



Report No.: BLC2101029E-A

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-SP01B-500WSJS3C1-acdf

Remark: "a" can be any two letters for lamp colors; "c" stands for surge protector, can be S or blank, S stands for surge protector, blank for no surge protector; "d" can be "AM" or "FM" to represent mounting bracket types; "f" can be any digits for CCT.

Representative (Tested) Model:
AST-SP01B-500WSJS3C1-acd30
AST-SP01B-500WSJS3C1-acd57

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

Test & Report By:

Lily Yang

Engineer: Lily Yang

Date: 2021-01-29

Review By:

Jason Luo

Manager: Jason Luo

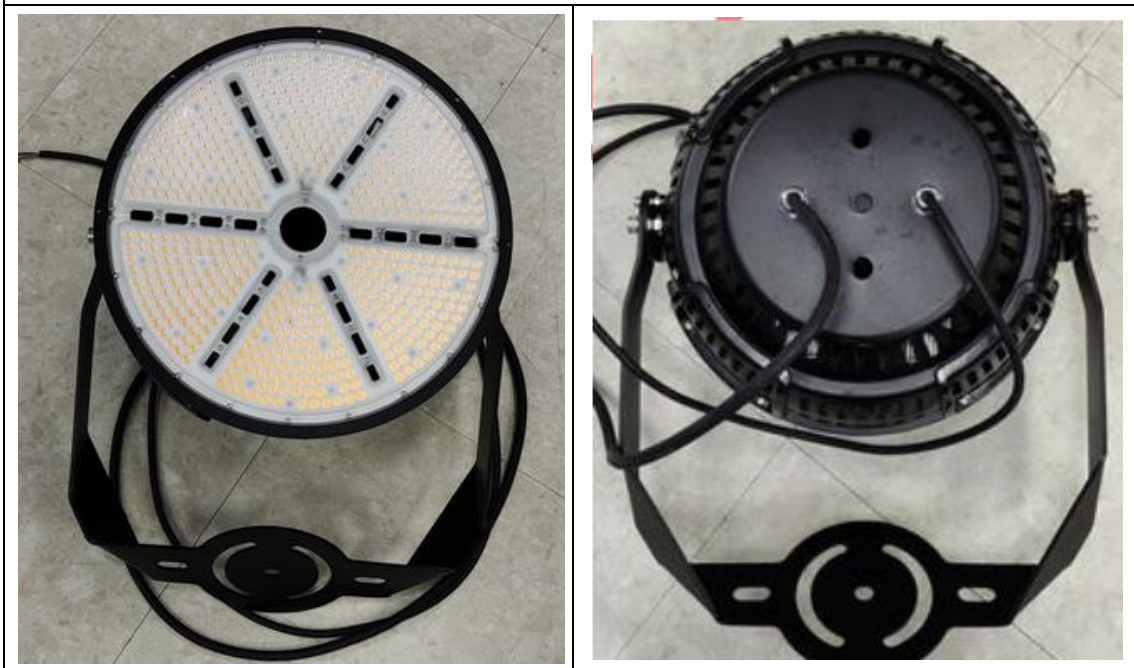


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1.1 Product Information:

Organization Name	ASmart LIGHT CO., LTD	
Brand Name	ASmart	
Model Number	AST-SP01B-500WSJS3C1-acdf	
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	120-347Vac, 50/60 Hz	
Nominal Power	500W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K, 4000K, 4500K, 5000K, 5700K	
LED Manufacturer	Bridgelux	
LED Model	BXEM-30C-12H-6C	
Sample Number	BLC2101029E-A1(3000K), A3(5700K)	
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	2020-12-18
Date of Test	2021-01-27
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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1 ° 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 $25\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

3) Electrical Measurements:

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

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

Test date	2021-01-27	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-SP01B-500WSJS3C1-acd30		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210102	120.0	60	4.166	499.37	0.999	4.56
9E-A1	347.0	60	1.516	481.21	0.915	14.69
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

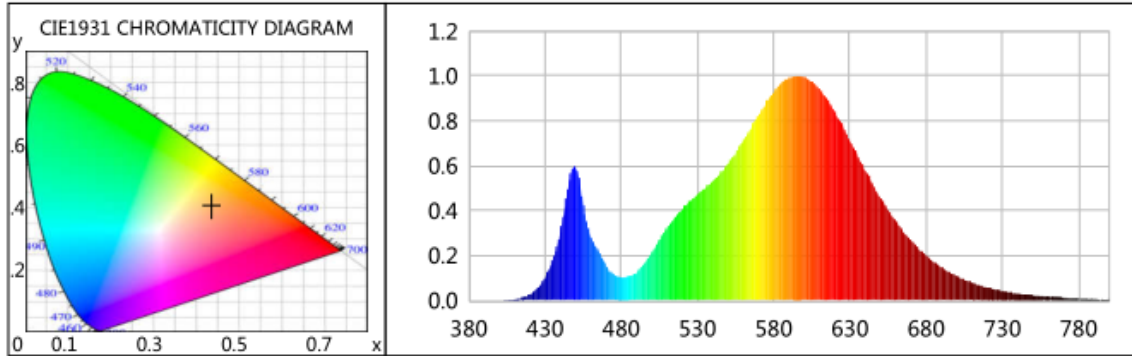
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	69	R9	-31
Frequency (Hz)	60	R2	83	R10	61
CCT (K)	2985	R3	94	R11	65
Duv	-0.0001	R4	69	R12	53
Chromaticity (x, y)	x=0.4378 y=0.4041	R5	69	R13	72
Chromaticity (u', v')	u(u')=0.2512 v'(v')=0.5215	R6	77	R14	97
Color Rendering Index (CRI)	73	R7	77	R15	61
R9	-31	R8	44	--	--
Rf	76	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-16				

Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	347.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	68365.5	66843.4	>=30000(-10%)
Luminous Efficacy (lm/W)	136.90	138.91	Premium: >= 120(-3%)
Most worst Luminous/Highest	133.86		
Zonal lumens in the 0-90 °zone (%)	100	--	Category 1: >=100(-1) Category 2: >=85(-3)
Zonal lumens in the 80-90 °zone (%)	0.4	--	<=10(+3)
Beam Angle (°)	27.2	--	--
Center Beam Candle Power (cd)	190303	--	--



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	0.6694	525	0.4416	633.0070	670	0.2667	382.2860
385	0.0007	1.0250	530	0.4713	675.5549	675	0.2306	330.4920
390	0.0003	0.5002	535	0.5011	718.2858	680	0.1993	285.7256
395	0.0002	0.3221	540	0.5318	762.2783	685	0.1718	246.2677
400	0.0011	1.6086	545	0.5658	811.0001	690	0.1469	210.5562
405	0.0020	2.9104	550	0.6071	870.2258	695	0.1270	182.0271
410	0.0055	7.8261	555	0.6549	938.7875	700	0.1089	156.0681
415	0.0136	19.5149	560	0.7095	1017.0420	705	0.0932	133.5935
420	0.0291	41.6436	565	0.7645	1095.8895	710	0.0791	113.3255
425	0.0570	81.7156	570	0.8232	1180.0309	715	0.0679	97.3352
430	0.1047	150.0201	575	0.8798	1261.1631	720	0.0587	84.1554
435	0.1793	257.0328	580	0.9296	1332.4578	725	0.0502	71.9279
440	0.3008	431.1460	585	0.9642	1382.0709	730	0.0429	61.4713
445	0.4974	713.0631	590	0.9906	1419.9642	735	0.0366	52.4652
450	0.5922	848.9173	595	1.0000	1433.4436	740	0.0315	45.1736
455	0.4280	613.5007	600	0.9956	1427.1931	745	0.0268	38.3737
460	0.2827	405.2082	605	0.9751	1397.7667	750	0.0229	32.8504
465	0.2198	315.0172	610	0.9414	1349.3920	755	0.0202	28.9988
470	0.1562	223.8437	615	0.8964	1284.9772	760	0.0178	25.4878
475	0.1152	165.0769	620	0.8418	1206.6663	765	0.0152	21.7619
480	0.1042	149.4139	625	0.7796	1117.4435	770	0.0130	18.5662
485	0.1073	153.8414	630	0.7114	1019.7548	775	0.0108	15.4317
490	0.1259	180.4423	635	0.6451	924.7685	780	0.0098	14.0366
495	0.1637	234.6581	640	0.5792	830.3195	785	0.0082	11.7291
500	0.2139	306.6470	645	0.5150	738.1836	790	0.0069	9.9007
505	0.2682	384.4956	650	0.4574	655.5937	795	0.0061	8.7818
510	0.3206	459.5152	655	0.4027	577.2302	800	0.0050	7.1697
515	0.3678	527.1929	660	0.3516	503.9422			
520	0.4072	583.7323	665	0.3059	438.4407			

