



Report No.: BLC2101007E-B

LM-79-08 Test Report

For

ASmart LIGHT CO., LTD

(Brand Name: ASmart)

506 N GARFIELD AVE SUITE#210 ALHAMBRA CA 91801

Outdoor Full-Cutoff Wall-Mounted Area Luminaires

Model name(s): AST-RWP01B-80WW1CYT1DA2-abcef

Remark: The letter "a" can be 2 letters represent lamp colors, "BH = Black, WH=White, BR=Brown or Customized".

The letter "b" can be "P" for Photocontrol or blank for no control function, or "M" for motion sensor, "R" for 12V PIR control, "PM" for photocontrol+motion sensor, "PR" for photocontrol+PIR sensor;.

The letter "c" can be any character or empty, S=surge protector, empty means no surge protector
The letter "e" can be two digits to represent CCT, 40=4000K, 45=4500K, 50=5000K, 57=5700K.

The letter "f" can be "F" for Auxiliary output 12V or empty for no Auxiliary output 12V.

Representative (Tested) Model:

AST-RWP01B-80WW1CYT1DA2-abc30f

AST-RWP01B-80WW1CYT1DA2-abc40f

AST-RWP01B-80WW1CYT1DA2-abc50f

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

Test & Report By:

Lily Yang

Engineer: Lily Yang

Date: 2021-01-13

Review By:

Jason Luo

Manager: Jason Luo



Report No.: BLC2101007E-B

1.1 Product Information:

Organization Name	ASmart LIGHT CO., LTD	
Brand Name	ASmart	
Model Number	AST-RWP01B-80WW1CYT1DA2-abcef	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Full-Cutoff Wall-Mounted Area Luminaires	
Rated Voltage / Frequency	120-277 VAC, 50/60 Hz	
Nominal Power	80W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,4000K,5000K(Color tunable)	
Dimmable or Not	Yes	
Dimming type	Continuous Dimming	
LED Manufacturer	Seoul Semiconductor Co., LTD	
LED Model	STW7C2SB-NT	
Sample Number	BLC2101007E-B1(3000K), B1(4000K), B1(5000K)	
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	2020-12-17
Date of Test	2021-01-11
Test item	<ol style="list-style-type: none">1. Total Luminous Flux2. Luminous Distribution Intensity3. Luminous Efficacy4. Correlated Color Temperature5. Color Rendering Index6. Chromaticity Coordinate7. Electrical Parameters
Reference Standard	<ol style="list-style-type: none">1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources4. CIE 15-2004 Technical Report Colorimetry5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	BL-QP-033

1.3 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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° vertical intervals and 22.5° horizontal intervals.

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

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

3) Electrical Measurements:

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

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

Test date	2021-01-11	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-RWP01B-80WW1CYT1DA2-abc30f		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210100	120.0	60	0.703	83.77	0.993	12.98
7E-B1	277.0	60	0.304	82.67	0.981	9.96
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	3066
Duv	-0.0027
Chromaticity (x, y)	x=0.4285 y=0.3944
Chromaticity (u', v')	u(u')=0.2493 v'=0.5162
Color Rendering Index (CRI)	72
R9	-27
Rf	72
Rg	98
Rcs,h1(%)	-16

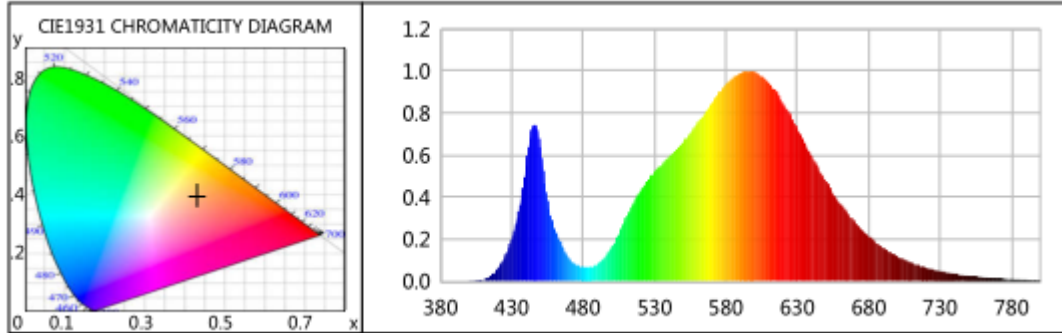
Special Color Rendering Indices			
R1	69	R9	-27
R2	80	R10	54
R3	90	R11	64
R4	69	R12	46
R5	68	R13	71
R6	73	R14	94
R7	77	R15	63
R8	47	--	--
--	--	--	--
--	--	--	--
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Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	9268.3	9208.6	>300(-10%)
Luminous Efficacy (lm/W)	110.64	111.39	Premium: $\geq 120(-3\%)$
Most worst Luminous/Highest	109.93		
Zonal lumens in the 0-90° (%)	100	--	$\geq 100(-3)$
Zonal lumens in the 80-90°(%)	0.1	--	$\leq 10(+3)$
Beam Angle (°)	64	--	--
Center Beam Candle Power (cd)	8128	--	--



