LM-79-08 Test Report

For

ASMART LIGHT CO., LTD

(Brand Name: ASMART)

506 N GARFIELD AVE SUITE#210 ALHAMBRA CA 91801

Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

Architectural Flood and Spot Luminaires

Model name(s): AST-S-G12C-300WBT3DH3-abcdefW

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

Representative (Tested) Model:
AST-S-G12C-300WBT3DH3-abcde30W
AST-S-G12C-300WBT3DH3-abcde40W
AST-S-G12C-300WBT3DH3-abcde50W

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

Test & Report By:

Winny Wu

Engineer: Winny Wu

Date: 2023-05-31

Review By:

Jason Luo

Manager: Jason Luo

1.1 Product Information:

Organization Name	ASMART LIGHT CO., LTD	
Brand Name	ASMART	
Model Number	AST-S-G12C-300WBT3DH3-abcdefW	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	277-480Vac, 50/60 Hz	
Nominal Power	300W(Power adjustable)	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,4000K,5000K(Color tunable)	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-3080RC35003P1 L128-5080RC35003P1	
Sample Number	UTC2304058E-J1-3	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s
Photo		
		

1.2 Test Specifications:

Date of Receipt	2023-05-10
Date of Test	2023-05-12
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	BL-QP-033

1.3 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at 25° C ± 1° C, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals.
Goniophotometer far field detector f1'=1.42%, Test distance: 14.14m

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25º C ± 1º C. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.
Self-absorption:
AST-S-G12C-300WBT3DH3-abcde30W:1.029
AST-S-G12C-300WBT3DH3-abcde40W:1.029
AST-S-G12C-300WBT3DH3-abcde50W:1.029

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 25º C ± 1º 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	2023-05-12	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-S-G12C-300WBT3DH3-abcd e30W		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC230405 8E-J 1	277.0	60	1.098	303.54	0.998	6.01
	480.0	60	0.637	298.92	0.978	12.08
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

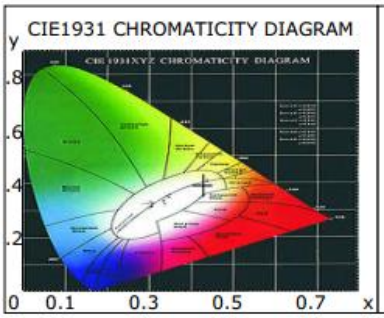
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
CCT (K)	3080
Duv	-0.0017
Chromaticity (x, y)	x=0.4290 y=0.3970
Chromaticity (u', v')	u(u')=0.2485 v'=0.5174
Color Rendering Index (CRI)	82
R9	1
Rf	84
Rg	97
Rcs,h1(%)	-12

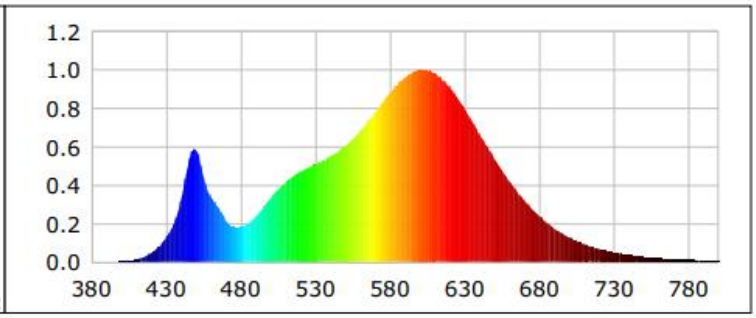
R1	80	R9	1
R2	90	R10	78
R3	96	R11	80
R4	80	R12	73
R5	81	R13	82
R6	89	R14	98
R7	81	R15	72
R8	57	--	--
--	--	--	--
--	--	--	--

Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	277.0	480.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	38442.6	37583.5	>=10000(-10%)
Luminous Efficacy (lm/W)	126.65	125.73	Premium: >= 120(-3%)
Most worst Luminous/Highest	123.82		
Zonal lumens in the 0-90° zone (%)	100	--	Category 1: >=100(-1) Category 2: >=85(-3)
Zonal lumens in the 80-90°zone (%)	2.3	--	<=10(+3)
Beam Angle (°)	117.9	--	--
Center Beam Candle Power (cd)	9140	--	--