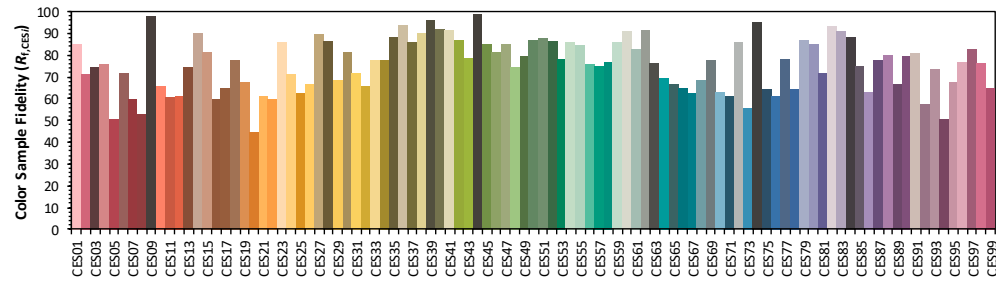
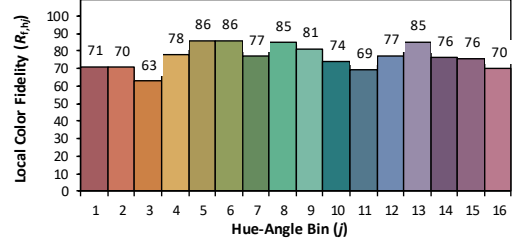
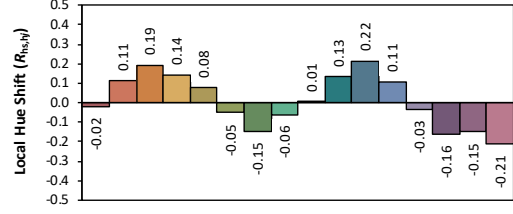
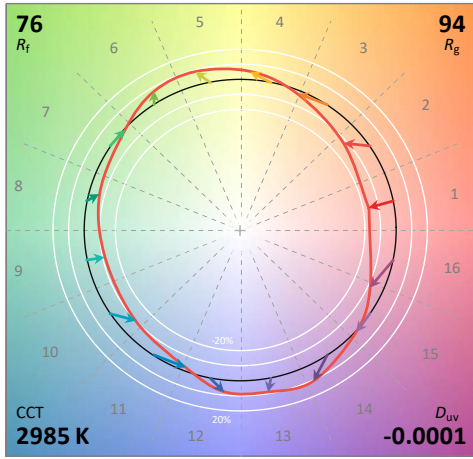
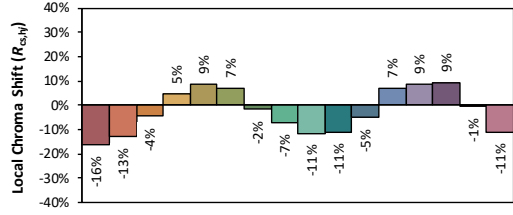
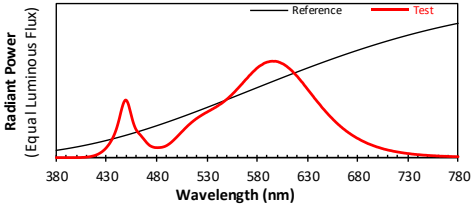


TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: BXEM-30C-12H-6C
 Date: 2021/1/27