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	0.0952	525	0.4759	89.9092	670	0.2836	53.5802
385	0.0004	0.0824	530	0.5176	97.7966	675	0.2470	46.6661
390	0.0003	0.0632	535	0.5533	104.5419	680	0.2150	40.6177
395	0.0006	0.1198	540	0.5892	111.3236	685	0.1858	35.0992
400	0.0014	0.2594	545	0.6227	117.6501	690	0.1598	30.1841
405	0.0037	0.6967	550	0.6595	124.6091	695	0.1392	26.2962
410	0.0105	1.9872	555	0.7023	132.6950	700	0.1191	22.5042
415	0.0258	4.8785	560	0.7481	141.3539	705	0.1026	19.3847
420	0.0557	10.5261	565	0.7973	150.6463	710	0.0872	16.4846
425	0.1115	21.0635	570	0.8439	159.4523	715	0.0753	14.2193
430	0.2003	37.8517	575	0.8932	168.7641	720	0.0647	12.2200
435	0.3337	63.0437	580	0.9349	176.6370	725	0.0557	10.5331
440	0.5449	102.9572	585	0.9646	182.2431	730	0.0475	8.9707
445	0.7405	139.9022	590	0.9901	187.0718	735	0.0405	7.6511
450	0.6393	120.7905	595	1.0000	188.9387	740	0.0352	6.6417
455	0.3825	72.2769	600	0.9962	188.2299	745	0.0305	5.7683
460	0.2499	47.2126	605	0.9749	184.1939	750	0.0263	4.9628
465	0.1726	32.6089	610	0.9448	178.5139	755	0.0235	4.4387
470	0.1088	20.5548	615	0.9008	170.1927	760	0.0193	3.6423
475	0.0787	14.8629	620	0.8480	160.2119	765	0.0171	3.2257
480	0.0670	12.6548	625	0.7884	148.9583	770	0.0147	2.7798
485	0.0656	12.4009	630	0.7247	136.9172	775	0.0125	2.3647
490	0.0792	14.9654	635	0.6581	124.3495	780	0.0098	1.8585
495	0.1123	21.2178	640	0.5947	112.3691	785	0.0090	1.7075
500	0.1627	30.7310	645	0.5328	100.6726	790	0.0080	1.5073
505	0.2265	42.7893	650	0.4751	89.7692	795	0.0061	1.1477
510	0.2989	56.4733	655	0.4208	79.5013	800	0.0061	1.1602
515	0.3661	69.1773	660	0.3696	69.8404			
520	0.4259	80.4779	665	0.3233	61.0848			

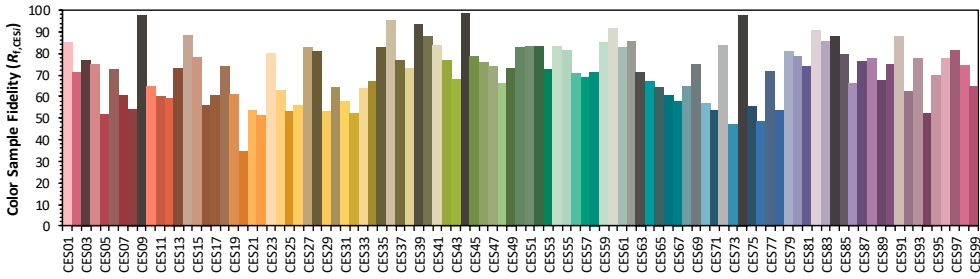
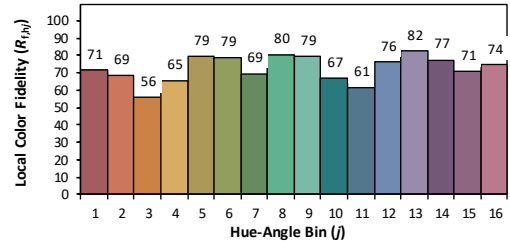
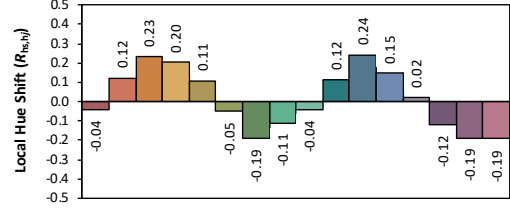
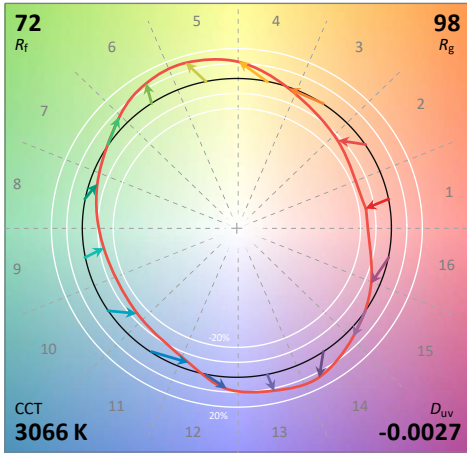
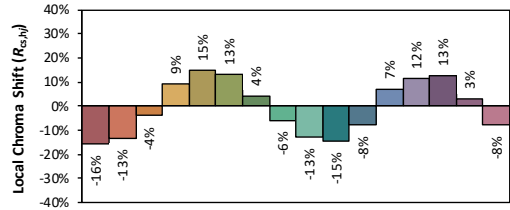
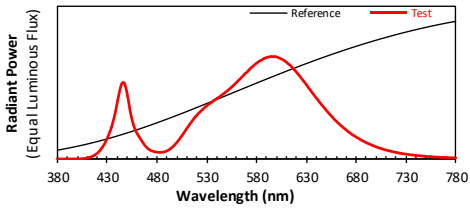


TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: STW7C2SB-NT
Date: 2021/1/13

