



Report No.: BLC1809011E-U-E

## LM-79-08 Test Report

For

# ASmart LIGHT CO., LTD

(Brand Name: ASmart)

506 N GARFIELD AVE SUITE#210 ALHAMBRA CA 91801

## Architectural Flood and Spot Luminaires

Model name(s): AST-SP01-1000WMHT1B1-acd

Remark: "a" can be any two letters to represent lamp colors,  
"c" can be "S" for Surge-Protective Device provided or blank for no Surge-Protective  
Device provided,

"d" can be any two digits to represent CCT

Representative (Tested) Model: AST-SP01-1000WMHT1B1-ac40  
AST-SP01-1000WMHT1B1-ac57

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

Test & Report By:

*Grace Li*

Engineer: Grace Li

Date: Sept 19, 2018

Review By:

*Tommy Liang*

Manager: Tommy Liang



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### 1.1 Product Information:

Organization Name	ASmart LIGHT CO., LTD	
Brand Name	ASmart	
Model Number	AST-SP01-1000WMHT1B1-acd	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	100-277Vac, 50/60 Hz	
Nominal Power	1000W	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,4500K,5000K,5700K	
LED Manufacturer	OSRAM	
LED Model	GW PUSTA1.PM	
Sample Number	BLC1809011E-U-E1(4000K),E2(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	Sept 13,2018
Date of Test	Sept 17,2018
Test item	<ol style="list-style-type: none"><li>1. Total Luminous Flux</li><li>2. Luminous Distribution Intensity</li><li>3. Luminous Efficacy</li><li>4. Correlated Color Temperature</li><li>5. Color Rendering Index</li><li>6. Chromaticity Coordinate</li><li>7. Electrical Parameters</li></ol>
Reference Standard	<ol style="list-style-type: none"><li>1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products</li><li>2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products</li><li>3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources</li><li>4. CIE 15-2004 Technical Report Colorimetry</li><li>5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source</li><li>6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems</li></ol>
Reference Work Instruction	BL-QP-033

## 1.3 Test Methods

### 1) Photometric and Light Distribution Measurement – Goniophotometer Method:

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

### 2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ . 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)*

<b>Test date</b>	2018-09-17	<b>Test Ambient:</b>	25.2 °C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AST-SP01-1000WMHT1B1-ac40		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180901	120.0	60	8.6125	1030.4	0.997	4.7
1E-U-E1	277.0	60	3.7990	995.5	0.946	8.86
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

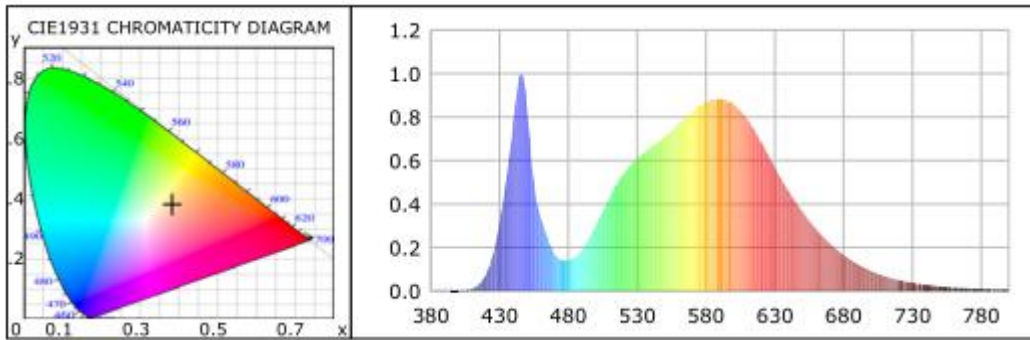
Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	72	R9	0
Frequency (Hz)	60	R2	80	R10	54
CCT (K)	3951	R3	88	R11	72
Duv	-0.00009	R4	75	R12	52
Chromaticity (x, y)	x=0.3826 y=0.3779	R5	72	R13	73
Chromaticity (u', v')	u(u')=0.2261 v'(v')=0.5024	R6	74	R14	93
Color Rendering Index (CRI)	74.4	R7	81	R15	65
R9	0	R8	54	--	--