Spectral Power Distribution & Chromaticity Diagram



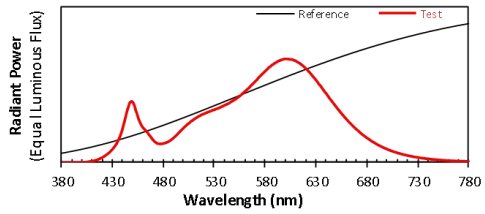


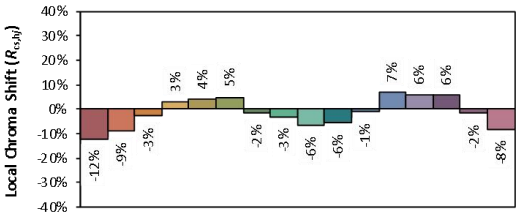
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0006	0.5350	535	0.4898	423.0078	690	0.3186	275.1367
385	0.0005	0.4255	540	0.5068	437.6708	695	0.2756	237.9788
390	0.0005	0.4192	545	0.5267	454.8038	700	0.2383	205.8150
395	0.0009	0.7650	550	0.5506	475.5195	705	0.2048	176.8613
400	0.0024	2.0371	555	0.5730	494.8279	710	0.1752	151.2933
405	0.0051	4.3935	560	0.6041	521.6982	715	0.1502	129.7492
410	0.0122	10.5630	565	0.6395	552.2771	720	0.1286	111.0673
415	0.0254	21.9160	570	0.6820	588.9980	725	0.1088	93.9550
420	0.0466	40.2712	575	0.7280	628.6447	730	0.0931	80.3872
425	0.0789	68.1689	580	0.7783	672.0796	735	0.0790	68.2500
430	0.1248	107.7954	585	0.8315	718.0278	740	0.0671	57.9580
435	0.1961	169.3661	590	0.8794	759.4137	745	0.0574	49.5506
440	0.3227	278.6828	595	0.9232	797.2971	750	0.0490	42.3150
445	0.5132	443.2072	600	0.9607	829.6311	755	0.0412	35.6003
450	0.5834	503.7782	605	0.9850	850.6599	760	0.0344	29.7263
455	0.4466	385.6944	610	0.9994	863.0895	765	0.0302	26.0746
460	0.3389	292.6297	615	0.9966	860.6061	770	0.0250	21.5922
465	0.2840	245.2465	620	0.9818	847.8806	775	0.0208	17.9633
470	0.2177	187.9906	625	0.9508	821.0744	780	0.0179	15.4172
475	0.1820	157.1420	630	0.9082	784.2631	785	0.0157	13.5925
480	0.1828	157.8346	635	0.8562	739.4078	790	0.0138	11.9104
485	0.2004	173.0404	640	0.7964	687.7511	795	0.0115	9.9403
490	0.2345	202.5442	645	0.7344	634.1716	800	0.0098	8.4991
495	0.2834	244.7402	650	0.6680	576.8983			
500	0.3327	287.3264	655	0.6003	518.4390			
505	0.3765	325.1216	660	0.5365	463.2895			
510	0.4158	359.0933	665	0.4759	411.0026			
515	0.4462	385.2875	670	0.4187	361.5837			
520	0.4688	404.8087	675	0.3668	316.7571			
525	0.4898	423.0078	680	0.3186	275.1367			
530	0.5068	437.6708	685	0.2756	237.9788			

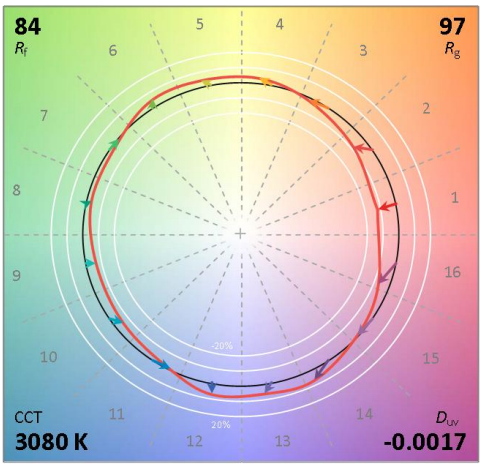
TM30

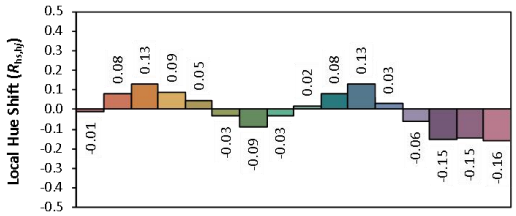
ANSI/IES TM-30-18 Color Rendition Report

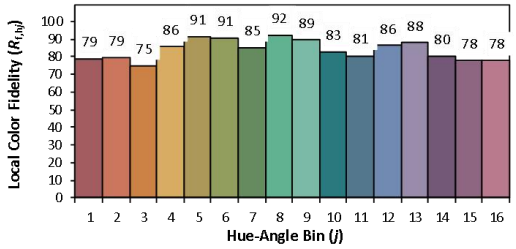
Source:	L128-3080RC35003P1	Manufacturer:	ASMART LIGHT CO., LTD
Date:	2023/5/12	Model:	AST-S-G12C-300WBT3DH3-abcde30W

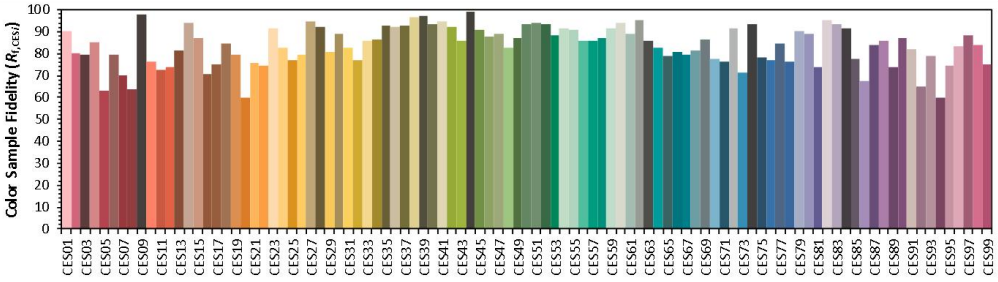












Notes:	This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4290
y	0.3970
u'	0.2485
v'	0.5174

