



Report No.: BLC2101007E-A

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-40WH1CYT1DA2-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 "d" can be any two letters for mounting hardware or blank for not provided;

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-40WH1CYT1DA2-abc30f

AST-RWP01B-40WH1CYT1DA2-abc40f

AST-RWP01B-40WH1CYT1DA2-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-A

1.1 Product Information:

Organization Name	ASmart LIGHT CO., LTD	
Brand Name	ASmart	
Model Number	AST-RWP01B-40WH1CYT1DA2-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	40W	
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	SAW7C22B-NZ	
Sample Number	BLC2101007E-A1(3000K), A1(4000K), A1(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-40WH1CYT1DA2-abc30f		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210100	120.0	60	0.345	40.81	0.986	13.25
7E-A1	277.0	60	0.158	39.83	0.912	15.65
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)	3042
Duv	0.0006
Chromaticity (x, y)	x=0.4349 y=0.4050
Chromaticity (u', v')	u(u')=0.2489 v'=0.5214
Color Rendering Index (CRI)	72
R9	-29
Rf	74
Rg	96
Rcs,h1(%)	-16

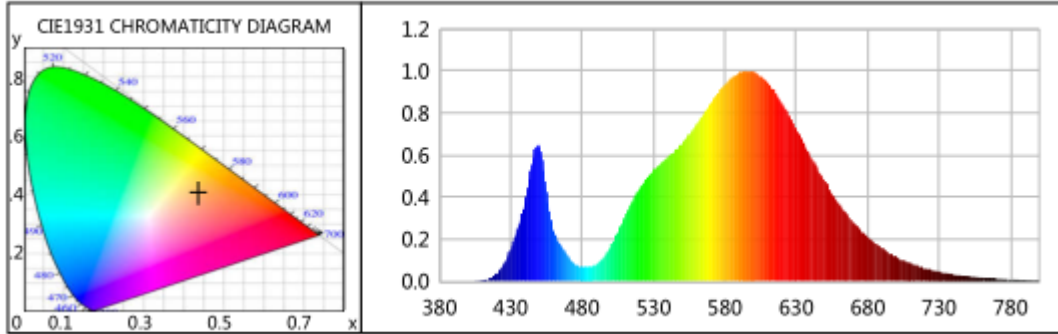
Special Color Rendering Indices			
R1	68	R9	-29
R2	80	R10	54
R3	91	R11	64
R4	69	R12	44
R5	67	R13	70
R6	73	R14	94
R7	78	R15	61
R8	46	--	--
--	--	--	--
--	--	--	--
--	--	--	--

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)	5076.7	4988.0	>300(-10%)
Luminous Efficacy (lm/W)	124.40	125.23	Premium: $\geq 120(-3\%)$
Most worst Luminous/Highest	122.22		
Zonal lumens in the 0-90° (%)	100	--	$\geq 100(-3)$
Zonal lumens in the 80-90°(%)	2.7	--	$\leq 10(+3)$
Beam Angle (°)	62.3	--	--
Center Beam Candle Power (cd)	4452	--	--



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	0.0229	525	0.4860	50.2512	670	0.2788	28.8280
385	0.0004	0.0429	530	0.5257	54.3558	675	0.2437	25.1918
390	0.0001	0.0093	535	0.5586	57.7514	680	0.2109	21.8079
395	0.0005	0.0551	540	0.5895	60.9517	685	0.1822	18.8424
400	0.0009	0.0942	545	0.6198	64.0809	690	0.1571	16.2475
405	0.0020	0.2041	550	0.6555	67.7681	695	0.1349	13.9436
410	0.0051	0.5238	555	0.6964	72.0021	700	0.1158	11.9714
415	0.0142	1.4668	560	0.7438	76.9030	705	0.0987	10.2072
420	0.0354	3.6613	565	0.7937	82.0571	710	0.0846	8.7463
425	0.0788	8.1465	570	0.8436	87.2195	715	0.0725	7.4941
430	0.1530	15.8169	575	0.8928	92.3080	720	0.0618	6.3932
435	0.2523	26.0820	580	0.9341	96.5748	725	0.0528	5.4624
440	0.3763	38.9040	585	0.9653	99.8037	730	0.0453	4.6794
445	0.5617	58.0727	590	0.9912	102.4859	735	0.0391	4.0427
450	0.6429	66.4660	595	1.0000	103.3912	740	0.0329	3.4042
455	0.4287	44.3199	600	0.9946	102.8355	745	0.0286	2.9550
460	0.2405	24.8682	605	0.9731	100.6103	750	0.0237	2.4536
465	0.1737	17.9577	610	0.9453	97.7395	755	0.0208	2.1508
470	0.1194	12.3413	615	0.8993	92.9801	760	0.0176	1.8183
475	0.0808	8.3554	620	0.8477	87.6418	765	0.0149	1.5446
480	0.0682	7.0562	625	0.7860	81.2702	770	0.0129	1.3356
485	0.0685	7.0841	630	0.7229	74.7365	775	0.0106	1.0934
490	0.0797	8.2446	635	0.6586	68.0948	780	0.0079	0.8212
495	0.1119	11.5713	640	0.5943	61.4469	785	0.0076	0.7889
500	0.1654	17.1015	645	0.5314	54.9452	790	0.0068	0.7047
505	0.2328	24.0695	650	0.4743	49.0366	795	0.0055	0.5679
510	0.3071	31.7528	655	0.4175	43.1696	800	0.0041	0.4237
515	0.3773	39.0126	660	0.3679	38.0377			
520	0.4359	45.0637	665	0.3210	33.1913			