Manufacturer: ASHART LIGHT CO., LTD
 Model: AST-SP01B-500WSJS3C1-acd30



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

x	0.4378	CIE 13.3-1995 (CRI) R_a 73 R_g -31
y	0.4041	
u'	0.2512	
v'	0.5215	

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

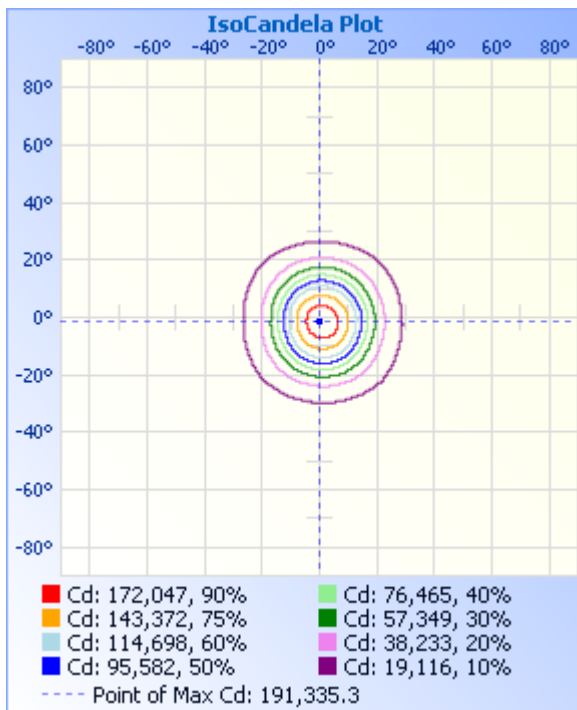
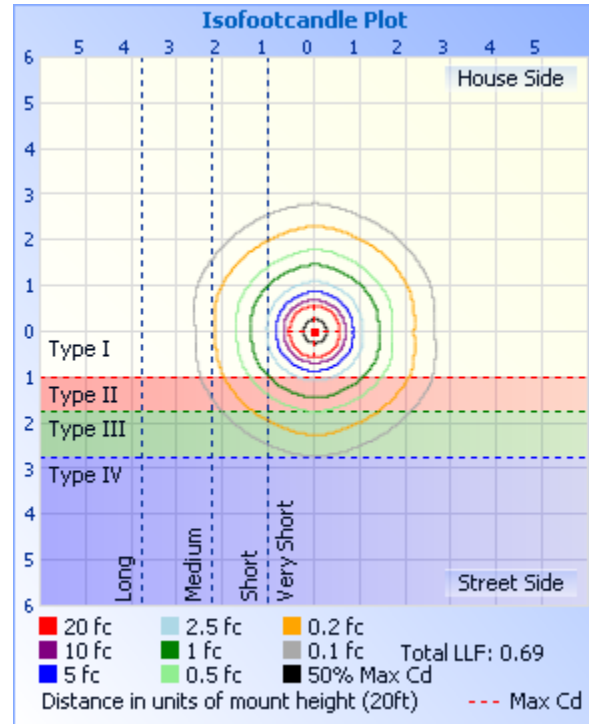
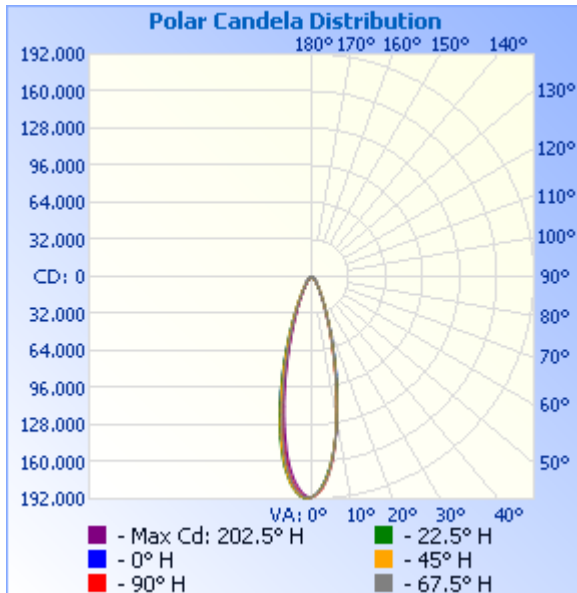
Zone	Lumens	% Lamp	% Luminaire
0-30	51,974.6	76%	76.1%
0-40	58,372.2	85.4%	85.4%
0-60	65,161.4	95.3%	95.4%
60-90	3,160.8	4.6%	4.6%
70-100	1,349.2	2%	2%
90-120	0	0%	0%
0-90	68,322.2	99.9%	100%
90-180	0	0%	0%
0-180	68,322.2	99.9%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	15,410.4	22.6%	90-100	0	0%
10-20	23,667.2	34.6%	100-110	0	0%
20-30	12,897.0	18.9%	110-120	0	0%
30-40	6,397.6	9.4%	120-130	0	0%
40-50	4,021.3	5.9%	130-140	0	0%
50-60	2,767.9	4.1%	140-150	0	0%
60-70	1,811.6	2.7%	150-160	0	0%
70-80	1,044.1	1.5%	160-170	0	0%
80-90	305.1	0.4%	170-180	0	0%



Photometric Data



Illuminance at a Distance

Height	Center Beam fc	Beam Width
17.0ft	658.5 fc	8.8 ft 8.2 ft
34.0ft	164.6 fc	17.5 ft 16.5 ft
51.0ft	73.2 fc	26.3 ft 24.7 ft
68.0ft	41.2 fc	35.0 ft 32.9 ft
85.0ft	26.3 fc	43.8 ft 41.2 ft
102.0ft	18.3 fc	52.5 ft 49.4 ft