Manufacturer: AS MART LIGHT CO., LTD
Model: AST-RWP01B-80WW1CYT1DA2-abcd30f



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

x 0.4285
 y 0.3944
 u' 0.2493
 v' 0.5162

CIE 13.3-1995 (CRI)
 R_a 72
 R_9 -27

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

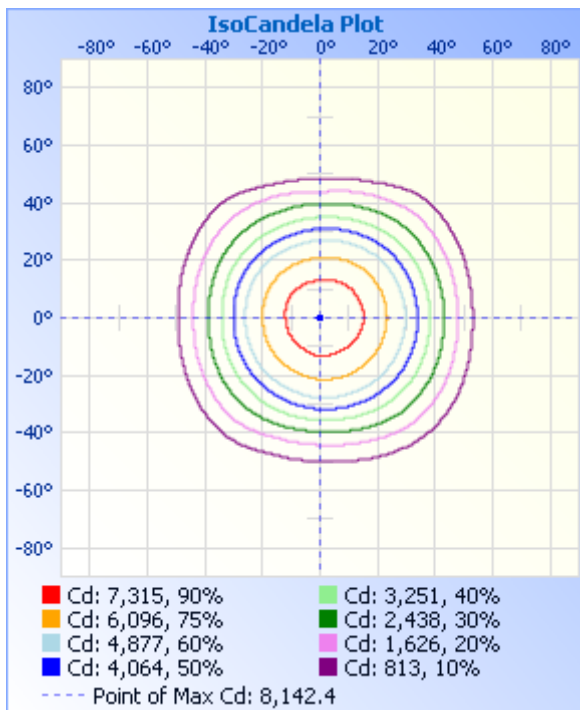
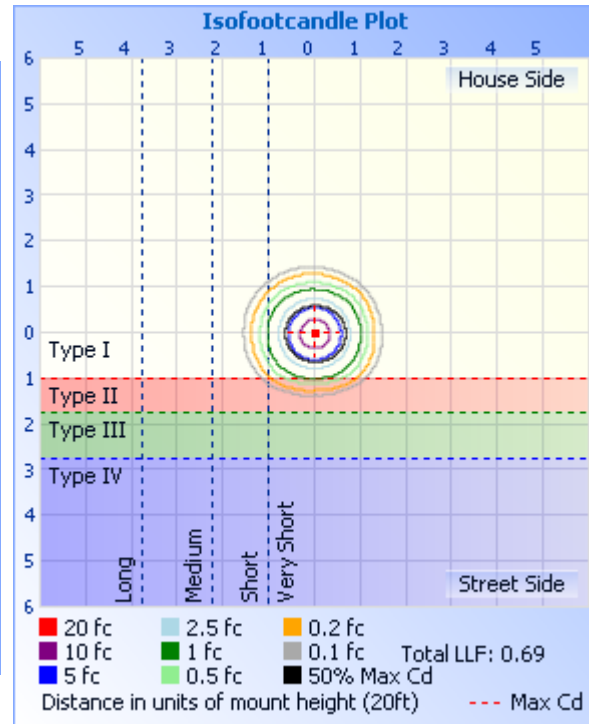
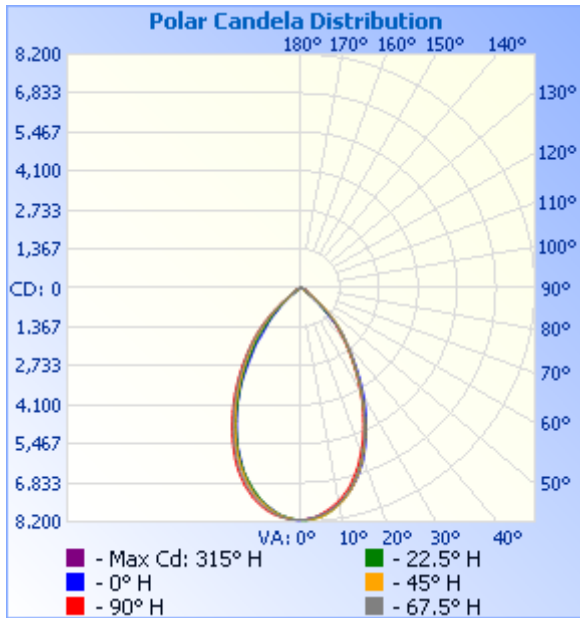
one	Lumens	% Lamp	% Luminaire
0-30	5,205.7	56.2%	56.2%
0-40	7,329.3	79.1%	79.1%
0-60	9,034.7	97.5%	97.5%
60-90	224.0	2.4%	2.4%
70-100	75.3	0.8%	0.8%
90-120	1.9	0%	0%
0-90	9,258.8	99.9%	99.9%
90-180	7.5	0.1%	0.1%
0-180	9,266.3	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	754.1	8.1%	90-100	1.2	0%
10-20	1,985.6	21.4%	100-110	0.7	0%
20-30	2,466.0	26.6%	110-120	0	0%
30-40	2,123.6	22.9%	120-130	0	0%
40-50	1,308.2	14.1%	130-140	0.1	0%
50-60	397.2	4.3%	140-150	0.7	0%
60-70	150.0	1.6%	150-160	1.9	0%
70-80	64.4	0.7%	160-170	2.1	0%
80-90	9.6	0.1%	170-180	0.8	0%



Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
17.0ft	28.1 fc	20.8 ft	21.3 ft
34.0ft	7.0 fc	41.6 ft	42.5 ft
51.0ft	3.1 fc	62.3 ft	63.8 ft
68.0ft	1.8 fc	83.1 ft	85.0 ft
85.0ft	1.1 fc	103.9 ft	106.3 ft
102.0ft	0.8 fc	124.7 ft	127.6 ft

