	203	214	215	208	203	217	214	218	221
27	236	233	246	243	244	221	220	227	216	226	228	221	218	232	224	233	236
28	251	247	258	258	262	236	234	241	229	241	241	234	234	246	234	244	251
29	267	262	270	272	280	252	249	260	246	257	250	248	250	260	244	259	267



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Certificate#4810.01

30	282	277	287	285	297	269	260	277	261	272	257	265	265	274	255	271	282
31	298	293	301	299	313	288	270	297	278	285	264	281	281	290	269	286	298
32	315	311	319	313	327	304	281	312	295	299	273	296	302	307	283	302	315
33	333	329	337	329	346	320	293	328	312	313	283	313	321	325	297	321	333
34	351	347	353	347	366	336	306	340	326	331	293	329	339	345	313	341	351
35	374	364	369	365	385	355	320	354	343	348	302	348	359	366	328	362	374
36	398	380	383	384	405	377	331	372	362	367	315	375	383	385	345	383	398
37	421	395	396	405	426	402	339	389	384	388	331	397	406	404	361	404	421
38	444	409	409	429	449	431	347	409	407	408	350	419	430	421	378	425	444
39	465	425	426	460	473	460	361	429	434	431	369	442	451	440	395	448	465
40	484	444	446	491	498	485	382	441	459	454	389	463	470	461	409	467	484
41	503	466	469	516	522	506	407	449	487	472	407	484	488	479	429	479	503
42	521	487	493	539	546	524	432	462	519	492	422	503	507	497	450	494	521
43	537	506	519	556	561	542	461	481	546	513	441	517	526	509	467	506	537
44	552	519	546	571	573	557	486	502	568	536	461	526	547	521	485	518	552
45	566	531	573	584	585	571	509	530	582	553	479	536	564	536	503	530	566
46	578	541	591	599	595	583	531	551	594	568	496	544	578	548	521	540	578
47	592	549	607	615	606	598	553	569	609	579	509	548	593	554	541	547	592
48	610	553	619	631	618	617	573	587	627	590	522	556	606	561	562	557	610
49	627	556	630	648	630	635	584	598	639	595	540	562	617	564	580	564	627
50	642	559	634	664	642	651	595	604	648	596	555	570	626	569	593	574	642
51	658	566	631	673	654	663	608	603	657	597	572	571	630	565	600	580	658
52	670	571	630	688	658	676	619	600	671	602	590	569	641	577	610	591	670
53	679	575	638	686	672	685	630	595	685	600	603	562	647	580	610	590	679
54	681	580	636	689	687	677	646	586	688	601	620	561	649	590	613	592	681
55	685	583	638	691	693	675	656	577	692	606	631	555	652	592	622	589	685
56	682	583	650	681	701	673	664	576	692	607	646	556	653	604	633	587	682
57	684	584	661	685	707	659	668	574	693	604	658	558	660	607	644	589	684
58	679	581	669	679	713	655	669	572	691	604	668	561	663	616	658	591	679
59	675	577	686	680	713	654	675	573	690	605	672	564	674	616	673	594	675
60	664	571	690	677	711	650	674	577	688	605	684	562	681	620	676	589	664
61	668	572	700	683	714	654	682	579	692	607	693	567	692	619	693	597	668

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01  
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Guangzhou, People's Republic of China. info@bellingtest.com