**Photometric Measurement – Goniophotometer Method:**

Parameter	Result		DLC V4.3 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	133642.80	134721.02	>=30000(-10%)
Luminous Efficacy (lm/W)	129.70	135.33	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	129.7		
Zonal lumens in the 0-90° zone (%)	99.7	--	>=85(-3)
Beam Angle (°)	13.3	--	--
Center Beam Candle Power (cd)	1127161	--	--



**Spectral Power Distribution & Chromaticity Diagram**



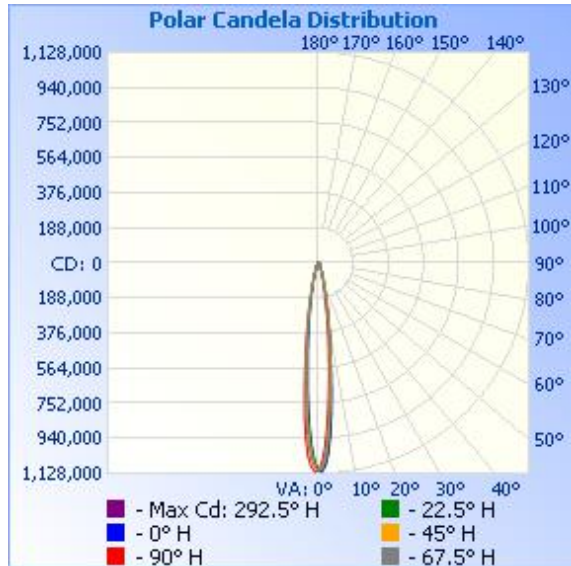
**Zonal Lumen Tabulation**

Zonal Lumen Summary				Lumens Per Zone					
Zone	Lumens	% Lamp	% Luminaire	Zone	Lumens	% Total	Zone	Lumens	% Total
0-30	103,971.2	77.8%	77.9%	0-10	55,475.1	41.6%	90-100	107.8	0.1%
0-40	111,249.7	83.2%	83.4%	10-20	36,121.1	27.1%	100-110	0	0%
0-60	122,856.7	91.9%	92.1%	20-30	12,374.9	9.3%	110-120	0	0%
60-90	10,417.6	7.8%	7.8%	30-40	7,278.6	5.5%	120-130	0	0%
70-100	5,999.7	4.5%	4.5%	40-50	6,173.5	4.6%	130-140	0	0%
90-120	107.8	0.1%	0.1%	50-60	5,433.5	4.1%	140-150	0	0%
0-90	133,274.4	99.7%	99.9%	60-70	4,525.7	3.4%	150-160	0	0%
90-180	107.8	0.1%	0.1%	70-80	3,430.9	2.6%	160-170	0	0%
0-180	133,382.1	99.8%	100%	80-90	2,461.0	1.8%	170-180	0	0%