- Vert. Spread: 62.9°
- Horiz. Spread: 64.0°



Report No.: BLC2101007E-B

Certificate#4810.01

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	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128	8128
1	8123	8136	8130	8123	8115	8116	8117	8121	8135	8126	8122	8128	8121	8120	8134	8140	8123
2	8103	8128	8123	8099	8091	8097	8085	8091	8121	8107	8115	8129	8119	8117	8142	8137	8103
3	8072	8108	8100	8072	8064	8058	8049	8061	8095	8072	8089	8106	8101	8102	8131	8133	8072
4	8047	8078	8087	8032	8024	8018	8008	8017	8049	8042	8065	8087	8077	8081	8117	8098	8047
5	8001	8046	8047	7987	7966	7965	7945	7959	8003	8005	8021	8049	8057	8054	8087	8076	8001
6	7963	7994	7993	7943	7900	7909	7888	7904	7940	7935	7962	8004	8017	8017	8038	8040	7963
7	7900	7932	7932	7881	7820	7838	7812	7833	7865	7876	7886	7947	7984	7962	8007	7985	7900
8	7831	7861	7865	7820	7749	7765	7721	7742	7783	7798	7821	7886	7927	7918	7948	7926	7831
9	7753	7779	7789	7745	7666	7670	7636	7638	7717	7719	7749	7815	7874	7871	7877	7848	7753
10	7666	7685	7700	7658	7575	7579	7540	7548	7637	7627	7662	7740	7791	7790	7800	7766	7666
11	7578	7593	7617	7574	7473	7467	7433	7441	7545	7524	7567	7647	7715	7714	7714	7674	7578
12	7480	7477	7510	7460	7362	7346	7312	7338	7444	7407	7480	7551	7620	7612	7626	7567	7480
13	7376	7368	7387	7337	7254	7225	7196	7222	7336	7293	7374	7458	7532	7518	7522	7462	7376
14	7257	7236	7258	7218	7114	7095	7059	7076	7203	7173	7255	7343	7415	7411	7414	7337	7257
15	7133	7091	7124	7073	6966	6952	6927	6954	7078	7049	7125	7226	7301	7298	7292	7203	7133
16	7002	6949	6977	6936	6816	6809	6782	6794	6947	6922	6983	7084	7182	7178	7165	7061	7002
17	6851	6806	6825	6782	6662	6655	6621	6642	6795	6787	6839	6952	7037	7055	7030	6925	6851
18	6696	6646	6659	6617	6502	6487	6464	6484	6641	6634	6694	6820	6906	6915	6892	6767	6696
19	6540	6470	6484	6446	6310	6320	6298	6326	6445	6478	6547	6667	6761	6753	6735	6615	6540
20	6362	6276	6290	6260	6139	6145	6124	6144	6279	6322	6372	6506	6607	6594	6557	6448	6362
21	6187	6093	6102	6056	5954	5955	5944	5968	6118	6154	6221	6348	6445	6429	6385	6277	6187
22	5988	5911	5913	5873	5771	5765	5770	5791	5957	5978	6034	6164	6259	6263	6213	6080	5988
23	5787	5715	5717	5684	5569	5559	5557	5601	5773	5779	5853	5985	6083	6072	6026	5900	5787
24	5592	5515	5508	5476	5368	5337	5364	5418	5579	5591	5670	5799	5894	5880	5830	5707	5592
25	5390	5290	5281	5270	5159	5143	5160	5233	5373	5413	5493	5625	5715	5696	5636	5516	5390
26	5182	5084	5073	5069	4965	4952	4964	5020	5176	5228	5291	5423	5521	5507	5418	5316	5182
27	4984	4881	4864	4842	4768	4756	4742	4824	4977	5034	5101	5233	5333	5317	5224	5099	4984
28	4780	4675	4663	4637	4574	4557	4547	4623	4782	4810	4908	5037	5143	5127	5028	4890	4780

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

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30	4370	4229	4223	4240	4147	4130	4147	4224	4364	4409	4527	4656	4756	4710	4646	4489	4370
31	4173	4026	4033	4040	3944	3936	3951	3989	4161	4210	4332	4471	4572	4522	4442	4281	4173
32	3938	3823	3827	3835	3744	3758	3746	3796	3954	4012	4122	4271	4378	4330	4224	4071	3938
33	3743	3616	3622	3630	3543	3561	3554	3606	3725	3824	3937	4089	4181	4136	4021	3859	3743
34	3530	3418	3427	3422	3351	3357	3370	3420	3473	3616	3757	3903	3991	3940	3843	3653	3530
35	3333	3216	3243	3243	3160	3170	3191	3222	3246	3425	3571	3718	3798	3748	3652	3468	3333
36	3139	3039	3055	3058	2966	2993	3015	2992	3020	3201	3397	3518	3614	3569	3451	3269	3139
37	2953	2864	2891	2878	2795	2828	2851	2816	2843	3019	3207	3339	3430	3377	3278	3094	2953
38	2780	2692	2722	2719	2630	2671	2681	2623	2670	2820	3041	3169	3248	3201	3106	2909	2780
39	2597	2545	2566	2564	2469	2502	2526	2463	2491	2651	2878	3003	3058	3022	2939	2743	2597
40	2442	2391	2424	2402	2317	2350	2382	2319	2207	2487	2723	2845	2897	2850	2776	2588	2442
41	2297	2242	2272	2267	2149	2188	2232	2106	1983	2324	2565	2688	2734	2705	2616	2439	2297
42	2158	2093	2132	2115	1992	2035	2084	1881	1851	2117	2412	2511	2564	2530	2455	2284	2158
43	2003	1963	1993	1961	1844	1882	1924	1694	1730	1889	2243	2352	2405	2373	2307	2144	2003
44	1670	1828	1859	1800	1696	1718	1776	1550	1580	1731	2053	2197	2222	2212	2156	1996	1670
45	1385	1673	1710	1644	1537	1563	1631	1396	1440	1579	1904	2017	2075	2050	1999	1844	1385
46	1235	1403	1559	1493	1389	1408	1478	1268	1229	1446	1715	1849	1901	1871	1841	1607	1235
47	1097	1118	1426	1341	1230	1251	1325	1112	1100	1302	1566	1684	1738	1712	1696	1278	1097
48	931	971	1262	1183	1076	1106	1162	973	985	1140	1416	1525	1568	1544	1534	1104	931
49	792	829	1120	1033	918	946	1015	851	874	1004	1255	1367	1403	1387	1381	965	792
50	635	690	975	888	764	812	879	730	761	894	1114	1197	1217	1222	1228	824	635
51	503	569	822	751	632	685	745	626	663	772	929	1047	1055	1062	1072	691	503
52	371	443	685	617	521	567	612	526	567	672	795	905	908	913	925	560	371
53	280	346	564	512	435	459	504	449	484	569	675	773	771	777	781	427	280
54	231	272	427	433	367	386	417	380	409	477	570	660	645	661	621	344	231
55	189	204	354	361	321	330	356	319	343	403	478	556	542	548	484	244	189
56	164	174	295	323	294	293	310	273	293	349	410	480	463	465	398	200	164
57	148	148	262	293	274	268	284	246	253	298	364	418	404	397	329	162	148
58	138	134	237	270	257	244	260	224	223	260	325	371	349	350	282	142	138
59	122	125	220	256	245	233	245	207	188	230	293	338	320	317	251	128	122
60	118	117	202	238	228	224	230	189	173	213	275	306	295	288	228	117	118