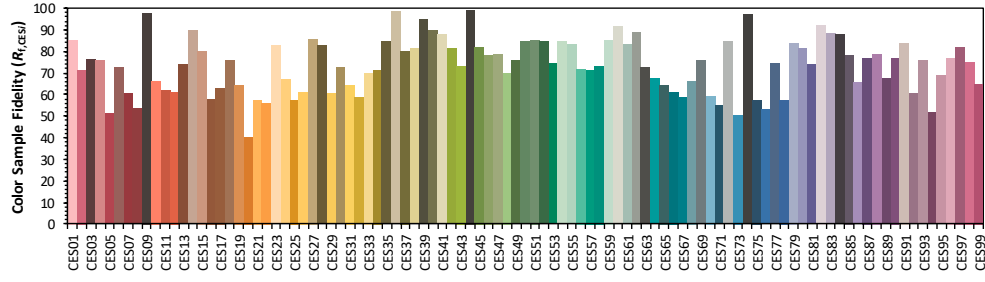
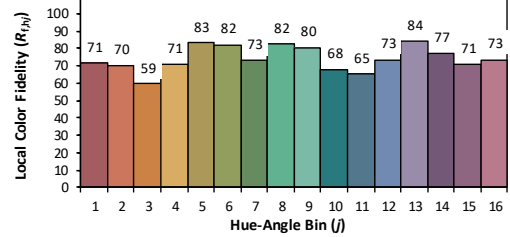
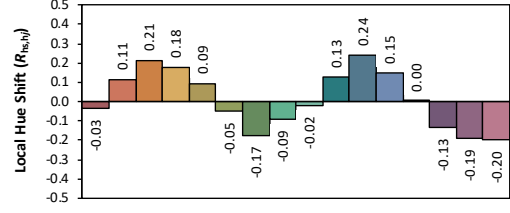
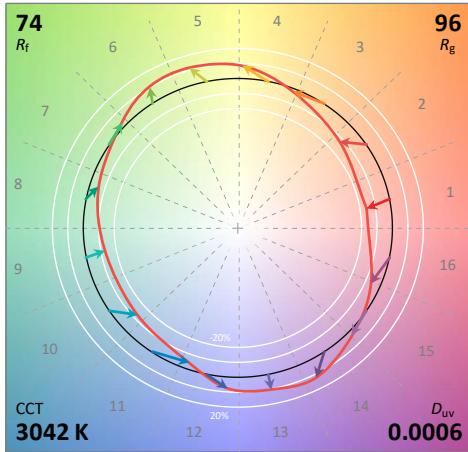
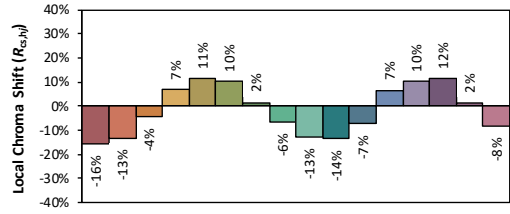
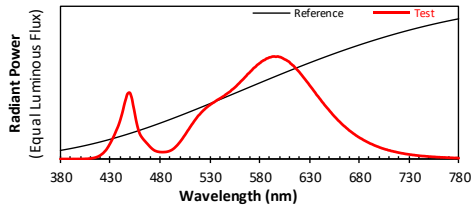


TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: SAW7C22B-NZ
Date: 2021/1/13