CIE 13.3-1995 (CRI)	
R_a	82
R_9	1

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

Zonal Lumen Tabulation

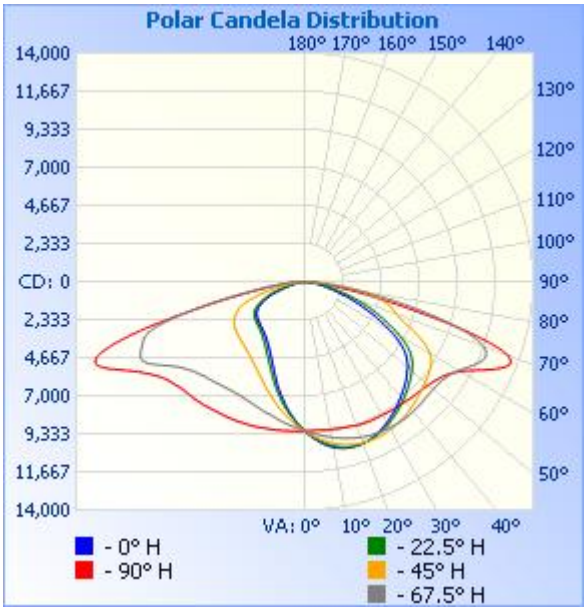
Zonal Lumen Summary

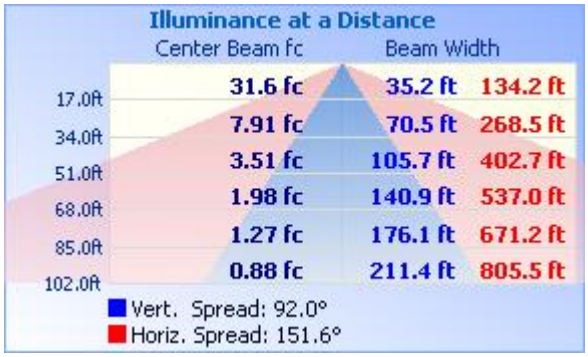
Zone	Lumens	% Lamp	% Luminaire
0-30	7,320.9	19%	19%
0-40	12,441.3	32.4%	32.4%
0-60	25,449.1	66.2%	66.2%
60-90	12,991.7	33.8%	33.8%
70-100	5,690.2	14.8%	14.8%
90-120	0	0%	0%
0-90	38,440.8	100%	100%
90-180	0	0%	0%
0-180	38,440.8	100%	100%

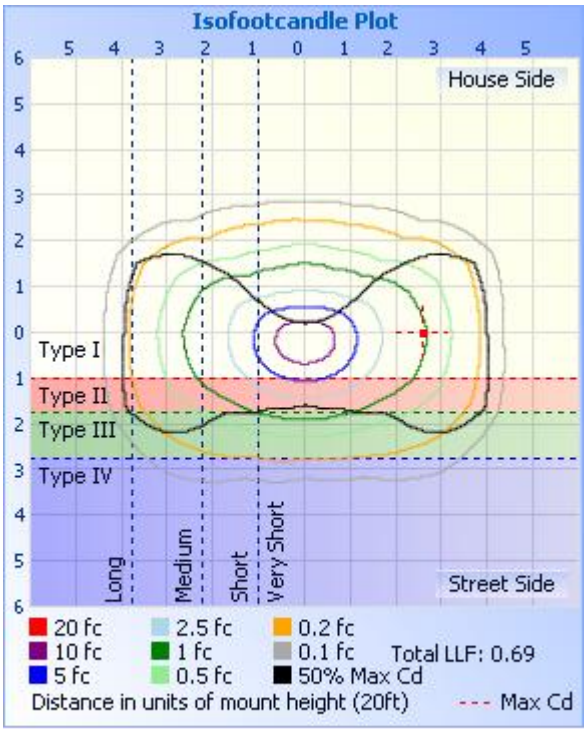
Lumens Per Zone

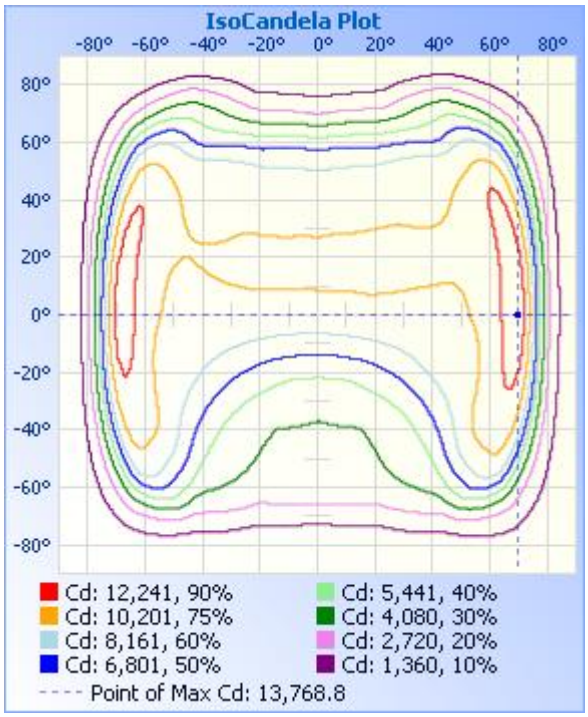
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	867.8	2.3%	90-100	0	0%
10-20	2,514.8	6.5%	100-110	0	0%
20-30	3,938.3	10.2%	110-120	0	0%
30-40	5,120.4	13.3%	120-130	0	0%
40-50	6,097.2	15.9%	130-140	0	0%
50-60	6,910.6	18.0%	140-150	0	0%
60-70	7,301.5	19.0%	150-160	0	0%
70-80	4,809.2	12.5%	160-170	0	0%
80-90	881.0	2.3%	170-180	0	0%