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Certificate#4810.01

62	653	570	695	682	719	653	694	588	707	618	706	573	693	631	694	594	653
63	655	570	692	686	711	652	701	603	706	615	710	568	699	626	705	594	655
64	649	570	692	690	711	645	713	608	715	616	723	570	693	634	700	596	649
65	653	570	686	698	705	643	716	626	713	618	723	565	694	632	712	604	653
66	650	568	680	701	696	645	734	640	718	622	741	562	693	644	708	606	650
67	642	564	671	697	682	633	728	640	706	624	737	546	696	632	706	601	642
68	642	568	672	707	682	633	736	645	701	616	745	537	690	634	702	609	642
69	635	564	665	705	672	636	745	642	697	620	747	535	689	629	705	610	635
70	639	577	677	721	682	634	750	647	696	619	755	532	697	637	715	622	639
71	637	571	668	716	664	635	753	639	689	621	761	540	706	639	721	625	637
72	632	575	670	720	666	622	741	635	687	616	760	534	702	635	721	622	632
73	626	570	667	716	655	620	734	620	672	602	745	525	683	620	710	618	626
74	628	575	673	725	661	610	724	615	668	598	742	528	670	617	718	627	628
75	621	571	670	719	654	605	726	606	664	593	741	529	671	616	718	623	621
76	619	569	673	719	659	595	720	600	663	590	744	528	657	604	713	627	619
77	609	564	670	709	651	592	719	591	656	580	732	526	653	604	709	623	609
78	604	564	683	716	659	581	714	582	648	578	730	523	637	588	692	617	604
79	605	564	684	705	645	572	713	576	644	573	727	526	631	589	706	632	605
80	594	553	682	697	644	556	702	561	637	571	730	525	635	594	700	623	594
81	586	544	676	680	630	543	698	550	624	561	713	521	617	581	696	622	586
82	577	536	676	678	632	541	705	542	621	556	705	511	610	578	693	610	577
83	572	529	664	654	613	531	709	540	618	551	692	505	586	563	686	610	572
84	561	511	649	637	600	522	704	533	614	548	684	499	580	575	703	615	561
85	540	496	633	618	580	509	692	520	598	530	665	484	572	559	673	585	540
86	526	487	626	614	569	502	688	513	584	517	641	469	540	534	660	577	526
87	509	475	610	590	542	485	663	499	572	505	634	458	532	528	644	553	509
88	496	464	596	576	527	471	649	487	551	497	619	448	508	504	628	546	496
89	481	453	576	560	503	460	626	469	526	483	602	437	501	513	631	539	481
90	459	446	566	558	489	469	626	467	511	467	583	420	483	489	597	510	459
91	448	444	548	539	462	437	593	445	492	456	565	408	455	469	593	505	448
92	428	433	527	525	444	431	579	432	470	441	559	397	447	463	568	482	428
93	416	425	509	504	423	408	556	410	441	424	538	384	422	443	566	474	416

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01  
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Report Format Number BL-FM-SA-012



Certificate#4810.01

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95	379	398	471	458	381	372	506	376	403	387	504	349	387	410	539	432	379
96	364	374	446	436	360	357	484	366	384	370	493	337	371	401	529	424	364
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101	279	297	344	331	267	278	370	268	281	272	399	257	293	305	432	314	279
102	260	278	325	312	247	260	347	268	263	255	372	243	275	287	408	295	260
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**Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01**  
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Report Format Number BL-FM-SA-012



Certificate#4810.01

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Report No.:BLC2008004E-E

**BUG Rating**

**Lum. Classification System (LCS)**

<b><u>LCS Zone</u></b>	<b><u>Lumens</u></b>	<b><u>%Lamp</u></b>	<b><u>%Lum</u></b>
FL (0-30)	75.9	1.8	1.8
FM (30-60)	611.4	14.5	14.5
FH (60-80)	667.3	15.9	15.9
FVH(80-90)	317.6	7.6	7.6
BL (0-30)	73.3	1.7	1.7
BM (30-60)	601.9	14.3	14.3
BH (60-80)	666.5	15.9	15.9
BVH(80-90)	308.8	7.3	7.3
UL (90-100)	460.8	11.0	11.0
UH (100-180)	419.9	10.0	10.0
Total	4203.4	100.0	100.0
<b>BUG Rating</b>	<b>B2-U3-G3</b>		

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

<b>Test date</b>	2020-08-07	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AST-CLW08C-036WBCA1-adCA40K (Tested at 50% CCT Setting)		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %	
BLC200800	120.0	60	0.2850	33.65	0.984	11.49	
4E-E1	277.0	60	0.1372	34.25	0.901	11.95	
<b>DLC Pass Criteria</b>						$\geq 0.9(-3\%)$	$\leq 20(+5)$

**Chromaticity Measurement - Sphere-Spectroradiometer Method in King Luminaire K400****Series (Mogul Socket Version):**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	83	R9	10
Frequency (Hz)	60	R2	93	R10	82
CCT (K)	3795	R3	95	R11	81
Duv	-0.0016	R4	82	R12	65
Chromaticity (x, y)	x=0.3886 y=0.3783	R5	83	R13	86
Chromaticity (u', v')	u(u')=0.2299 v'(v')=0.5035	R6	90	R14	98
Color Rendering Index (CRI)	84	R7	83	R15	77
R9	10	R8	63	--	--
Rf	84	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-12	--	--	--	--