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
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61	109	111	179	225	221	210	218	176	151	189	251	286	277	265	204	112	109
62	104	110	160	212	209	197	207	163	135	169	240	263	262	246	172	102	104
63	97	101	139	201	199	185	196	150	115	157	230	245	246	228	147	99	97
64	93	95	136	191	187	181	177	131	88	136	217	230	234	217	127	95	93
65	91	91	122	181	180	166	167	116	77	115	201	219	224	204	119	90	91
66	87	85	124	173	176	161	152	100	65	98	185	210	214	189	117	82	87
67	84	81	116	160	163	152	141	94	51	88	174	198	203	182	109	76	84
68	82	74	109	156	153	143	134	81	43	80	160	178	194	164	100	75	82
69	80	74	98	146	144	132	115	67	33	66	150	174	181	149	95	61	80
70	69	63	93	136	134	124	103	65	35	59	138	159	174	140	92	67	69
71	53	66	89	126	127	117	87	57	27	49	123	150	163	131	85	54	53
72	29	59	84	116	114	109	79	53	27	46	107	141	154	116	73	44	29
73	21	34	69	110	99	102	66	43	23	47	93	129	144	109	65	41	21
74	21	34	72	101	76	93	50	40	20	37	79	121	136	102	61	31	21
75	24	42	69	93	55	74	51	37	18	34	70	112	123	90	58	23	24
76	8	34	67	78	43	68	41	30	20	28	65	104	113	81	56	26	8
77	21	34	56	67	22	52	27	20	10	23	55	100	99	79	52	18	21
78	11	35	53	57	0	39	23	14	0	23	47	84	81	75	41	19	11
79	17	22	50	48	0	26	25	0	0	9	34	75	57	56	40	25	17
80	17	26	44	37	0	9	23	0	0	0	38	53	35	30	38	21	17
81	17	29	27	32	0	0	15	0	0	0	29	37	13	36	28	25	17
82	20	28	33	23	0	0	0	0	0	0	22	20	0	23	25	21	20
83	13	19	20	27	0	0	0	0	0	0	16	14	0	24	21	13	13
84	15	17	13	26	0	0	0	0	0	0	13	0	0	17	15	9	15
85	10	14	20	20	0	0	0	0	0	0	14	8	0	18	13	11	10
86	10	15	14	16	0	0	0	0	0	0	8	11	0	11	13	9	10
87	11	13	11	13	0	0	0	0	0	0	0	10	0	0	7	9	11
88	14	11	10	11	0	0	0	0	0	0	0	10	0	0	0	9	14
89	8	12	11	0	0	0	0	0	0	0	0	0	0	0	0	7	8
90	10	10	11	0	0	0	0	0	0	0	0	0	0	0	0	10	10
91	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	8	9
92	7	8	12	0	0	0	0	0	0	0	0	0	0	0	0	9	7

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93	0	8	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	8	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	11	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	16	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	10	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	13	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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

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125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0
141	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	7	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	7	8	0	0	0	0	8	0	8	7	0	0	0	0	0
147	0	0	8	7	0	0	0	0	10	0	0	0	0	0	0	0
148	0	0	9	11	0	0	0	0	0	9	0	0	0	0	0	0
149	9	8	10	10	0	0	0	0	0	8	8	0	0	0	0	9
150	8	10	0	10	0	0	0	7	7	0	0	0	0	0	0	8
151	0	13	10	0	0	0	0	0	0	9	0	0	0	0	9	0
152	0	9	10	9	0	0	0	8	0	0	11	0	0	0	0	0
153	7	12	12	13	0	0	0	10	0	0	9	8	0	0	0	9
154	10	10	12	13	0	0	0	7	8	0	14	11	0	0	0	10
155	0	8	8	9	0	0	0	8	0	0	11	11	0	0	0	10
156	0	10	10	11	0	0	0	0	8	0	0	0	0	0	0	0

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157	7	13	0	10	0	0	0	0	0	0	0	9	0	0	0	8	7
158	0	7	11	11	0	0	0	0	8	8	10	13	0	0	0	8	0
159	10	15	15	15	0	0	0	8	9	7	11	8	0	0	11	7	10
160	12	15	14	14	0	0	0	7	0	10	13	11	0	0	0	14	12
161	10	11	10	9	0	0	0	0	8	10	11	14	0	0	0	11	10
162	8	8	18	15	0	0	0	8	9	12	13	11	0	0	0	10	8
163	11	11	8	14	0	0	7	7	11	9	13	13	0	0	8	9	11
164	12	12	13	14	0	0	0	10	0	11	8	11	0	7	10	12	12
165	11	14	8	13	0	0	0	11	8	13	14	13	0	0	7	8	11
166	11	12	15	13	0	0	0	0	0	15	9	9	0	0	12	12	11
167	10	13	15	9	0	0	0	9	11	7	16	16	0	0	9	11	10
168	15	13	11	13	0	0	0	9	10	11	15	13	0	8	10	13	15
169	11	14	17	14	0	0	8	11	10	15	13	18	0	8	10	12	11
170	12	14	15	15	0	0	0	11	11	10	16	17	0	0	13	0	12
171	10	16	13	15	0	0	0	10	12	13	17	15	0	8	12	14	10
172	15	12	13	16	0	0	0	12	11	0	19	15	0	0	11	0	15
173	13	17	14	16	0	0	9	8	10	14	12	14	0	0	13	13	13
174	11	14	16	15	0	0	8	11	11	9	13	15	0	9	12	11	11
175	11	10	15	12	0	0	0	8	10	12	16	17	0	0	7	14	11
176	11	16	11	10	0	0	8	10	10	12	9	12	0	0	0	10	11
177	11	15	13	13	0	0	10	13	15	11	13	13	0	0	13	11	11
178	13	15	12	13	0	0	0	9	15	14	16	15	0	0	10	12	13
179	13	13	17	15	0	0	7	9	13	12	16	9	0	8	9	13	13
180	13	16	15	11	0	0	0	12	11	13	17	15	0	0	12	11	13