Photometric Data









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	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140	9140
1	9296	9268	9240	9195	9140	9073	9025	8992	8993	8992	9040	9086	9152	9193	9243	9276	9296
2	9438	9394	9338	9248	9138	9015	8917	8848	8837	8849	8942	9032	9159	9254	9348	9409	9438
3	9572	9516	9445	9302	9137	8961	8805	8703	8677	8705	8836	8982	9164	9313	9447	9535	9572
4	9701	9633	9537	9356	9139	8906	8691	8547	8508	8552	8717	8932	9176	9377	9546	9652	9701
5	9822	9758	9628	9414	9142	8849	8575	8382	8318	8378	8608	8887	9186	9437	9643	9772	9822
6	9934	9863	9715	9471	9153	8795	8459	8239	8161	8259	8493	8837	9196	9495	9744	9893	9934
7	10046	9965	9798	9521	9164	8737	8314	8072	7984	8082	8412	8791	9206	9552	9834	9996	10046
8	10145	10059	9894	9579	9174	8684	8251	7908	7806	7922	8285	8744	9218	9614	9922	10094	10145
9	10229	10143	9973	9636	9183	8631	8114	7744	7623	7759	8162	8697	9232	9677	10007	10184	10229
10	10307	10225	10047	9684	9194	8578	7993	7580	7418	7594	8045	8648	9244	9735	10085	10264	10307
11	10369	10297	10116	9737	9200	8522	7871	7410	7232	7424	7928	8597	9256	9798	10158	10338	10369
12	10427	10354	10177	9793	9212	8466	7754	7227	7046	7255	7810	8541	9267	9859	10232	10403	10427
13	10473	10405	10241	9842	9229	8409	7624	7056	6863	7077	7697	8491	9278	9911	10293	10454	10473
14	10506	10444	10295	9893	9242	8358	7507	6887	6682	6908	7572	8432	9291	9968	10354	10497	10506
15	10530	10477	10339	9938	9260	8308	7388	6722	6494	6739	7457	8392	9305	10020	10405	10533	10530
16	10549	10500	10384	9982	9274	8236	7274	6552	6293	6571	7343	8392	9320	10070	10450	10560	10549
17	10555	10522	10420	10026	9290	8235	7162	6371	6112	6407	7232	8359	9337	10120	10494	10579	10555
18	10558	10534	10449	10065	9313	8236	7040	6208	5938	6246	7122	8307	9357	10164	10532	10590	10558
19	10554	10539	10473	10105	9336	8164	6936	6056	5774	6072	7015	8266	9376	10210	10570	10600	10554
20	10540	10536	10498	10142	9363	8119	6831	5906	5602	5921	6903	8230	9393	10252	10595	10600	10540
21	10515	10521	10519	10174	9385	8076	6729	5761	5451	5769	6799	8199	9411	10293	10615	10599	10515
22	10490	10504	10535	10202	9399	8040	6630	5623	5308	5631	6700	8169	9426	10329	10631	10587	10490
23	10452	10480	10545	10232	9411	8010	6533	5479	5176	5495	6602	8139	9440	10364	10641	10566	10452
24	10406	10449	10552	10256	9421	7983	6429	5357	5052	5366	6508	8111	9460	10391	10655	10544	10406
25	10352	10412	10555	10281	9429	7954	6341	5242	4938	5240	6424	8085	9477	10418	10659	10513	10352
26	10292	10376	10552	10296	9430	7933	6257	5137	4819	5130	6329	8065	9496	10442	10663	10476	10292
27	10232	10332	10541	10316	9432	7914	6177	5035	4721	5025	6244	8051	9510	10462	10661	10427	10232
28	10161	10284	10523	10334	9438	7898	6099	4929	4629	4924	6169	8042	9522	10481	10654	10371	10161

29	10092	10222	10511	10345	9445	7886	6021	4838	4544	4830	6093	8036	9538	10494	10643	10314	10092
30	10020	10161	10493	10357	9455	7876	5954	4752	4463	4735	6021	8026	9555	10509	10626	10249	10020
31	9952	10093	10468	10372	9464	7870	5894	4672	4389	4652	5950	8030	9570	10518	10604	10187	9952
32	9866	10024	10439	10380	9478	7867	5835	4599	4318	4573	5887	8036	9585	10526	10574	10128	9866
33	9789	9954	10405	10386	9496	7864	5775	4522	4253	4501	5830	8042	9603	10529	10546	10058	9789
34	9711	9882	10373	10392	9514	7862	5718	4453	4198	4434	5774	8053	9622	10535	10514	9986	9711
35	9633	9804	10338	10390	9526	7866	5671	4387	4148	4363	5721	8068	9643	10533	10479	9903	9633
36	9548	9732	10305	10392	9536	7874	5625	4331	4101	4306	5665	8087	9661	10536	10442	9826	9548
37	9452	9654	10257	10391	9550	7884	5584	4272	4053	4250	5623	8104	9689	10537	10407	9748	9452
38	9363	9575	10214	10389	9559	7899	5539	4216	4015	4198	5583	8129	9721	10538	10364	9670	9363
39	9272	9498	10169	10375	9583	7917	5502	4170	3978	4157	5544	8153	9748	10537	10322	9591	9272
40	9182	9418	10118	10367	9598	7940	5469	4126	3943	4110	5510	8183	9781	10532	10280	9511	9182
41	9101	9339	10074	10354	9622	7964	5433	4084	3913	4072	5474	8216	9804	10524	10234	9427	9101
42	9016	9255	10025	10335	9643	7987	5401	4050	3882	4040	5442	8256	9826	10512	10183	9335	9016
43	8918	9173	9982	10328	9663	8013	5371	4010	3856	4010	5410	8303	9853	10502	10138	9249	8918
44	8837	9092	9933	10314	9684	8045	5339	3978	3833	3980	5390	8354	9866	10490	10079	9163	8837
45	8743	9008	9880	10302	9708	8074	5316	3949	3812	3957	5363	8392	9884	10481	10027	9072	8743
46	8652	8920	9828	10292	9736	8120	5291	3923	3791	3933	5337	8392	9908	10476	9980	8979	8652
47	8547	8841	9777	10283	9771	8166	5267	3898	3767	3914	5320	8466	9932	10475	9927	8899	8547
48	8448	8750	9720	10275	9800	8235	5242	3874	3747	3892	5296	8535	9962	10471	9875	8822	8448
49	8319	8660	9670	10271	9831	8235	5219	3847	3728	3873	5279	8603	9995	10466	9823	8726	8319
50	8258	8570	9622	10280	9877	8304	5199	3827	3707	3852	5256	8667	10036	10467	9770	8644	8258
51	8129	8466	9581	10286	9927	8378	5180	3803	3687	3836	5238	8746	10103	10472	9724	8536	8129
52	7987	8376	9532	10303	9989	8456	5158	3778	3662	3814	5220	8836	10175	10484	9675	8432	7987
53	7840	8276	9486	10326	10059	8548	5132	3750	3639	3790	5199	8947	10231	10503	9628	8311	7840
54	7679	8130	9429	10358	10129	8662	5110	3720	3612	3765	5181	9060	10307	10534	9586	8217	7679
55	7489	7981	9384	10407	10209	8785	5085	3690	3580	3735	5159	9194	10404	10579	9537	8070	7489
56	7273	7817	9326	10469	10320	8922	5062	3653	3539	3703	5135	9346	10515	10626	9485	7890	7273
57	7007	7625	9260	10537	10444	9079	5031	3614	3498	3661	5108	9537	10665	10703	9420	7705	7007
58	6734	7380	9161	10647	10589	9262	5003	3563	3443	3615	5078	9741	10832	10792	9351	7496	6734
59	6434	7124	9048	10760	10788	9480	4962	3510	3389	3566	5038	9964	11013	10899	9266	7256	6434