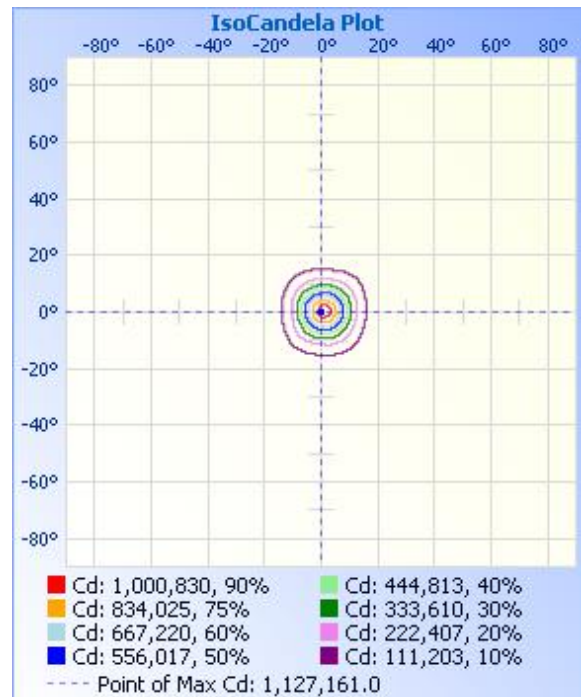
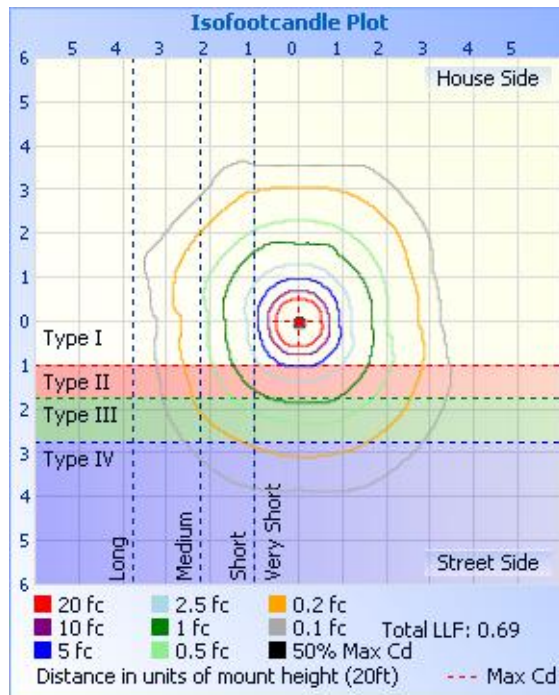
**Photometric Data**



**Illuminance at a Distance**

	Center Beam fc	Beam Width	
17.0ft	3,848 fc	3.9 ft	4.0 ft
34.0ft	962 fc	7.9 ft	7.9 ft
51.0ft	428 fc	11.8 ft	11.9 ft
68.0ft	240 fc	15.8 ft	15.9 ft
85.0ft	154 fc	19.7 ft	19.8 ft
102.0ft	107 fc	23.7 ft	23.8 ft

■ Vert. Spread: 13.2°  
■ Horiz. Spread: 13.3°





Candela Table - Type C

	0	22.5	45	67.5	90	112.	135	157.	180	202.	225	247.	270	292.5	315	337.	360
						5	5	5	5	5	5	5	5	5	5	5	5
0	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	1112 033	11120 33	1112 033	1112 033	1112 033
1	1119 801	1108 062	1099 265	1088 288	1068 260	1064 113	1059 642	1065 764	1068 386	1073 063	1087 329	1098 666	1120 022	1127 161	1126 586	1126 473	1119 801
2	1088 915	1068 353	1051 276	1028 108	9895 23	9833 09	9787 58	9780 79	9904 64	1001 525	1030 952	1053 609	1094 536	11066 24	1107 223	1104 782	1088 915
3	1023 199	9948 76	9602 03	9380 54	8828 71	8746 64	8722 00	8722 98	8902 55	9089 33	9506 11	9808 63	1039 524	10538 14	1055 384	1042 414	1023 199
4	9250 86	8921 26	8536 47	8156 00	7608 17	7424 56	7523 75	7534 60	7730 94	8008 26	8392 14	8806 76	9519 17	97007 6	9719 57	9517 18	9250 86
5	8065 68	7746 00	7385 80	7105 78	6423 17	6266 59	6371 15	6374 80	6563 02	6869 94	7263 36	7638 59	8406 77	85975 0	8637 13	8370 59	8065 68
6	6867 25	6496 86	6291 56	5908 96	5284 95	5289 54	5315 98	5387 96	5434 56	5841 51	6209 83	6527 08	7096 62	74126 4	7314 49	7149 95	6867 25
7	5663 58	5481 98	5338 57	4982 85	4402 20	4462 56	4535 02	4494 22	4588 13	4878 03	5287 07	5416 49	5966 00	61568 7	6189 77	6016 87	5663 58
8	4704 65	4605 31	4537 02	4184 56	3647 34	3691 50	3874 77	3803 86	3862 23	4138 03	4432 77	4551 37	4943 82	51599 6	5222 54	5040 17	4704 65
9	3899 84	3869 31	3789 43	3498 38	2989 99	3085 16	3305 52	3207 52	3234 35	3496 84	3770 93	3812 83	4078 39	43256 4	4433 92	4145 81	3899 84
10	3218 01	3262 28	3222 26	2911 05	2443 81	2572 04	2771 81	2697 21	2646 23	2950 15	3206 23	3194 40	3366 05	36456 5	3771 22	3470 21	3218 01
11	2640 68	2738 68	2725 42	2405 96	1978 44	2120 65	2346 25	2241 89	2177 40	2457 33	2701 98	2641 57	2758 82	30659 1	3160 30	2886 46	2640 68
12	2166 30	2259 40	2294 26	1947 68	1583 54	1756 97	1986 56	1867 67	1797 96	2011 30	2280 69	2150 64	2210 21	25778 4	2693 38	2402 88	2166 30
13	1731 69	1884 79	1915 84	1594 43	1298 61	1453 49	1670 38	1550 00	1481 09	1669 00	1910 91	1769 36	1794 05	21038 4	2286 81	1983 50	1731 69
14	1415 74	1568 04	1554 38	1307 08	1083 24	1189 75	1403 22	1267 65	1227 72	1386 42	1566 10	1454 91	1454 44	17328 2	1931 11	1637 25	1415 74
15	1171 92	1303 62	1281 75	1084 10	9097 8	1011 88	1177 72	1057 19	1025 51	1153 40	1325 85	1194 66	1188 64	14189 6	1625 03	1326 64	1171 92
16	9835 1089	1089 1062	1062 9147	9147 7767	7767 8431	8431 9954	9954 8949	8949 8581	8581 9764	9764 1096	1096 9941	9941 9869	9869 11689	11689 1368	1368 1109	1109 9835	9835 1089