Report No.: BLC2101007E-B

BUG

Lum. Classification System (LCS)

<u>LCS Zone</u>	<u>Lumens</u>	<u>%Lamp</u>	<u>%Lum</u>
FL (0-30)	2622.2	28.3	28.3
FM (30-60)	1930.3	20.8	20.8
FH (60-80)	102.5	1.1	1.1
FVH (80-90)	7.6	0.1	0.1
BL (0-30)	2584.2	27.9	27.9
BM (30-60)	1900.1	20.5	20.5
BH (60-80)	111.9	1.2	1.2
BVH(80-90)	2.1	0.0	0.0
UL (90-100)	1.2	0.0	0.0
UH (100-180)	6.3	0.1	0.1
Total	9268.4	100.0	100.0
BUG Rating	B4-U1-G0		

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

Test date	2021-01-11	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-RWP01B-80WW1CYT1DA2-abc40f		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210100	120.0	60	0.687	81.85	0.993	12.12
7E-B1	277.0	60	0.298	80.96	0.982	9.82
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

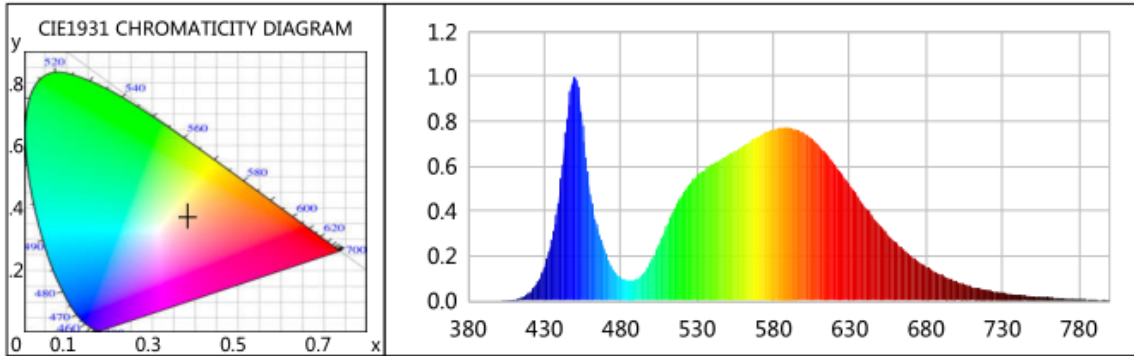
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	72	R9	-19
Frequency (Hz)	60	R2	80	R10	52
CCT (K)	3987	R3	85	R11	68
Duv	-0.0021	R4	73	R12	42
Chromaticity (x, y)	x=0.3796 y=0.3718	R5	71	R13	73
Chromaticity (u', v')	u(u')=0.2265 v'=0.4992	R6	71	R14	91
Color Rendering Index (CRI)	74	R7	82	R15	67
R9	-19	R8	56	--	--
Rf	74	--	--	--	--
Rg	95	--	--	--	--
Rcs,h1(%)	-16	--	--	--	--

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)	10399.0	10350.5	>300(-10%)
Luminous Efficacy (lm/W)	127.05	127.85	Premium: $\geq 120(-3\%)$
Most worst Luminous/Highest	126.46		



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	0.0599	525	0.5196	124.5746	670	0.2006	48.0970
385	0.0002	0.0571	530	0.5571	133.5755	675	0.1746	41.8629
390	0.0004	0.1073	535	0.5841	140.0373	680	0.1523	36.5036
395	0.0003	0.0750	540	0.6095	146.1430	685	0.1330	31.8905
400	0.0010	0.2368	545	0.6283	150.6357	690	0.1155	27.6880
405	0.0022	0.5171	550	0.6468	155.0653	695	0.1000	23.9649
410	0.0058	1.3843	555	0.6682	160.1973	700	0.0858	20.5668
415	0.0156	3.7314	560	0.6890	165.1958	705	0.0745	17.8517
420	0.0369	8.8572	565	0.7112	170.5058	710	0.0639	15.3299
425	0.0789	18.9273	570	0.7306	175.1609	715	0.0550	13.1752
430	0.1539	36.9091	575	0.7517	180.2200	720	0.0479	11.4931
435	0.2777	66.5884	580	0.7646	183.3139	725	0.0400	9.5970
440	0.4889	117.2125	585	0.7697	184.5414	730	0.0355	8.5124
445	0.8165	195.7591	590	0.7716	184.9882	735	0.0305	7.3066
450	1.0000	239.7565	595	0.7654	183.5143	740	0.0261	6.2620
455	0.7809	187.2199	600	0.7485	179.4618	745	0.0220	5.2660
460	0.4728	113.3623	605	0.7231	173.3584	750	0.0190	4.5555
465	0.3196	76.6352	610	0.6911	165.6940	755	0.0163	3.8975
470	0.2159	51.7568	615	0.6530	156.5621	760	0.0148	3.5424
475	0.1391	33.3474	620	0.6099	146.2390	765	0.0126	3.0101
480	0.1030	24.6866	625	0.5622	134.7959	770	0.0112	2.6763
485	0.0913	21.8863	630	0.5141	123.2537	775	0.0101	2.4332
490	0.0965	23.1247	635	0.4654	111.5781	780	0.0087	2.0817
495	0.1254	30.0683	640	0.4194	100.5503	785	0.0082	1.9687
500	0.1792	42.9573	645	0.3752	89.9642	790	0.0058	1.3969
505	0.2499	59.9270	650	0.3335	79.9598	795	0.0048	1.1450
510	0.3302	79.1585	655	0.2959	70.9428	800	0.0034	0.8196
515	0.4051	97.1163	660	0.2613	62.6603			
520	0.4690	112.4513	665	0.2289	54.8716			