Manufacturer: AS MART LIGHT CO., LTD
Model: AST-RWP01B-40WH1CYT1DA2-abcd30f



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

x 0.4349
 y 0.4050
 u' 0.2489
 v' 0.5214

CIE 13.3-1995 (CRI)
 R_a 72
 R_9 -29

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

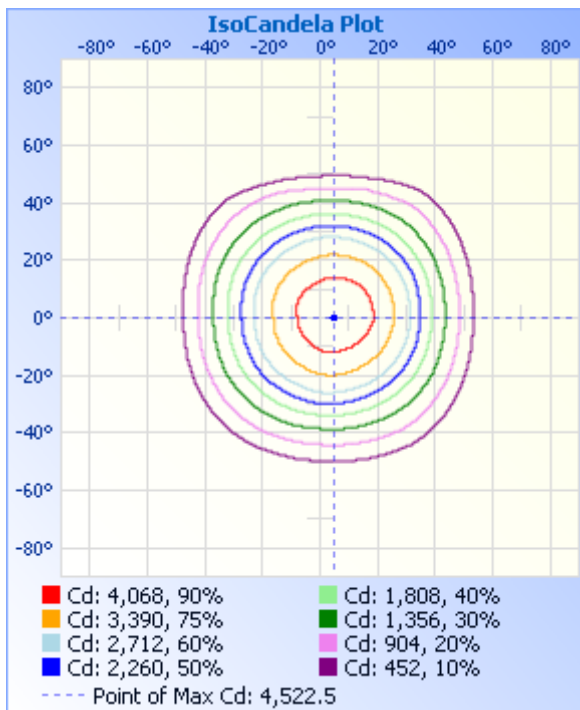
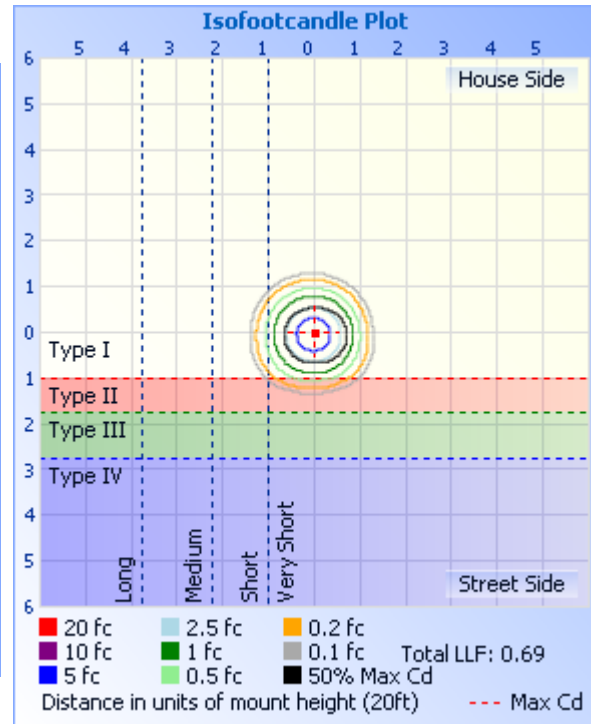
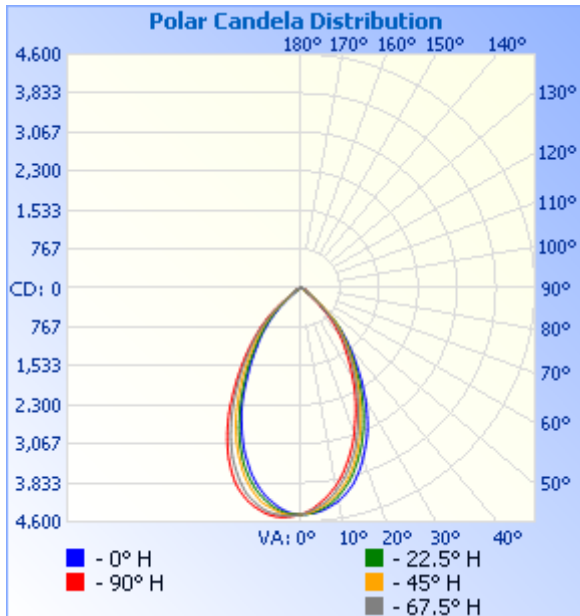
Zone	Lumens	% Lamp	% Luminaire
0-30	2,842.1	56%	56%
0-40	4,000.0	78.8%	78.8%
0-60	4,948.1	97.5%	97.5%
60-90	126.9	2.5%	2.5%
70-100	38.0	0.7%	0.7%
90-120	0	0%	0%
0-90	5,075.0	100%	100%
90-180	0.6	0%	0%
0-180	5,075.6	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	413.0	8.1%	90-100	0	0%
10-20	1,085.0	21.4%	100-110	0	0%
20-30	1,344.2	26.5%	110-120	0	0%
30-40	1,157.8	22.8%	120-130	0	0%
40-50	720.9	14.2%	130-140	0	0%
50-60	227.3	4.5%	140-150	0.0	0%
60-70	88.9	1.8%	150-160	0.2	0%
70-80	35.6	0.7%	160-170	0.2	0%
80-90	2.4	0.0%	170-180	0.2	0%



Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
17.0ft	15.41 fc	20.4 ft	20.5 ft
34.0ft	3.85 fc	40.8 ft	41.1 ft
51.0ft	1.71 fc	61.1 ft	61.6 ft
68.0ft	0.96 fc	81.5 ft	82.1 ft
85.0ft	0.62 fc	101.9 ft	102.7 ft
102.0ft	0.43 fc	122.3 ft	123.2 ft