■ Vert. Spread: 28.9°
■ Horiz. Spread: 27.2°



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	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303	190303
1	188041	188191	188340	188632	188978	189512	190209	190896	191163	191335	191189	190652	190484	189814	189095	188471	188041
2	184736	184863	185212	185878	186416	187408	188777	190108	190777	191043	190787	189851	189440	188038	186631	185421	184736
3	180374	180551	181014	181939	182689	184077	186091	188020	189246	189665	189288	187933	186958	184687	183012	181293	180374
4	175010	174609	175698	176816	177095	179493	182101	184761	186185	187104	186691	184837	183539	180498	177713	176102	175010
5	168739	168192	169401	170644	170766	173716	176970	180256	182210	183498	182956	180583	178989	175170	171826	169981	168739
6	161702	161007	161365	162609	163459	166968	170908	174283	177340	178887	178233	174720	173388	168871	165123	162344	161702
7	153142	153048	153180	154293	155196	158436	163219	167940	171611	172816	171881	168329	165975	161620	157636	154715	153142
8	144649	144335	144177	145053	145099	149677	155348	160782	164967	166311	165121	160855	158066	153430	149326	146284	144649
9	135648	135052	134540	135073	135156	140248	146693	152897	156826	158963	157433	152464	149294	143498	140321	137362	135648
10	126444	124621	124665	124832	124679	130188	137438	144419	148733	150875	148914	143217	139961	134042	131126	128265	126444
11	116888	114903	114606	114338	113906	119747	127724	135389	140044	142013	139611	132353	130065	124143	120575	118730	116888
12	107366	105226	103667	104070	103381	109326	117847	125107	130975	132777	129920	122092	119941	114205	110962	108279	107366
13	97058	95861	94146	93199	93405	98348	107060	115639	121724	122414	119097	111913	108727	104407	101382	98933	97058
14	87631	86483	84789	83685	83208	88691	97332	106064	112222	112777	109208	101858	98510	94488	91803	89451	87631
15	78752	77716	75956	74684	74222	79644	87962	96461	102544	103087	99387	92035	88809	84918	82771	80415	78752
16	70523	69662	68064	66718	66240	71273	79179	87324	92270	93756	90071	82966	79762	75489	74285	72045	70523
17	63046	61730	60268	59608	58920	63559	70883	77687	83337	84663	81177	73355	71158	67674	65799	64530	63046
18	55982	54918	54304	53032	52410	56677	63389	69614	74722	76188	72106	65594	63550	60282	58644	57560	55982
19	49555	48745	47836	47161	46609	50491	55943	62207	66825	67570	64643	58491	55903	53574	52257	51015	49555
20	43812	43252	42711	41955	41022	44493	50023	55493	58894	60419	57869	52182	49667	47663	46587	44699	43812
21	38218	38423	38193	37065	36405	39540	44568	49291	52135	53696	51585	46408	44040	42436	41551	39608	38218
22	33816	33860	34281	33249	32458	35271	39789	43810	46203	47713	46092	41373	39162	37470	36704	35137	33816
23	29881	30118	30423	29920	28898	31418	35482	38369	40717	42233	41069	36434	34833	33482	32714	30908	29881
24	26318	26722	27343	26838	25827	28100	31782	34100	35962	37459	36312	32612	31032	29796	29312	27683	26318
25	23210	23809	24699	24132	23191	25232	28232	30376	31784	32848	32570	29249	27687	26619	26267	24477	23210
26	20548	21235	22313	21741	20635	22498	25443	27083	27815	29215	29272	26358	24475	23831	23607	21723	20548
27	18252	18994	20221	19625	18574	20246	22932	23885	24571	25962	26327	23468	21826	21365	21245	19279	18252
28	16302	17052	18279	17734	16747	18336	20677	21353	21787	23150	23738	21159	19618	19207	19165	17185	16302
29	14703	15239	16438	16145	15162	16587	18531	19097	19410	20638	21209	19118	17610	17304	17100	15427	14703
30	13220	13792	14919	14631	13763	15045	16789	17151	17351	18213	19158	17289	15878	15635	15486	13811	13220
31	12082	12523	13494	13405	12385	13598	15203	15447	15651	16393	17345	15693	14185	14027	13934	12525	12082
32	11053	11354	12247	12124	11308	12425	13839	14006	14080	14804	15702	14097	12793	12720	12556	11346	11053
33	10186	10377	11129	11158	10358	11359	12624	12639	12848	13399	14298	12802	11582	11561	11361	10397	10186
34	9461	9555	10271	10268	9561	10435	11429	11569	11805	12142	12949	11672	10518	10428	10369	9616	9461
35	8859	8842	9405	9501	8812	9597	10443	10619	10897	11090	11675	10686	9648	9610	9519	8862	8859
36	8235	8170	8621	8782	8089	8860	9660	9777	10111	10105	10673	9782	8805	8887	8715	8249	8235
37	7775	7667	7988	8220	7514	8236	8999	9091	9333	9297	9719	9062	8083	8250	8060	7717	7775
38	7321	7178	7483	7747	7066	7720	8357	8370	8798	8604	8955	8412	7521	7660	7500	7252	7321
39	6983	6777	7020	7254	6631	7218	7750	7872	8269	8054	8253	7843	7025	7178	7014	6774	6983
40	6603	6350	6577	6864	6269	6836	7284	7421	7768	7558	7647	7364	6604	6675	6568	6424	6603
41	6251	6030	6229	6473	5921	6420	6886	6996	7389	7056	7163	6959	6156	6293	6204	6087	6251
42	5906	5752	5888	6124	5560	6052	6454	6592	6962	6689	6754	6535	5834	5924	5866	5784	5906
43	5574	5419	5500	5822	5306	5723	6076	6222	6590	6350	6331	6172	5507	5629	5522	5448	5574
44	5289	5046	5166	5473	4978	5462	5758	5939	6265	5976	5929	5829	5226	5308	5198	5124	5289
45	4964	4727	4887	5151	4644	5093	5407	5609	5926	5643	5616	5494	4931	4986	4847	4788	4964
46	4653	4428	4559	4850	4362	4812	5070	5266	5642	5311	5248	5158	4603	4685	4563	4458	4653