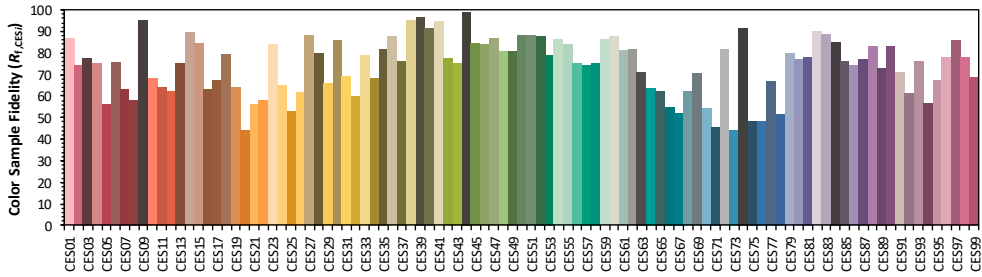
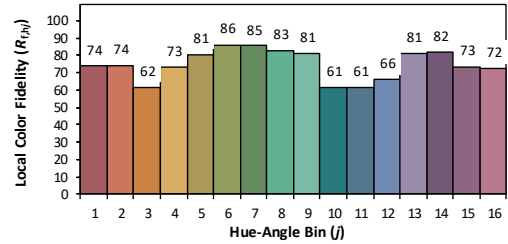
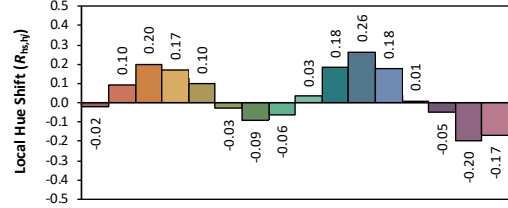
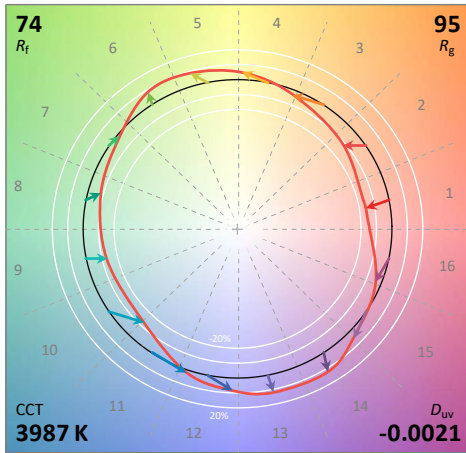
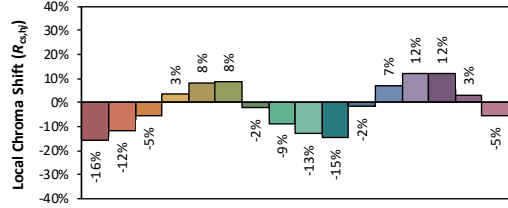
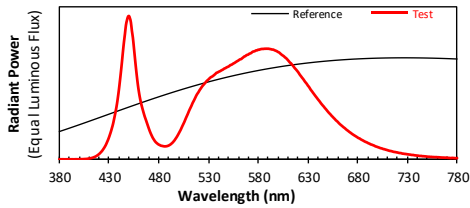


TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: STW7C2SB-NT
Date: 2021/1/11

Manufacturer: ASmart LIGHT CO., LTD
Model: AST-RWPO1B-80WW1CYT1DA2-abcd40f



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

x 0.3796
 y 0.3718
 u' 0.2265
 v' 0.4992

CIE 13.3-1995 (CRI)	
R _a	74
R ₉	-19

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

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

Test date	2021-01-11	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-RWP01B-80WW1CYT1DA2-abc50f		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210100	120.0	60	0.702	83.79	0.994	12.85
7E-B1	277.0	60	0.304	82.68	0.981	9.86
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

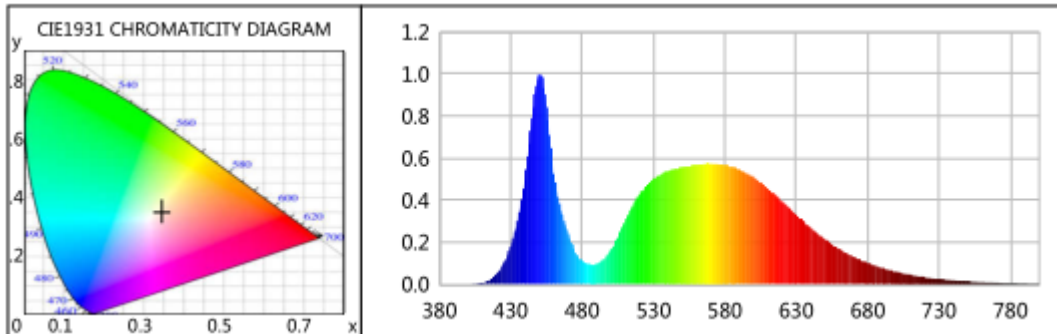
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	71	R9	-23
Frequency (Hz)	60	R2	78	R10	45
CCT (K)	5108	R3	81	R11	69
Duv	0.0002	R4	73	R12	41
Chromaticity (x, y)	x=0.3422 y=0.3497	R5	71	R13	72
Chromaticity (u', v')	u(u')=0.2102 v'=0.4833	R6	68	R14	89
Color Rendering Index (CRI)	73	R7	82	R15	67
R9	-23	R8	59	--	--
Rf	73	--	--	--	--
Rg	95	--	--	--	--
Rcs,h1(%)	-17	--	--	--	--

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)	10139.5	10120.3	>300(-10%)
Luminous Efficacy (lm/W)	121.01	122.40	Premium: >= 120(-3%)
Most worst Luminous/Highest	120.78		