60	6111	6839	8896	10905	11007	9687	4920	3446	3327	3502	4995	10215	11224	11038	9148	6984	6111
61	5780	6531	8711	11063	11260	9884	4873	3383	3229	3434	4943	10473	11452	11187	8995	6667	5780
62	5408	6209	8469	11227	11592	10098	4813	3300	3114	3356	4887	10727	11734	11360	8773	6356	5408
63	5072	5850	8185	11419	11940	10248	4746	3164	3011	3251	4807	10920	12032	11539	8520	6045	5072
64	4743	5528	7869	11604	12320	10350	4671	3055	2908	3114	4726	11047	12369	11744	8260	5734	4743
65	4419	5214	7530	11766	12705	10393	4587	2928	2751	2988	4637	11088	12729	11918	7916	5405	4419
66	4077	4908	7187	11899	13063	10389	4490	2805	2618	2879	4541	11030	13124	12084	7543	5109	4077
67	3758	4601	6854	11989	13359	10348	4374	2632	2459	2690	4438	10915	13451	12209	7195	4808	3758
68	3441	4300	6518	11996	13545	10275	4259	2485	2249	2550	4313	10781	13694	12275	6877	4488	3441
69	3136	3976	6280	11912	13546	10226	4059	2347	2054	2403	4155	10644	**13769**	12262	6612	4163	3136
70	2838	3680	6079	11712	13297	10178	3845	2167	1850	2218	3946	10522	13601	12136	6372	3823	2838
71	2521	3352	5898	11334	12699	10089	3631	1971	1638	2022	3713	10344	13074	11818	6196	3508	2521
72	2252	3050	5754	10828	11618	9885	3376	1759	1411	1814	3445	10056	12244	11297	6048	3167	2252
73	2000	2748	5606	10142	10340	9456	3113	1555	1219	1606	3158	9574	11101	10564	5896	2857	2000
74	1778	2456	5449	9276	8921	8780	2865	1329	1067	1414	2884	8794	9675	9616	5737	2551	1778
75	1556	2197	5251	8368	7378	7818	2575	1172	932	1228	2560	7906	8157	8702	5535	2260	1556
76	1380	1936	5018	7339	6077	6821	2295	1012	803	1075	2276	6901	6706	7631	5301	2006	1380
77	1220	1717	4752	6424	4974	5840	2025	868	665	930	1997	5900	5542	6652	4977	1764	1220
78	1060	1507	4439	5446	4013	4913	1755	736	556	796	1719	4955	4464	5713	4630	1572	1060
79	935	1320	4077	4588	3234	4042	1466	599	469	667	1463	4035	3641	4812	4236	1388	935
80	797	1162	3686	3760	2539	3252	1210	511	394	561	1221	3266	2936	3972	3846	1213	797
81	680	997	3263	3056	2024	2631	961	420	284	485	953	2692	2406	3290	3376	1039	680
82	582	845	2851	2403	1580	2076	779	311	160	366	751	2186	1967	2642	2947	888	582
83	471	721	2433	1791	1198	1569	634	190	52	254	607	1769	1583	2130	2474	750	471
84	385	584	1975	1256	893	1095	475	109	16	140	484	1371	1249	1666	2084	610	385
85	301	460	1530	895	649	830	325	91	20	110	373	1057	973	1239	1732	486	301
86	225	352	1095	579	408	567	235	74	18	81	288	756	734	841	1384	380	225
87	146	215	692	313	221	319	120	56	15	49	187	504	514	549	919	263	146
88	76	97	217	116	60	85	42	27	17	32	105	300	315	337	535	139	76
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179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BUG Rating

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	4293.4	11.2	11.2
FM (30-60)	11026.5	28.7	28.7
FH (60-80)	6847.1	17.8	17.8
FVH (80-90)	569.9	1.5	1.5
BL (0-30)	3027.5	7.9	7.9
BM (30-60)	7104.7	18.5	18.5
BH (60-80)	5262.5	13.7	13.7
BVH (80-90)	311.0	0.8	0.8
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	38442.6	100.1	100.0
BUG Rating	**B5-U0-G5**		

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2023-05-12	Test Ambient:	25.2 º C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-S-G12C-300WBT3DH3-abcde40 W		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC230405 8E-J 2	277.0	60	1.033	285.36	0.997	6.14
	480.0	60	0.599	280.98	0.978	12.17
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
CCT (K)	4036
Duv	-0.0034
Chromaticity (x, y)	x=0.3766 y=0.3671
Chromaticity (u', v')	u(u')=0.2264 v'=0.4967
Color Rendering Index (CRI)	84
R9	12
Rf	84
Rg	96
Rcs,h1(%)	-12