47	4382	4156	4287	4589	4148	4517	4766	4882	5269	4971	4941	4891	4376	4437	4280	4215	4382
48	4145	4000	4055	4343	3867	4249	4476	4579	4958	4693	4559	4548	4108	4189	4064	4000	4145
49	3955	3762	3892	4144	3680	3994	4226	4289	4660	4373	4321	4329	3881	3947	3875	3764	3955
50	3759	3606	3728	3959	3493	3854	3996	4067	4450	4136	4055	4130	3713	3807	3652	3603	3759
51	3583	3402	3585	3822	3345	3659	3794	3885	4185	3918	3885	3904	3466	3585	3477	3407	3583
52	3481	3273	3435	3672	3192	3505	3652	3670	3982	3715	3735	3719	3332	3458	3288	3212	3481
53	3352	3124	3292	3569	3071	3364	3497	3502	3793	3586	3558	3582	3131	3257	3159	3098	3352
54	3190	2988	3183	3398	2917	3230	3321	3353	3657	3355	3360	3418	2991	3110	3004	2990	3190
55	3088	2879	3012	3288	2803	3143	3153	3192	3515	3232	3237	3274	2824	2989	2903	2815	3088
56	2899	2750	2903	3144	2656	3002	3004	3071	3380	3103	3094	3171	2770	2882	2734	2700	2899
57	2777	2601	2767	2987	2569	2895	2889	2956	3291	2995	2951	3014	2616	2761	2586	2545	2777
58	2580	2445	2610	2829	2415	2761	2808	2795	3109	2852	2822	2911	2509	2620	2498	2417	2580
59	2445	2282	2433	2671	2288	2607	2606	2660	2960	2648	2692	2740	2349	2486	2329	2330	2445
60	2289	2187	2304	2500	2128	2453	2478	2478	2804	2526	2535	2617	2221	2352	2194	2148	2289
61	2188	2051	2201	2363	2047	2346	2329	2364	2628	2343	2399	2480	2094	2218	2106	2034	2188
62	2072	1929	2051	2226	1860	2185	2207	2242	2452	2255	2283	2308	1994	2118	1985	1906	2072
63	1944	1847	1963	2110	1766	2071	2099	2061	2343	2126	2113	2151	1840	1977	1836	1832	1944
64	1856	1752	1847	2028	1693	1964	1951	1973	2174	1990	2024	2089	1720	1863	1769	1751	1856
65	1802	1623	1717	1884	1606	1890	1897	1885	2045	1881	1963	1959	1653	1742	1661	1650	1802
66	1713	1576	1656	1808	1459	1749	1782	1791	1957	1752	1786	1863	1559	1649	1600	1549	1713
67	1639	1487	1547	1747	1432	1662	1721	1697	1883	1671	1711	1754	1465	1562	1512	1488	1639
68	1585	1419	1513	1671	1345	1582	1580	1603	1781	1603	1622	1685	1392	1488	1458	1407	1585
69	1476	1351	1418	1555	1271	1474	1553	1535	1666	1487	1533	1596	1271	1401	1357	1347	1476
70	1375	1290	1363	1480	1198	1421	1424	1414	1585	1508	1472	1528	1198	1367	1283	1273	1375
71	1314	1209	1254	1432	1131	1327	1357	1374	1524	1358	1411	1404	1151	1287	1229	1185	1314
72	1219	1148	1186	1336	1050	1260	1303	1293	1476	1263	1343	1356	1071	1193	1127	1138	1219
73	1145	1019	1131	1226	970	1200	1215	1212	1395	1250	1247	1308	997	1099	1087	1044	1145
74	1009	964	1043	1123	883	1112	1121	1118	1260	1148	1179	1226	897	1072	972	970	1009
75	962	835	934	1034	783	999	1019	1071	1206	1073	1097	1123	883	938	925	869	962
76	833	788	913	966	756	885	986	997	1084	1019	988	1021	783	865	844	822	833
77	731	754	770	822	696	791	864	869	1029	924	927	918	743	791	770	741	731
78	603	638	688	747	649	697	844	795	921	835	893	801	649	670	709	660	603
79	630	618	620	685	582	663	675	754	813	788	838	808	549	643	628	620	630
80	488	536	566	610	482	583	628	714	745	706	729	692	549	550	506	518	488
81	474	421	511	541	415	496	594	579	616	625	682	623	475	483	500	404	474
82	413	401	402	452	248	409	392	431	589	550	545	500	415	416	412	411	413
83	345	340	375	377	314	362	432	465	501	428	450	432	261	369	365	350	345
84	163	292	314	315	221	221	371	370	406	387	450	377	268	288	257	276	163
85	244	211	252	308	141	214	304	337	352	367	327	301	234	228	223	242	244
86	176	204	164	199	94	188	257	296	312	265	307	308	194	235	189	168	176
87	122	95	143	96	0	127	142	229	217	258	245	226	161	147	162	155	122
88	88	81	123	103	0	67	122	168	223	197	191	178	87	101	88	94	88
89	0	81	123	0	0	0	68	141	149	115	143	144	67	74	0	108	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
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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



Report No.: BLC2101029E-A

Certificate#4810.01

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
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104	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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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
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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
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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
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130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Report No.: BLC2101029E-A

Certificate#4810.01

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	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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