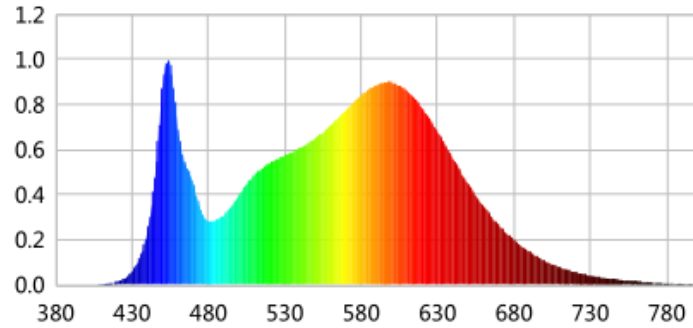
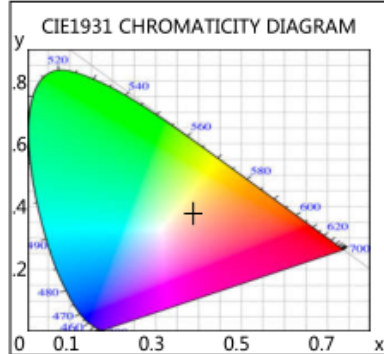
**Photometric Measurement –Sphere-Spectroradiometer Method in King Luminaire K400 Series (Mogul Socket Version):**

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	4662.9	4674.4	250-5000lm (-10%)
Luminous Efficacy (lm/W)	138.57	136.47	Standard: $\geq 105(-3\%)$
Most worst Luminous/Highest Watts	136.14		





### 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	0.0189	525	0.5581	52.8704	670	0.2645	25.0585
385	0.0005	0.0457	530	0.5730	54.2896	675	0.2292	21.7123
390	0.0004	0.0382	535	0.5880	55.7097	680	0.1988	18.8313
395	0.0003	0.0252	540	0.6082	57.6190	685	0.1709	16.1883
400	0.0004	0.0385	545	0.6257	59.2829	690	0.1481	14.0310
405	0.0009	0.0816	550	0.6490	61.4896	695	0.1267	12.0063
410	0.0022	0.2078	555	0.6749	63.9399	700	0.1072	10.1528
415	0.0065	0.6151	560	0.7087	67.1461	705	0.0922	8.7382
420	0.0145	1.3738	565	0.7408	70.1821	710	0.0771	7.3034
425	0.0291	2.7603	570	0.7730	73.2364	715	0.0661	6.2603
430	0.0606	5.7416	575	0.8084	76.5838	720	0.0564	5.3398
435	0.1198	11.3497	580	0.8414	79.7130	725	0.0480	4.5451
440	0.2315	21.9359	585	0.8662	82.0608	730	0.0414	3.9269
445	0.4779	45.2726	590	0.8873	84.0624	735	0.0343	3.2480
450	0.8745	82.8493	595	0.8983	85.1052	740	0.0299	2.8353
455	0.9748	92.3486	600	0.8981	85.0863	745	0.0266	2.5176
460	0.6931	65.6629	605	0.8828	83.6351	750	0.0216	2.0483
465	0.5353	50.7136	610	0.8620	81.6664	755	0.0196	1.8595
470	0.4434	42.0105	615	0.8281	78.4491	760	0.0154	1.4544
475	0.3305	31.3154	620	0.7849	74.3586	765	0.0133	1.2566
480	0.2803	26.5530	625	0.7328	69.4224	770	0.0113	1.0695
485	0.2879	27.2751	630	0.6779	64.2273	775	0.0097	0.9191
490	0.3085	29.2238	635	0.6206	58.7925	780	0.0066	0.6289
495	0.3475	32.9184	640	0.5628	53.3229	785	0.0042	0.3968
500	0.3971	37.6255	645	0.5041	47.7578	790	0.0043	0.4074
505	0.4444	42.1066	650	0.4495	42.5823	795	0.0038	0.3604
510	0.4869	46.1314	655	0.3979	37.6978	800	0.0031	0.2960
515	0.5160	48.8810	660	0.3493	33.0955			
520	0.5389	51.0509	665	0.3044	28.8392			