Special Color Rendering Indices			
R1	83	R9	12
R2	92	R10	80
R3	95	R11	82
R4	83	R12	66
R5	84	R13	86
R6	88	R14	98
R7	84	R15	78
R8	65	--	--
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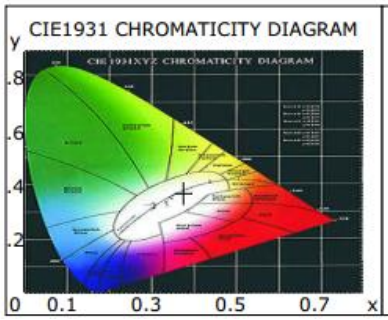
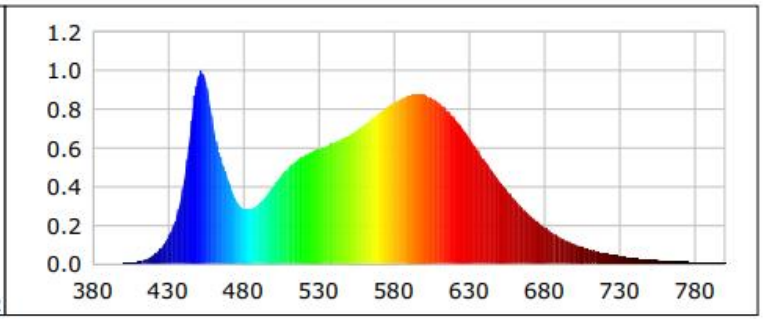
Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	277.0	480.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	41234.5	40286.9	>=10000(-10%)
Luminous Efficacy (lm/W)	144.50	143.38	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	141.18		

Spectral Power Distribution & Chromaticity Diagram



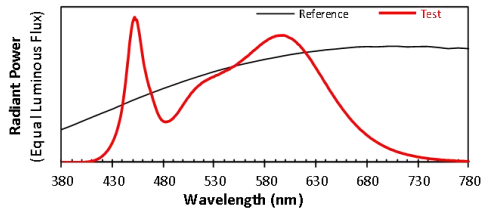


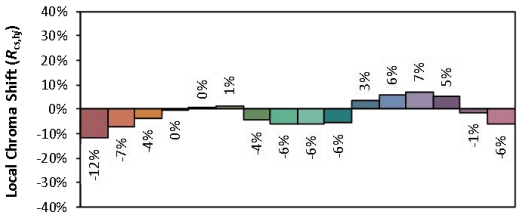
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.2658	535	0.5750	545.7150	690	0.2520	239.1835
385	0.0003	0.3214	540	0.5898	559.7189	695	0.2187	207.5321
390	0.0006	0.5578	545	0.6065	575.6026	700	0.1890	179.3516
395	0.0006	0.5399	550	0.6255	593.5909	705	0.1627	154.4295
400	0.0015	1.4390	555	0.6418	609.0981	710	0.1397	132.5974
405	0.0039	3.6862	560	0.6629	629.0577	715	0.1193	113.2028
410	0.0093	8.8626	565	0.6891	653.9755	720	0.1015	96.3365
415	0.0212	20.0737	570	0.7162	679.6534	725	0.0864	81.9516
420	0.0425	40.3457	575	0.7451	707.1277	730	0.0736	69.8444
425	0.0780	73.9822	580	0.7750	735.5065	735	0.0626	59.3641
430	0.1351	128.1670	585	0.8056	764.4622	740	0.0531	50.3631
435	0.2278	216.1998	590	0.8317	789.2863	745	0.0461	43.7184
440	0.3897	369.8387	595	0.8526	809.1022	750	0.0389	36.9460
445	0.6808	646.0459	600	0.8678	823.4897	755	0.0326	30.9285
450	0.9632	914.0788	605	0.8741	829.5608	760	0.0277	26.3056
455	0.9510	902.4770	610	0.8720	827.5406	765	0.0239	22.7229
460	0.7230	686.0867	615	0.8555	811.8819	770	0.0207	19.6745
465	0.5518	523.6110	620	0.8312	788.8196	775	0.0175	16.5883
470	0.4338	411.6521	625	0.7968	756.1494	780	0.0154	14.6070
475	0.3325	315.5131	630	0.7544	715.9649	785	0.0126	11.9698
480	0.2836	269.1651	635	0.7065	670.4701	790	0.0110	10.4468
485	0.2824	267.9973	640	0.6505	617.2817	795	0.0092	8.7067
490	0.3052	289.6058	645	0.5960	565.5973	800	0.0069	6.5464
495	0.3478	330.0865	650	0.5399	512.3880			
500	0.4013	380.8672	655	0.4821	457.5116			
505	0.4504	427.4316	660	0.4297	407.7978			
510	0.4956	470.3595	665	0.3801	360.7522			
515	0.5299	502.9021	670	0.3334	316.4391			
520	0.5554	527.0286	675	0.2900	275.1810			
525	0.5750	545.7150	680	0.2520	239.1835			
530	0.5898	559.7189	685	0.2187	207.5321			

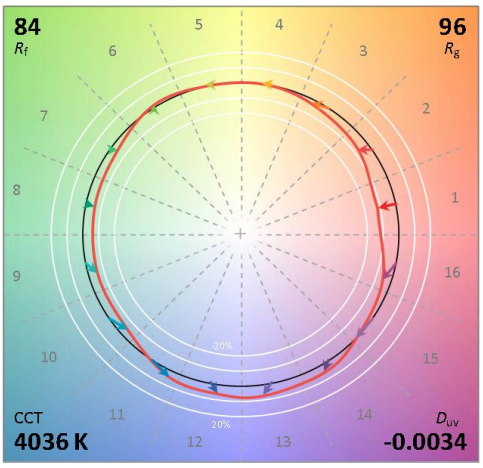
TM30

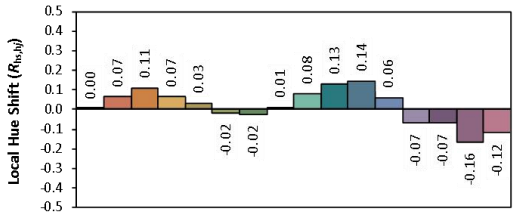
ANSI/IES TM-30-18 Color Rendition Report