Report No.: BLC2101029E-A

BUG

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	24353.0	35.6	35.6
FM (30-60)	6222.9	9.1	9.1
FH (60-80)	1355.0	2.0	2.0
FVH (80-90)	133.5	0.2	0.2
BL (0-30)	27660.7	40.5	40.5
BM (30-60)	6968.3	10.2	10.2
BH (60-80)	1500.6	2.2	2.2
BVH (80-90)	171.6	0.3	0.3
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	68365.6	100.1	100.0
BUG Rating	B5-U0-G3		

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

Test date	2021-01-27	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-SP01B-500WSJS3C1-acd57		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210102	120.0	60	4.174	499.84	0.998	4.47
9E-A3	347.0	60	1.523	482.52	0.913	14.76
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

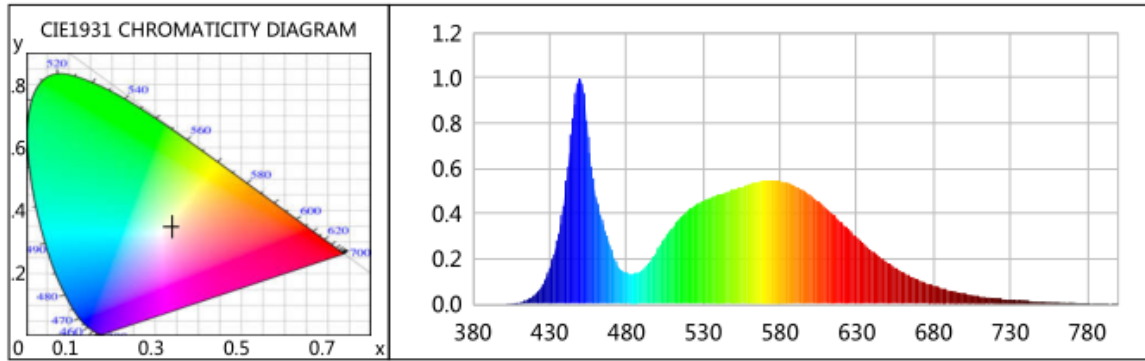
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	72	R9	-28
Frequency (Hz)	60	R2	80	R10	52
CCT (K)	5330	R3	85	R11	72
Duv	0.0018	R4	75	R12	48
Chromaticity (x, y)	x=0.3366 y=0.3481	R5	73	R13	73
Chromaticity (u', v')	u(u')=0.2070 v'(v')=0.4817	R6	72	R14	92
Color Rendering Index (CRI)	75	R7	82	R15	66
R9	-28	R8	58	--	--
Rf	76	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-17	--	--	--	--

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	347.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	70652.4	69140.3	>=30000(-10%)
Luminous Efficacy (lm/W)	141.35	143.29	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	138.32		



Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0008	1.6732	525	0.4387	950.2302	670	0.1079	233.6680
385	0.0007	1.5275	530	0.4561	987.8934	675	0.0930	201.4777
390	0.0004	0.9490	535	0.4716	1021.4366	680	0.0805	174.3366
395	0.0006	1.3853	540	0.4848	1050.1413	685	0.0704	152.5295
400	0.0009	1.8755	545	0.4959	1074.1768	690	0.0609	131.8106
405	0.0025	5.5168	550	0.5068	1097.6630	695	0.0530	114.8251
410	0.0071	15.3032	555	0.5186	1123.2152	700	0.0455	98.5333
415	0.0177	38.4383	560	0.5300	1147.8620	705	0.0395	85.6605
420	0.0397	85.9076	565	0.5385	1166.3428	710	0.0338	73.2461
425	0.0816	176.7381	570	0.5441	1178.5685	715	0.0288	62.3025
430	0.1573	340.6249	575	0.5469	1184.6701	720	0.0252	54.5488
435	0.2824	611.6978	580	0.5447	1179.7468	725	0.0218	47.2461
440	0.4875	1055.8928	585	0.5358	1160.5213	730	0.0184	39.9322
445	0.8188	1773.4092	590	0.5229	1132.4982	735	0.0165	35.7165
450	0.9974	2160.4184	595	0.5032	1090.0102	740	0.0150	32.5100
455	0.7420	1607.2372	600	0.4820	1043.8968	745	0.0121	26.1779
460	0.4748	1028.4527	605	0.4543	984.0411	750	0.0103	22.3479
465	0.3503	758.7547	610	0.4240	918.4111	755	0.0095	20.5724
470	0.2394	518.5563	615	0.3940	853.4205	760	0.0088	19.0949
475	0.1644	356.1165	620	0.3615	782.9834	765	0.0069	14.9951
480	0.1384	299.7180	625	0.3274	709.0962	770	0.0066	14.3677
485	0.1348	292.0563	630	0.2936	636.0045	775	0.0046	10.0491
490	0.1496	324.0355	635	0.2636	570.8918	780	0.0048	10.3948
495	0.1867	404.3101	640	0.2351	509.1905	785	0.0031	6.8220
500	0.2374	514.1761	645	0.2078	450.0264	790	0.0031	6.6939
505	0.2900	628.1326	650	0.1831	396.6008	795	0.0022	4.8108
510	0.3396	735.6444	655	0.1611	348.9346	800	0.0046	9.9097
515	0.3806	824.4406	660	0.1404	304.2012			
520	0.4145	897.7992	665	0.1232	266.7895			