■ Vert. Spread: 61.9°
■ Horiz. Spread: 62.3°



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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	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452	4452
1	4450	4450	4440	4428	4425	4426	4420	4433	4452	4457	4464	4471	4472	4478	4478	4466	4450
2	4439	4444	4426	4400	4387	4400	4391	4411	4441	4452	4469	4481	4487	4493	4497	4477	4439
3	4434	4426	4404	4370	4350	4369	4359	4387	4426	4445	4469	4491	4503	4507	4514	4486	4434
4	4423	4402	4373	4335	4293	4328	4316	4355	4397	4431	4463	4492	4515	4512	4522	4484	4423
5	4403	4377	4337	4299	4242	4282	4268	4319	4364	4408	4445	4490	4520	4515	4519	4479	4403
6	4383	4342	4296	4257	4189	4229	4217	4269	4323	4384	4419	4479	4522	4516	4515	4461	4383
7	4353	4310	4255	4209	4138	4161	4162	4216	4281	4347	4390	4468	4516	4518	4501	4441	4353
8	4319	4268	4207	4157	4073	4101	4100	4155	4231	4306	4361	4455	4503	4505	4486	4414	4319
9	4285	4222	4158	4096	4009	4028	4038	4095	4185	4259	4332	4432	4487	4487	4470	4379	4285
10	4250	4168	4107	4030	3945	3957	3975	4030	4129	4210	4301	4401	4458	4456	4454	4344	4250
11	4203	4107	4048	3962	3870	3884	3903	3959	4068	4157	4256	4362	4424	4429	4424	4305	4203
12	4154	4044	3980	3891	3794	3812	3827	3887	4001	4102	4191	4319	4396	4398	4384	4265	4154
13	4097	3982	3917	3818	3711	3723	3736	3809	3932	4039	4132	4274	4359	4366	4347	4215	4097
14	4040	3913	3841	3736	3615	3636	3649	3729	3855	3964	4067	4228	4317	4336	4297	4161	4040
15	3982	3836	3755	3649	3531	3546	3561	3641	3782	3890	3994	4172	4270	4279	4241	4096	3982
16	3901	3754	3672	3558	3441	3457	3472	3550	3685	3814	3922	4101	4212	4231	4179	4030	3901
17	3822	3664	3584	3476	3345	3364	3384	3442	3590	3730	3840	4028	4157	4167	4109	3964	3822
18	3742	3581	3489	3385	3252	3264	3277	3350	3501	3645	3746	3947	4090	4098	4032	3889	3742
19	3651	3490	3392	3291	3155	3157	3179	3254	3413	3542	3652	3864	4017	4026	3951	3804	3651
20	3559	3399	3288	3188	3046	3049	3080	3155	3310	3441	3560	3776	3928	3945	3870	3709	3559
21	3468	3310	3192	3078	2940	2944	2977	3050	3207	3336	3460	3688	3841	3859	3782	3616	3468
22	3369	3210	3093	2974	2838	2838	2865	2946	3099	3228	3361	3594	3742	3772	3695	3523	3369
23	3283	3114	2991	2876	2738	2732	2764	2826	2989	3119	3262	3488	3645	3675	3590	3427	3283
24	3186	3010	2873	2766	2643	2627	2650	2718	2881	3007	3148	3382	3542	3577	3491	3325	3186
25	3087	2905	2775	2660	2542	2514	2547	2609	2780	2875	3040	3276	3433	3473	3383	3217	3087
26	2978	2801	2671	2555	2436	2409	2442	2509	2672	2760	2937	3156	3317	3351	3271	3114	2978
27	2864	2694	2566	2454	2335	2308	2341	2395	2556	2648	2822	3037	3205	3236	3156	3003	2864
28	2754	2591	2464	2354	2232	2212	2236	2288	2439	2532	2693	2921	3082	3115	3044	2895	2754

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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34	2069	1934	1857	1785	1651	1651	1657	1675	1745	1856	2005	2203	2325	2377	2320	2198	2069
35	1959	1849	1771	1689	1565	1568	1557	1583	1644	1754	1895	2090	2204	2262	2202	2084	1959
36	1856	1742	1673	1605	1475	1471	1473	1501	1549	1645	1799	1978	2086	2144	2086	1967	1856
37	1754	1649	1585	1514	1397	1387	1387	1412	1444	1553	1705	1862	1976	2028	1980	1858	1754
38	1654	1558	1500	1425	1313	1306	1311	1321	1367	1461	1598	1755	1864	1914	1872	1754	1654
39	1549	1473	1415	1340	1232	1224	1223	1242	1287	1376	1509	1656	1763	1806	1766	1649	1549
40	1453	1385	1341	1268	1147	1143	1142	1161	1206	1294	1422	1569	1658	1699	1662	1552	1453
41	1368	1308	1253	1186	1054	1046	1063	1079	1118	1202	1345	1481	1557	1605	1566	1461	1368
42	1280	1222	1185	1097	972	955	979	992	1030	1122	1261	1393	1466	1502	1483	1372	1280
43	1197	1149	1105	1013	882	866	897	909	955	1054	1178	1299	1371	1411	1388	1287	1197
44	1119	1074	1029	925	798	778	809	828	877	967	1101	1214	1273	1327	1302	1209	1119
45	928	993	941	838	705	683	722	745	793	888	1026	1126	1175	1229	1221	1128	928
46	735	917	861	752	616	600	636	669	710	804	943	1034	1098	1144	1139	1048	735
47	673	768	779	667	529	519	553	587	627	728	864	933	1012	1052	1062	955	673
48	574	587	697	573	446	440	474	505	555	652	762	844	916	966	982	702	574
49	517	514	611	500	367	378	395	434	481	571	684	754	838	872	899	625	517
50	441	427	524	430	301	319	339	371	408	489	602	670	743	795	815	546	441
51	361	361	447	364	257	266	294	315	343	417	521	573	651	701	724	465	361
52	289	303	375	306	217	228	249	263	295	356	443	490	549	611	638	395	289
53	216	249	318	263	200	206	215	232	244	299	368	415	439	528	550	315	216
54	152	196	265	226	181	185	193	201	211	259	310	349	356	440	464	252	152
55	128	154	202	203	165	166	177	182	185	216	261	295	295	358	380	188	128
56	104	116	173	185	149	157	167	164	168	195	224	246	245	297	271	136	104
57	94	90	144	172	142	148	157	152	154	171	204	211	208	238	224	112	94
58	92	77	134	159	131	137	141	141	144	159	176	193	188	202	179	97	92
59	83	74	122	149	122	125	137	135	130	150	166	179	176	181	150	82	83
60	79	67	118	142	114	123	129	124	121	141	162	164	170	166	132	79	79

Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01
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Certificate#4810.01

61	69	65	101	128	111	114	126	113	109	131	152	159	159	152	113	68	69
62	66	54	93	119	104	105	115	108	103	120	144	148	151	142	107	67	66
63	66	58	83	110	101	97	109	96	87	114	137	140	143	136	100	65	66
64	56	53	78	107	95	91	101	87	81	100	131	136	132	125	87	59	56
65	57	55	71	100	92	86	92	72	72	88	123	130	127	122	72	58	57
66	55	45	60	92	84	82	87	62	61	81	117	117	126	115	71	58	55
67	56	51	65	88	75	75	81	56	49	62	109	115	119	108	69	41	56
68	49	44	62	84	76	73	74	46	41	59	97	107	113	102	63	39	49
69	48	33	58	72	72	67	72	37	36	49	91	101	109	90	68	46	48
70	38	34	49	68	65	62	58	32	32	45	89	98	103	85	61	35	38
71	21	33	43	62	65	54	45	29	33	37	74	91	100	81	55	38	21
72	20	21	41	49	58	56	34	22	30	36	62	90	91	73	51	28	20
73	8	17	40	58	45	46	38	23	27	35	53	82	84	65	47	24	8
74	0	12	36	51	45	40	29	22	24	26	49	68	74	62	35	15	0
75	0	14	35	46	36	35	22	20	21	25	41	64	72	55	40	0	0
76	0	11	31	38	21	34	22	18	9	24	33	61	63	54	35	0	0
77	0	10	27	33	14	29	18	17	16	20	26	62	57	48	24	0	0
78	0	11	24	26	0	16	11	0	0	16	24	55	46	40	28	8	0
79	0	10	19	21	0	17	12	0	0	10	22	46	30	39	25	7	0
80	0	0	22	14	0	0	0	0	0	0	21	39	18	23	20	9	0
81	0	12	16	12	0	0	0	0	0	0	16	30	0	14	16	8	0
82	0	0	13	9	0	0	0	0	0	0	10	18	0	15	9	0	0
83	0	0	9	0	0	0	0	0	0	0	10	0	0	8	13	0	0
84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0
85	0	0	0	9	0	0	0	0	0	0	0	0	0	11	0	0	0
86	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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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	0
126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0

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157	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
158	0	0	7	0	0	0	0	0	0	0	0	7	0	0	0	0	0
159	0	0	12	0	0	0	0	0	0	0	0	8	0	0	0	0	0
160	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	9	0	0	0	0	0	0	0	10	0	0	0	0	0
163	0	0	10	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	7	0	0	0	0	0
165	0	0	9	8	0	0	0	0	0	0	0	9	0	0	0	0	0
166	0	0	10	12	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	10	9	0	0	0	0	0	0	0	0	7	0	0	0	0	0
169	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
170	0	0	10	8	0	0	0	0	0	0	7	0	0	0	0	0	0
171	0	0	0	10	0	0	0	9	0	0	8	8	0	0	0	0	0
172	9	0	9	0	0	0	0	8	9	0	0	0	0	0	0	0	9
173	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0	0
174	0	0	8	8	0	0	0	0	0	0	0	10	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	8	11	0	0	0	0	0
176	7	0	8	0	0	0	0	8	0	0	0	0	0	0	0	0	7
177	12	0	11	0	0	0	0	0	0	0	0	9	0	0	8	0	12
178	9	0	0	0	0	0	0	0	8	7	12	0	0	0	0	0	9
179	8	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	8
180	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0



Report No.: BLC2101007E-A

BUG

Lum. Classification System (LCS)

<u>LCS Zone</u>	<u>Lumens</u>	<u>%Lamp</u>	<u>%Lum</u>
FL (0-30)	1460.4	28.8	28.8
FM (30-60)	1120.6	22.1	22.1
FH (60-80)	57.5	1.1	1.1
FVH (80-90)	1.6	0.0	0.0
BL (0-30)	1382.1	27.2	27.2
BM (30-60)	986.0	19.4	19.4
BH (60-80)	66.9	1.3	1.3
BVH(80-90)	0.8	0.0	0.0
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.6	0.0	0.0
Total	5076.5	99.9	100.0
BUG Rating	B3-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-40WH1CYT1DA2-abc40f		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210100	120.0	60	0.336	39.86	0.989	13.11
7E-A1	277.0	60	0.154	39.01	0.916	15.52
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