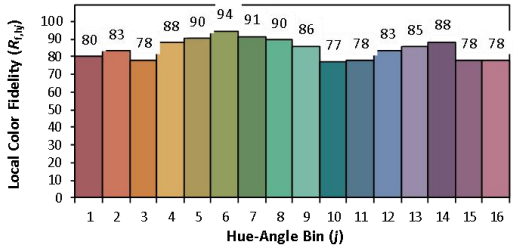
Source:	L128-3080RC35003P1 L128-5080RC35003P1	Manufacturer:	ASMART LIGHT CO., LTD
Date:	2023/5/12	Model:	AST-S-G12C-300WBT3DH3-abcde40W

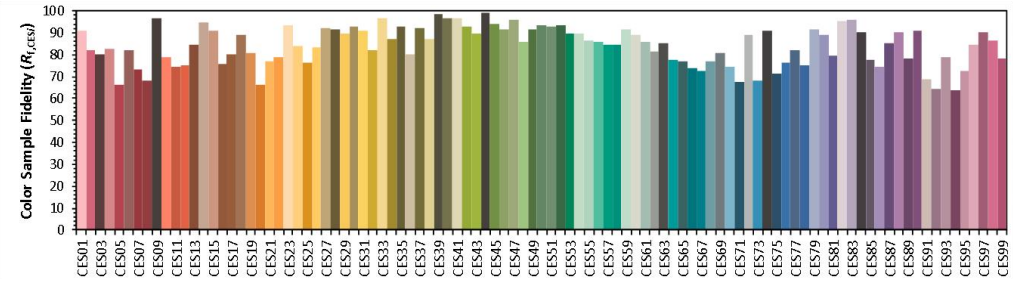












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3766
y	0.3671
u'	0.2264
v'	0.4967

CIE 13.3-1995 (CRI)

R_a	84
R_9	13

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	2023-05-12	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-S-G12C-300WBT3DH3-abcde50 W		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC230405 8E-J3	277.0	60	1.094	302.69	0.999	6.14
	480.0	60	0.636	298.32	0.977	12.01
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

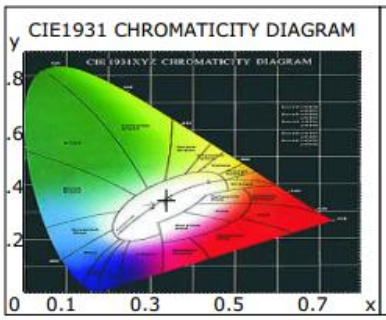
Parameter	Result
Test Voltage (V)	277.0
Frequency (Hz)	60
CCT (K)	5241
Duv	-0.0005
Chromaticity (x, y)	x=0.3386 y=0.3453
Chromaticity (u', v')	u(u')=0.2094 v'=0.4806
Color Rendering Index (CRI)	83
R9	4
Rf	83
Rg	95
Rcs,h1(%)	-13

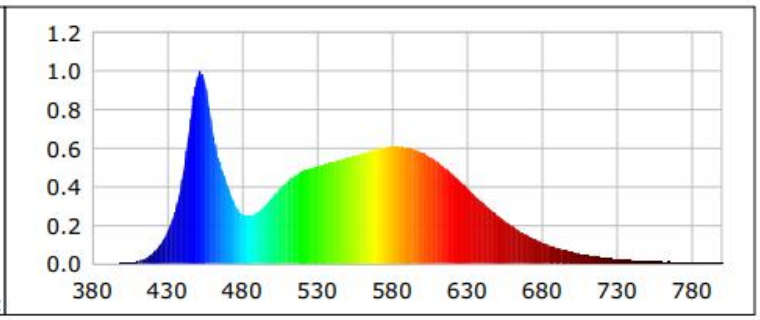
Special Color Rendering Indices			
R1	81	R9	4
R2	89	R10	72
R3	93	R11	81
R4	82	R12	62
R5	82	R13	83
R6	84	R14	96
R7	85	R15	77
R8	66	--	--
--	--	--	--
--	--	--	--

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	277.0	480.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	41153.7	40207.6	>=10000(-10%)
Luminous Efficacy (lm/W)	135.96	134.78	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	132.83		