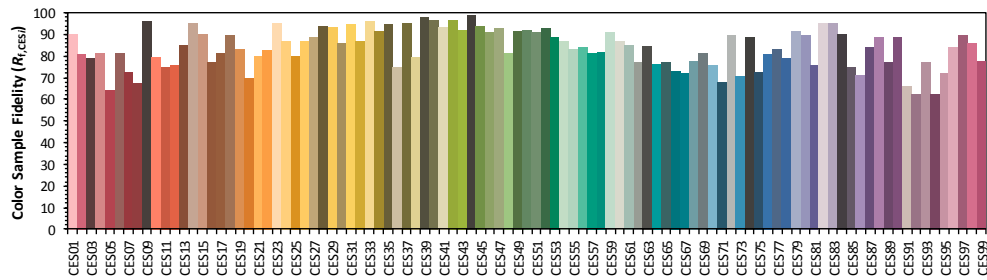
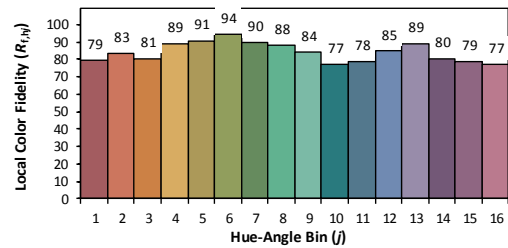
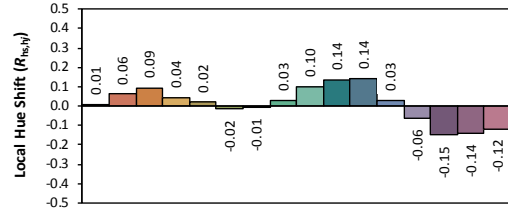
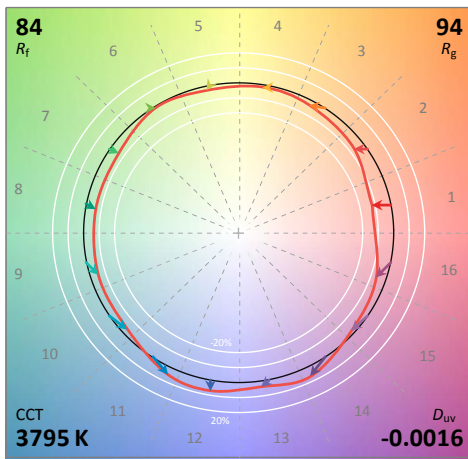
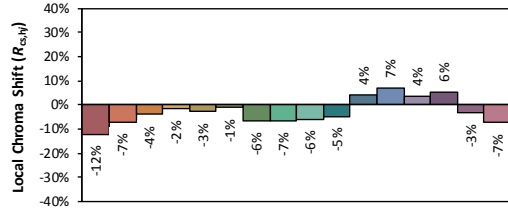
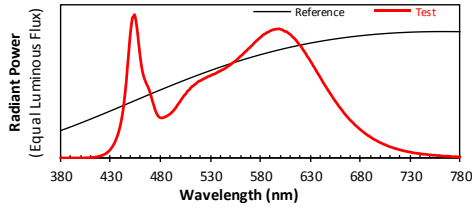


# TM30

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

**Source:** L128-XX80RA35000H1  
**Date:** 2020/8/7

**Manufacturer:** AS MART LIGHT CO., LTD  
**Model:** AST-CLW08C-036WBCA1-ad40K (Tested at 50% CCT Setting)



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

$x$  0.3886  
 $y$  0.3783  
 $u'$  0.2299  
 $v'$  0.5035

CIE 13.3-1995 (CRI)	
$R_a$	84
$R_9$	10

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



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

<b>Test date</b>	2020-08-07	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AST-CLW08C-036WBCA1-adCA50K (Tested at 100% CCT Setting)		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %	
BLC200800	120.0	60	0.2907	34.36	0.985	11.57	
4E-E1	277.0	60	0.1339	33.50	0.903	12.02	
<b>DLC Pass Criteria</b>						>= 0.9(-3%)	<= 20(+5)