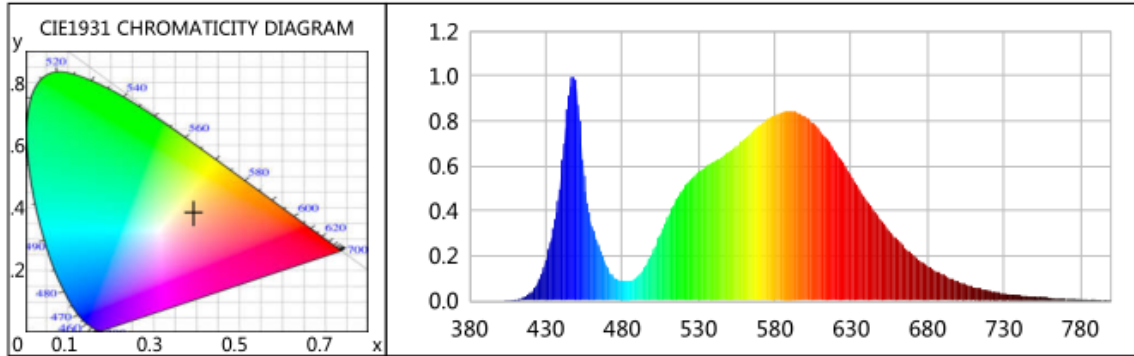
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	70	R9	-27
Frequency (Hz)	60	R2	79	R10	51
CCT (K)	3776	R3	87	R11	69
Duv	-0.0001	R4	73	R12	44
Chromaticity (x, y)	x=0.3907 y=0.3827	R5	70	R13	72
Chromaticity (u', v')	u(u')=0.2295 v'=0.5057	R6	71	R14	92
Color Rendering Index (CRI)	73	R7	80	R15	64
R9	-27	R8	52	--	--
Rf	74	--	--	--	--
Rg	96	--	--	--	--
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)	5716.4	5631.5	>300(-10%)
Luminous Efficacy (lm/W)	143.41	144.36	Premium: $\geq 120(-3\%)$
Most worst Luminous/Highest	141.28		



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	0.0293	525	0.5400	67.1758	670	0.2064	25.6799
385	0.0007	0.0888	530	0.5721	71.1622	675	0.1796	22.3392
390	0.0004	0.0463	535	0.5966	74.2113	680	0.1552	19.3035
395	0.0007	0.0822	540	0.6194	77.0493	685	0.1340	16.6689
400	0.0007	0.0826	545	0.6405	79.6705	690	0.1157	14.3886
405	0.0016	0.2033	550	0.6635	82.5405	695	0.0985	12.2562
410	0.0049	0.6129	555	0.6909	85.9381	700	0.0858	10.6775
415	0.0142	1.7684	560	0.7181	89.3240	705	0.0725	9.0234
420	0.0363	4.5108	565	0.7502	93.3218	710	0.0615	7.6496
425	0.0850	10.5787	570	0.7789	96.8885	715	0.0527	6.5556
430	0.1781	22.1586	575	0.8069	100.3710	720	0.0448	5.5672
435	0.3244	40.3518	580	0.8265	102.8082	725	0.0384	4.7786
440	0.5599	69.6469	585	0.8373	104.1488	730	0.0327	4.0708
445	0.9128	113.5469	590	0.8423	104.7820	735	0.0280	3.4876
450	0.9443	117.4641	595	0.8365	104.0496	740	0.0239	2.9744
455	0.5548	69.0154	600	0.8188	101.8554	745	0.0211	2.6266
460	0.3334	41.4778	605	0.7902	98.2961	750	0.0179	2.2262
465	0.2384	29.6562	610	0.7553	93.9499	755	0.0154	1.9162
470	0.1498	18.6339	615	0.7110	88.4457	760	0.0133	1.6586
475	0.1029	12.7989	620	0.6629	82.4594	765	0.0113	1.4107
480	0.0898	11.1763	625	0.6091	75.7709	770	0.0103	1.2787
485	0.0891	11.0830	630	0.5545	68.9793	775	0.0079	0.9871
490	0.1069	13.2988	635	0.5011	62.3332	780	0.0065	0.8138
495	0.1522	18.9282	640	0.4487	55.8200	785	0.0056	0.6912
500	0.2174	27.0368	645	0.4000	49.7624	790	0.0050	0.6256
505	0.2938	36.5513	650	0.3533	43.9458	795	0.0036	0.4480
510	0.3726	46.3507	655	0.3111	38.7026	800	0.0035	0.4334
515	0.4424	55.0263	660	0.2727	33.9213			
520	0.4964	61.7472	665	0.2373	29.5151			