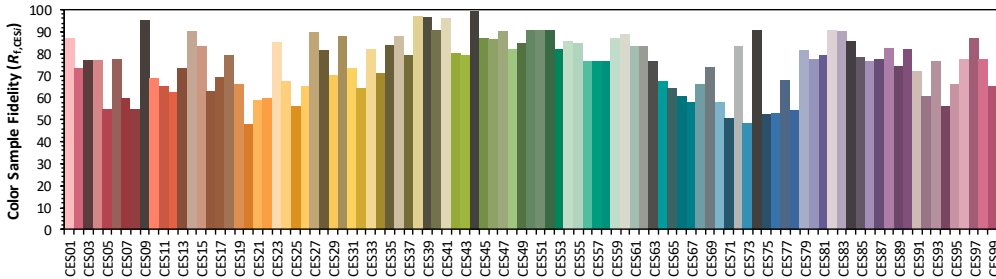
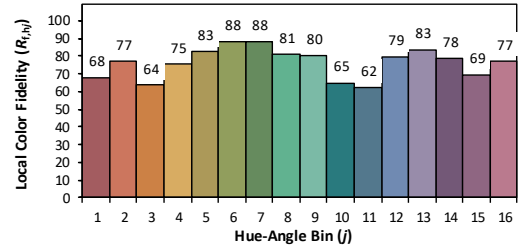
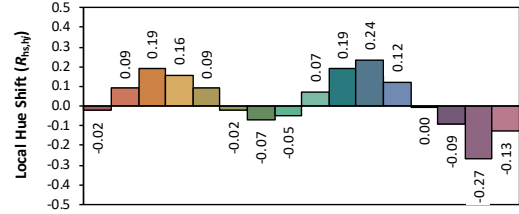
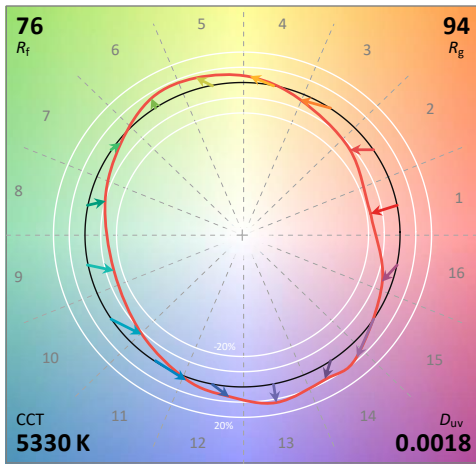
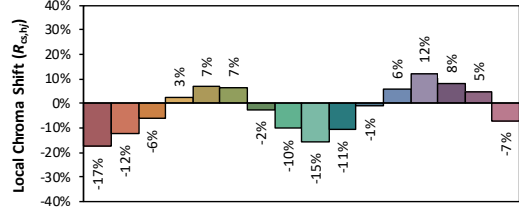
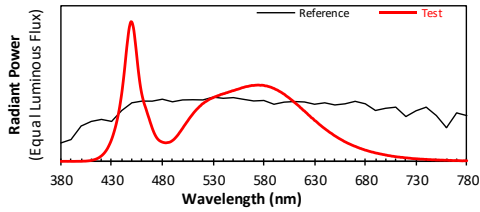


TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: BXEM-30C-12H-6C
Date: 2021/1/27

Manufacturer: AS MART LIGHT CO., LTD
Model: AST-SP01B-500WSJS3C1-acd57



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

x 0.3366
 y 0.3481
 u' 0.2070
 v' 0.4817

CIE 13.3-1995 (CRI)
 R_a 75
 R_g -28

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



Calculated Efficacy Data for family models:

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
AST-SP01B-500WSJS3C1-acd30	68365.5	499.37	136.90
AST-SP01B-500WSJS3C1-acd40	68937.2	499.61	137.98
AST-SP01B-500WSJS3C1-acd45	69509.0	499.61	139.13
AST-SP01B-500WSJS3C1-acd50	69937.7	499.61	139.99
AST-SP01B-500WSJS3C1-acd57	70652.4	499.84	141.35

*1: This value is calculated and the calculation formula is as below:

$$68937.2 = (70652.4 - 68365.5) / 4 + 68365.5$$

$$69509.0 = (70652.4 - 68365.5) / 4 + 68937.2$$

$$69937.7 = (70652.4 - 68365.5) / 4 + 69509.0$$

*2: This value is calculated and the calculation formula is as below:

$$499.61 = (499.84 + 499.37) / 2$$

*3: This value is calculated and the calculation formula is as below:

$$137.98 = 68937.2 / 499.61$$

$$139.13 = 69509.0 / 499.61$$

$$139.99 = 69937.7 / 499.61$$



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 *******