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	0.1245	525	0.4671	137.8067	670	0.1313	38.7362
385	0.0007	0.2051	530	0.4989	147.2068	675	0.1152	33.9889
390	0.0006	0.1886	535	0.5213	153.7924	680	0.1017	30.0043
395	0.0004	0.1154	540	0.5381	158.7651	685	0.0895	26.4046
400	0.0010	0.2976	545	0.5467	161.2906	690	0.0777	22.9305
405	0.0023	0.6864	550	0.5545	163.6025	695	0.0678	19.9985
410	0.0076	2.2566	555	0.5614	165.6383	700	0.0591	17.4407
415	0.0210	6.1968	560	0.5667	167.1971	705	0.0514	15.1765
420	0.0467	13.7688	565	0.5717	168.6871	710	0.0447	13.1845
425	0.0960	28.3311	570	0.5726	168.9532	715	0.0386	11.3855
430	0.1782	52.5794	575	0.5717	168.6701	720	0.0336	9.9248
435	0.3071	90.6155	580	0.5663	167.0865	725	0.0293	8.6359
440	0.5021	148.1373	585	0.5573	164.4300	730	0.0255	7.5139
445	0.7932	234.0386	590	0.5460	161.1057	735	0.0217	6.4125
450	1.0000	295.0415	595	0.5292	156.1332	740	0.0187	5.5103
455	0.8462	249.6554	600	0.5095	150.3118	745	0.0164	4.8529
460	0.5293	156.1515	605	0.4846	142.9635	750	0.0143	4.2324
465	0.3550	104.7302	610	0.4569	134.8012	755	0.0119	3.5137
470	0.2420	71.4015	615	0.4268	125.9296	760	0.0117	3.4649
475	0.1564	46.1338	620	0.3961	116.8671	765	0.0105	3.0895
480	0.1121	33.0799	625	0.3625	106.9608	770	0.0086	2.5378
485	0.0954	28.1567	630	0.3304	97.4901	775	0.0067	1.9697
490	0.0956	28.2102	635	0.2992	88.2811	780	0.0057	1.6771
495	0.1181	34.8325	640	0.2686	79.2465	785	0.0053	1.5716
500	0.1640	48.3768	645	0.2412	71.1733	790	0.0048	1.4239
505	0.2269	66.9308	650	0.2155	63.5834	795	0.0029	0.8418
510	0.2981	87.9525	655	0.1915	56.4912	800	0.0036	1.0712
515	0.3649	107.6594	660	0.1692	49.9213			
520	0.4227	124.7018	665	0.1491	43.9866			



TM30

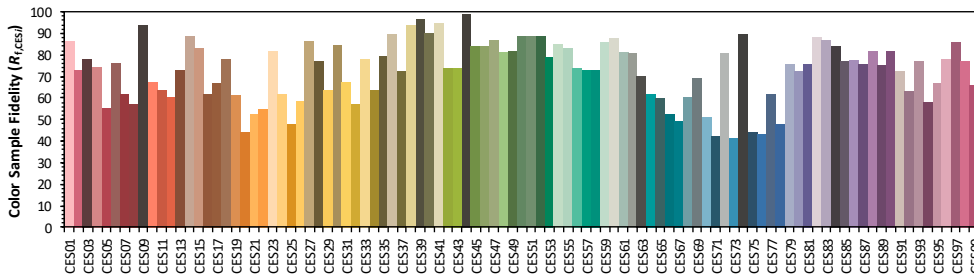
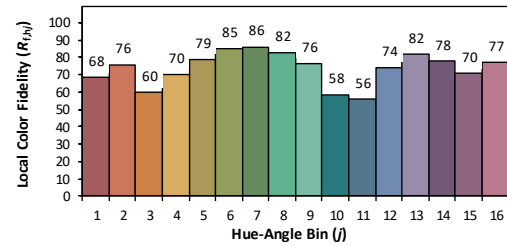
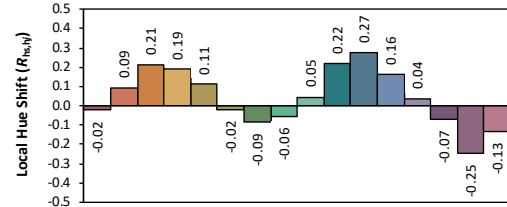
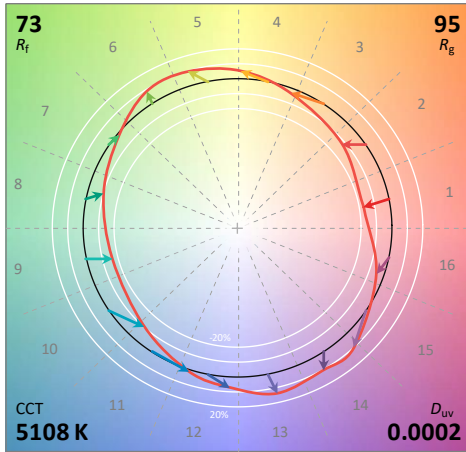
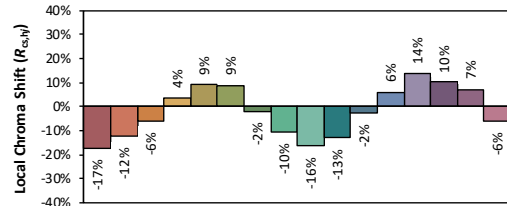
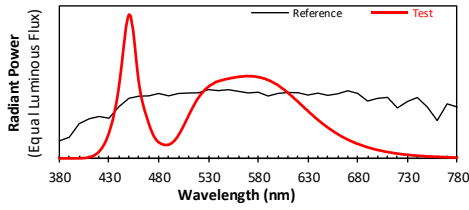
ANSI/IES TM-30-18 Color Rendition Report

Source: STW7C2SB-NT

Manufacturer: AS MART LIGHT CO., LTD

Date: 2021/1/11

Model: AST-RWP01B-80WW1CYT1DA2-abc50f



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

x **0.3422**
 y **0.3497**
 u' **0.2102**
 v' **0.4833**

CIE 13.3-1995 (CRI)	
R_a	73
R_g	-23

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



Report No.: BLC2101007E-B

Certificate#4810.01

3. Test Equipment

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

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

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