**Chromaticity Measurement - Sphere-Spectroradiometer Method in King Luminaire K400 Series (Mogul Socket Version):**

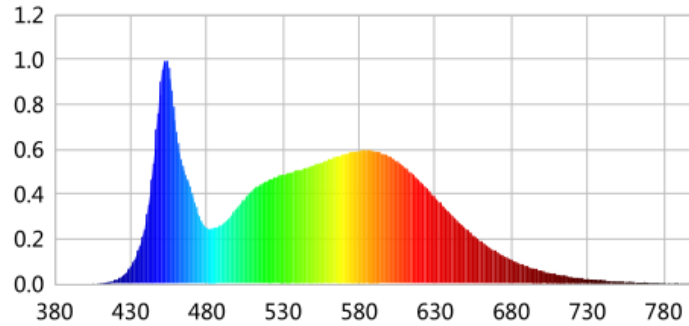
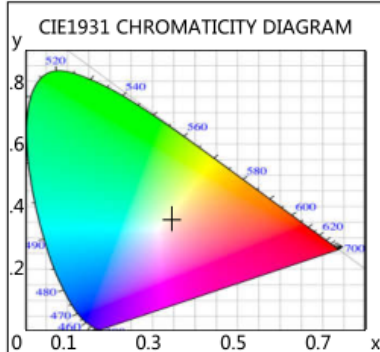
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	79	R9	-2
Frequency (Hz)	60	R2	89	R10	74
CCT (K)	4992	R3	94	R11	77
Duv	0.0026	R4	79	R12	54
Chromaticity (x, y)	x=0.3458 y=0.3574	R5	80	R13	82
Chromaticity (u', v')	u(u')=0.2097 v'=-0.4876	R6	84	R14	97
Color Rendering Index (CRI)	82	R7	85	R15	73
R9	-2	R8	63	--	--
Rf	82	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-14	--	--	--	--

**Photometric Measurement –Sphere-Spectroradiometer Method in King Luminaire K400 Series (Mogul Socket Version):**

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	4664.7	4512.7	250-5000lm (-10%)
Luminous Efficacy (lm/W)	135.76	134.69	Standard: >= 105(-3%)
Most worst Luminous/Highest Watts	131.33		



### 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	0.0238	525	0.4753	60.7230	670	0.1433	18.3126
385	0.0006	0.0764	530	0.4849	61.9530	675	0.1246	15.9215
390	0.0003	0.0439	535	0.4942	63.1433	680	0.1073	13.7075
395	0.0007	0.0932	540	0.5065	64.7149	685	0.0925	11.8191
400	0.0006	0.0795	545	0.5158	65.8946	690	0.0789	10.0798
405	0.0013	0.1720	550	0.5271	67.3432	695	0.0682	8.7118
410	0.0030	0.3859	555	0.5409	69.0980	700	0.0576	7.3627
415	0.0078	0.9964	560	0.5548	70.8776	705	0.0487	6.2250
420	0.0172	2.1973	565	0.5668	72.4082	710	0.0413	5.2721
425	0.0374	4.7776	570	0.5771	73.7353	715	0.0343	4.3767
430	0.0760	9.7149	575	0.5883	75.1652	720	0.0294	3.7548
435	0.1474	18.8265	580	0.5936	75.8316	725	0.0251	3.2014
440	0.2750	35.1358	585	0.5942	75.9129	730	0.0209	2.6690
445	0.5359	68.4592	590	0.5925	75.7014	735	0.0173	2.2109
450	0.9089	116.1225	595	0.5832	74.5100	740	0.0154	1.9718
455	0.9656	123.3595	600	0.5688	72.6646	745	0.0126	1.6081
460	0.6772	86.5174	605	0.5478	69.9804	750	0.0104	1.3272
465	0.5090	65.0304	610	0.5211	66.5740	755	0.0085	1.0854
470	0.4077	52.0823	615	0.4909	62.7219	760	0.0084	1.0761
475	0.2999	38.3127	620	0.4575	58.4538	765	0.0063	0.8070
480	0.2495	31.8813	625	0.4211	53.8035	770	0.0056	0.7119
485	0.2488	31.7911	630	0.3848	49.1590	775	0.0038	0.4804
490	0.2638	33.7042	635	0.3478	44.4379	780	0.0030	0.3889
495	0.2968	37.9201	640	0.3122	39.8847	785	0.0024	0.3064
500	0.3399	43.4249	645	0.2779	35.4989	790	0.0043	0.5481
505	0.3804	48.5931	650	0.2462	31.4593	795	0.0014	0.1813
510	0.4174	53.3291	655	0.2167	27.6814	800	0.0011	0.1425
515	0.4412	56.3684	660	0.1892	24.1777			
520	0.4604	58.8160	665	0.1655	21.1382			