TM30

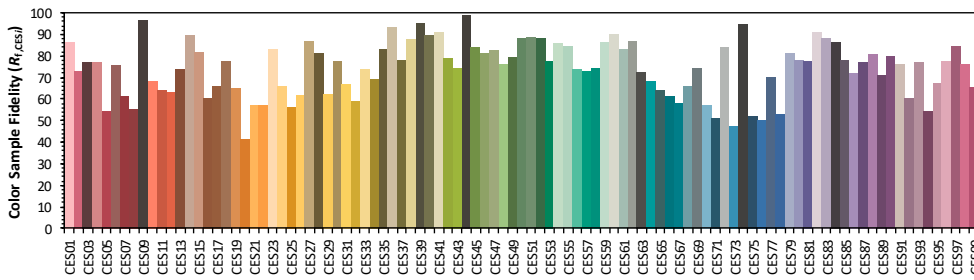
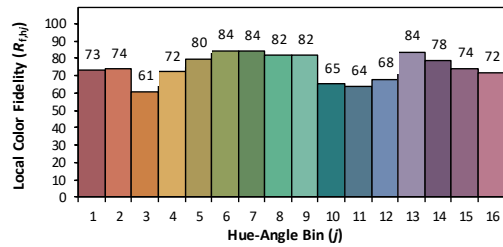
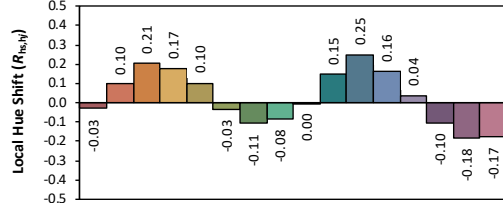
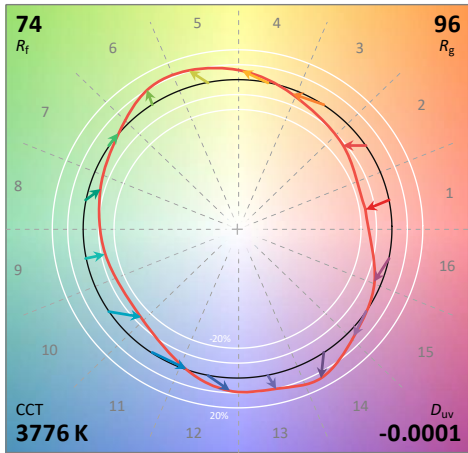
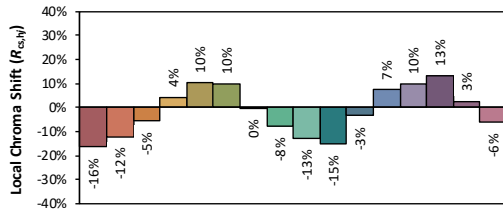
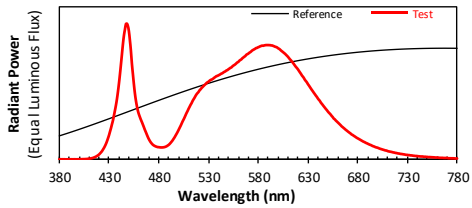
ANSI/IES TM-30-18 Color Rendition Report

Source: SAW7C22B-NZ

Date: 2021/1/11

Manufacturer: ASHART LIGHT CO., LTD

Model: AST-RW01B-40WH1CYT1DA2-abcd40f



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

x 0.3907
 y 0.3827
 u' 0.2295
 v' 0.5057

CIE 13.3-1995 (CRI)
 R_a 73
 R_9 -27

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-40WH1CYT1DA2-abc50f		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210100	120.0	60	0.346	40.86	0.985	13.36
7E-A1	277.0	60	0.158	39.92	0.911	15.59
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

Chromaticity Measurement - Sphere-Spectroradiometer Method:

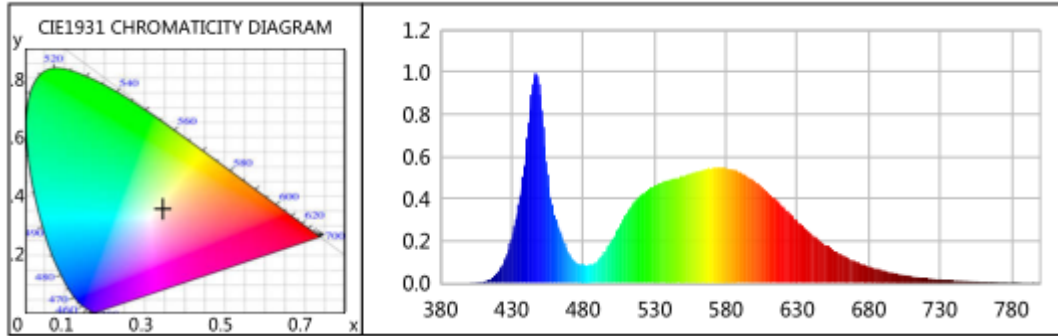
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	69	R9	-38
Frequency (Hz)	60	R2	76	R10	43
CCT (K)	5049	R3	81	R11	71
Duv	0.0020	R4	72	R12	44
Chromaticity (x, y)	x=0.3441 y=0.3548	R5	70	R13	69
Chromaticity (u', v')	u(u')=0.2095 v'=0.4861	R6	68	R14	89
Color Rendering Index (CRI)	71	R7	79	R15	62
R9	-38	R8	54	--	--
Rf	72	--	--	--	--
Rg	95	--	--	--	--
Rcs,h1(%)	-18	--	--	--	--

Photometric Measurement –Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	5564.1	5476.8	>300(-10%)
Luminous Efficacy (lm/W)	136.17	137.19	Premium: $\geq 120(-3\%)$
Most worst Luminous/Highest	134.04		