Spectral Power Distribution & Chromaticity Diagram



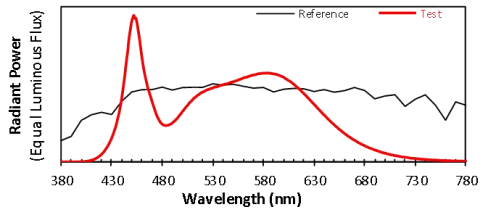


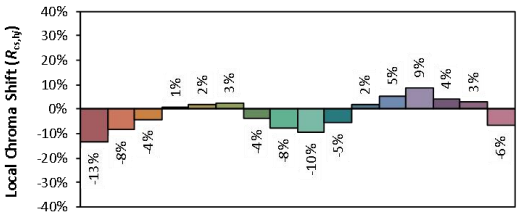
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0009	1.0619	535	0.4934	589.4479	690	0.1477	176.5115
385	0.0003	0.3792	540	0.5036	601.6290	695	0.1281	153.0961
390	0.0002	0.2664	545	0.5149	615.1298	700	0.1102	131.6412
395	0.0008	1.0019	550	0.5268	629.4375	705	0.0947	113.1829
400	0.0016	1.8855	555	0.5347	638.7900	710	0.0813	97.1732
405	0.0044	5.2461	560	0.5466	653.0147	715	0.0703	83.9701
410	0.0115	13.6958	565	0.5574	665.9243	720	0.0596	71.2490
415	0.0255	30.4599	570	0.5712	682.4179	725	0.0509	60.7742
420	0.0512	61.1614	575	0.5832	696.7635	730	0.0432	51.6374
425	0.0946	112.9924	580	0.5922	707.5018	735	0.0366	43.7617
430	0.1613	192.6891	585	0.6021	719.3995	740	0.0319	38.1346
435	0.2662	317.9959	590	0.6056	723.4810	745	0.0264	31.5153
440	0.4358	520.7212	595	0.6042	721.8816	750	0.0232	27.6843
445	0.7084	846.4018	600	0.6013	718.4100	755	0.0194	23.1536
450	0.9636	1151.2158	605	0.5924	707.7944	760	0.0166	19.7748
455	0.9502	1135.1971	610	0.5777	690.1932	765	0.0138	16.5240
460	0.7115	850.0797	615	0.5546	662.5985	770	0.0123	14.7432
465	0.5283	631.1770	620	0.5299	633.0674	775	0.0096	11.4564
470	0.4109	490.8747	625	0.5000	597.3521	780	0.0085	10.1862
475	0.3113	371.8840	630	0.4664	557.2567	785	0.0088	10.5299
480	0.2574	307.5325	635	0.4303	514.1435	790	0.0066	7.9197
485	0.2495	298.0348	640	0.3934	470.0022	795	0.0052	6.1796
490	0.2656	317.2776	645	0.3570	426.4743	800	0.0050	5.9811
495	0.2990	357.2565	650	0.3207	383.1824			
500	0.3438	410.7494	655	0.2852	340.7948			
505	0.3855	460.5406	660	0.2527	301.8694			
510	0.4255	508.3245	665	0.2220	265.2660			
515	0.4536	541.9235	670	0.1956	233.7152			
520	0.4754	567.9733	675	0.1703	203.5217			
525	0.4934	589.4479	680	0.1477	176.5115			
530	0.5036	601.6290	685	0.1281	153.0961			

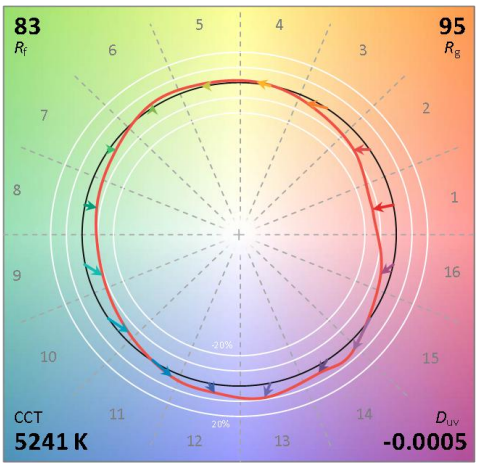
TM30

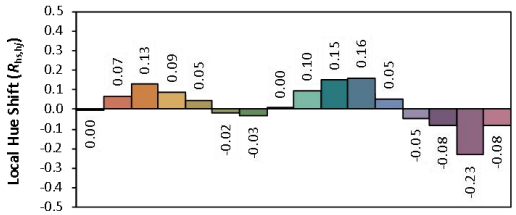
ANSI/IES TM-30-18 Color Rendition Report

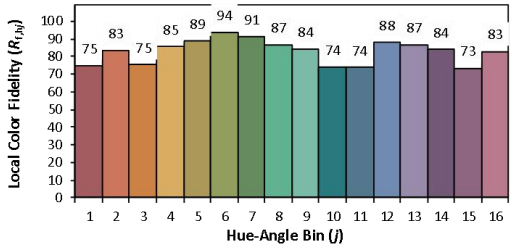
Source:	L128-5080RC35003P1	Manufacturer:	ASMART LIGHT CO., LTD
Date:	2023/5/12	Model:	AST-S-G12C-300WBT3DH3-abcde50W

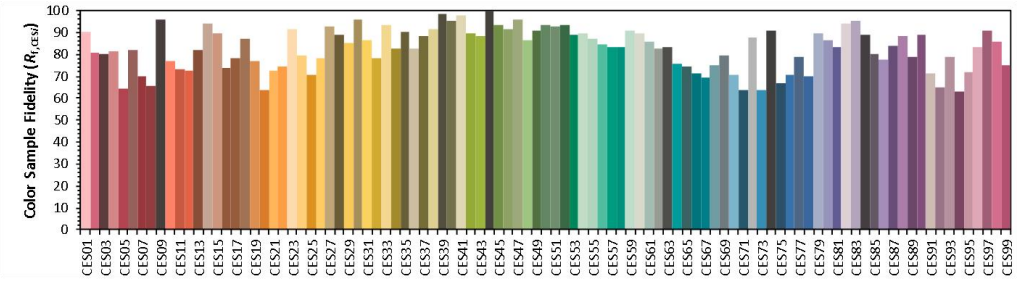












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3386
y	0.3453
u'	0.2095
v'	0.4806

CIE 13.3-1995 (CRI)

R_a	83
R_9	4

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

3. Test Equipment

Equipment Name	Model No.	Serial No.	Calibration Date
Goniophotometeric System	GPM-3000	DYHXF120001	2023-01-17
AC Power Source	CHP-500C	DYBWD010159	2023-01-18
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2023-02-01
Digital Power Meter	WT500	DYDWQ20010	2023-01-18
Integral Sphere (2M)	2M	DYJCE120067	2023-01-17
Digital Power Meter	WT500	DYDWQ200006	2023-01-18
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2023-01-17
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 ********