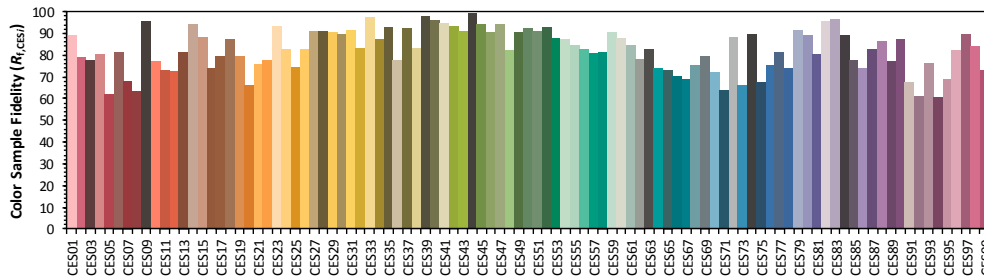
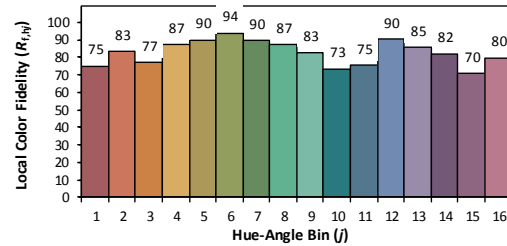
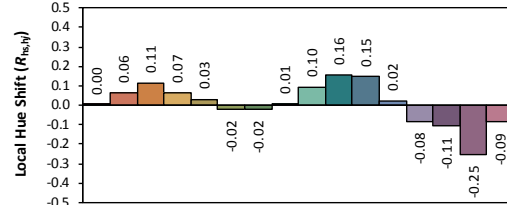
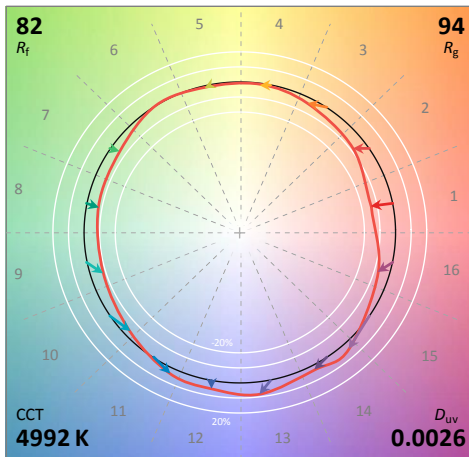
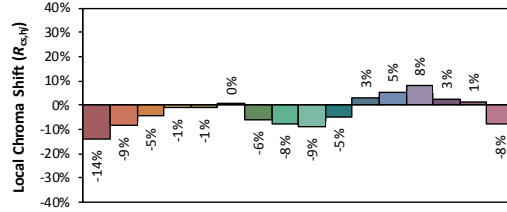
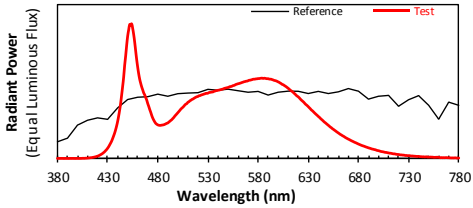


# TM30

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

**Source:** L128-XX80RA35000H1  
**Date:** 2020/8/7

**Manufacturer:** ASmart LIGHT CO., LTD  
**Model:** AST-CLW08C-036WBCA1-ad50K (Tested at 100% CCT Setting)



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

$x$  0.3458  
 $y$  0.3574  
 $u'$  0.2097  
 $v'$  0.4876

CIE 13.3-1995 (CRI)  
 $R_a$  82  
 $R_g$  -2

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.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2021/2/26
AC Power Source	CHP-500C	N/A	2021/3/29
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2021/3/1
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Integral Sphere (2M)	2M	DYJCE120067	2021/2/26
Digital Power Meter	WT500	DYDWQ200006	2021/3/29
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2021/2/26

Expand Uncertainty:  
Photometric Measurement (Sphere): 2.08%, k=2  
Chromaticity Measurement(Sphere):25.6K, k=2  
Photometric Measurement(Goniophotometer):2.645%, k=2

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