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	0.1515	525	0.4410	75.9461	670	0.1046	18.0228
385	0.0002	0.0289	530	0.4616	79.4964	675	0.0909	15.6542
390	0.0004	0.0676	535	0.4762	82.0180	680	0.0786	13.5364
395	0.0004	0.0644	540	0.4888	84.1911	685	0.0675	11.6296
400	0.0012	0.2043	545	0.4974	85.6749	690	0.0595	10.2446
405	0.0025	0.4321	550	0.5076	87.4260	695	0.0510	8.7909
410	0.0076	1.3007	555	0.5187	89.3352	700	0.0437	7.5294
415	0.0198	3.4036	560	0.5288	91.0802	705	0.0374	6.4392
420	0.0483	8.3172	565	0.5376	92.5905	710	0.0322	5.5405
425	0.1061	18.2788	570	0.5426	93.4540	715	0.0275	4.7443
430	0.2123	36.5603	575	0.5466	94.1446	720	0.0233	4.0216
435	0.3760	64.7637	580	0.5447	93.8180	725	0.0204	3.5195
440	0.6245	107.5601	585	0.5361	92.3254	730	0.0175	3.0210
445	0.9445	162.6819	590	0.5248	90.3836	735	0.0156	2.6851
450	0.8979	154.6442	595	0.5074	87.3903	740	0.0120	2.0672
455	0.5131	88.3700	600	0.4849	83.5191	745	0.0116	2.0008
460	0.3236	55.7383	605	0.4568	78.6750	750	0.0101	1.7459
465	0.2268	39.0649	610	0.4270	73.5475	755	0.0085	1.4632
470	0.1401	24.1260	615	0.3943	67.9075	760	0.0073	1.2635
475	0.0980	16.8766	620	0.3614	62.2416	765	0.0063	1.0847
480	0.0861	14.8224	625	0.3268	56.2926	770	0.0058	0.9984
485	0.0852	14.6765	630	0.2938	50.6009	775	0.0044	0.7613
490	0.1040	17.9102	635	0.2629	45.2799	780	0.0038	0.6589
495	0.1458	25.1157	640	0.2332	40.1607	785	0.0025	0.4385
500	0.2010	34.6205	645	0.2055	35.3908	790	0.0035	0.6043
505	0.2619	45.1109	650	0.1810	31.1701	795	0.0028	0.4790
510	0.3232	55.6608	655	0.1583	27.2621	800	0.0031	0.5329
515	0.3733	64.2871	660	0.1378	23.7393			
520	0.4122	70.9962	665	0.1205	20.7519			

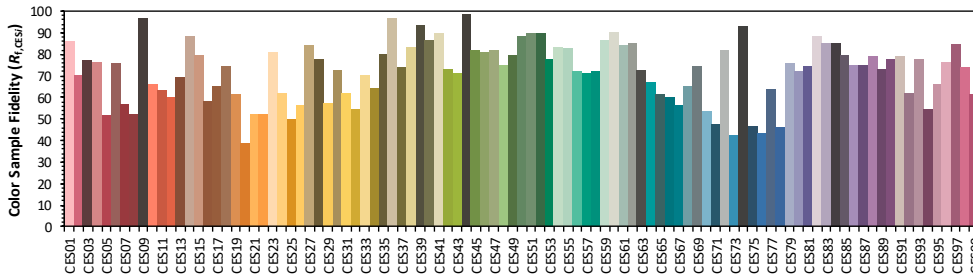
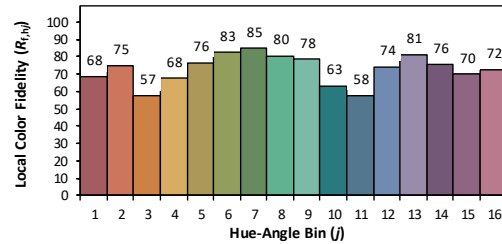
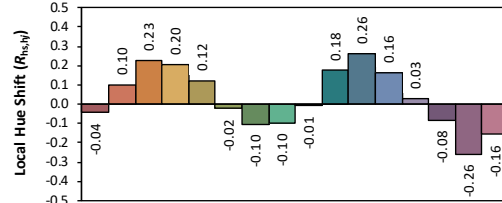
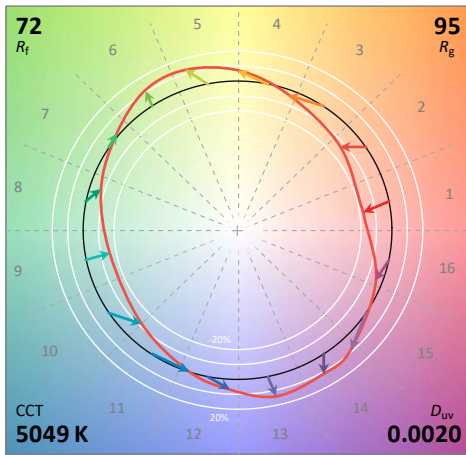
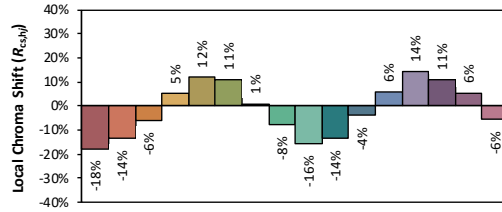
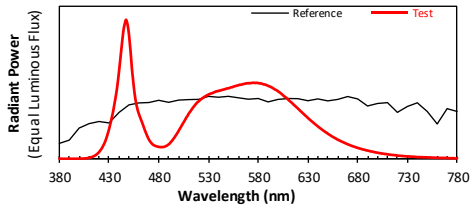


TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: SAW7C22B-NZ
Date: 2021/1/11

Manufacturer: AS MART LIGHT CO., LTD
Model: AST-RWP01B-40WH1CYT1DA2-abcd50f



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

x 0.3441
 y 0.3548
 u' 0.2095
 v' 0.4861

CIE 13.3-1995 (CRI)
 R_a 71
 R_g -38

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	2021-02-26
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 *******