Certificate#4810.01

6	9	38	16	1	3	9	3	7	4	1	40	7	4	7	59	11	9
1	8325	9123	8842	7711	6549	7123	8226	7548	7333	8258	9128	8352	8320	96543	1156	9336	8325
7	5	8	1	9	2	8	3	7	0	8	9	5	2		58	8	5
1	7212	7606	7401	6492	5637	6035	6918	6451	6288	6938	7741	7037	7159	81110	9546	7991	7212
8	8	2	8	3	9	9	0	9	1	3	1	4	8		8	2	8
1	6146	6451	6226	5577	4823	5149	5772	5407	5421	5919	6501	5999	6120	67510	8045	6842	6146
9	3	9	8	6	8	6	2	3	9	4	3	5	9		5	1	3
2	5301	5466	5162	4767	4125	4306	4895	4599	4602	5079	5391	5171	5309	57486	6725	5865	5301
0	7	9	8	6	2	1	9	3	0	0	0	0	9		0	1	7
2	4608	4648	4351	4065	3520	3630	4099	3914	3960	4328	4549	4438	4559	48959	5649	4925	4608
1	2	1	7	4	7	7	4	2	9	0	0	0	6		6	0	2
2	3948	3955	3750	3511	3062	3212	3501	3434	3415	3687	3901	3846	3961	41777	4727	4181	3948
2	5	5	3	0	0	0	9	9	3	7	4	7	1		4	5	5
2	3415	3382	3284	3033	2630	2771	3039	3017	2996	3250	3374	3292	3387	35757	3891	3613	3415
3	3	9	6	6	6	9	3	0	1	6	0	3	0		0	1	3
2	3030	3001	2892	2704	2317	2454	2622	2645	2684	2776	2951	2895	2907	30714	3351	3146	3030
4	0	3	9	1	7	1	6	3	8	5	5	0	1		8	1	0
2	2629	2622	2544	2383	2083	2166	2359	2359	2339	2527	2606	2547	2563	27016	2919	2811	2629
5	3	6	4	8	8	8	1	6	5	2	1	0	8		8	2	3
2	2327	2391	2279	2134	1834	1913	2107	2113	2099	2268	2303	2322	2250	23716	2588	2451	2327
6	2	8	1	3	8	1	9	8	1	6	8	2	9		9	7	2
2	2059	2114	2035	1878	1594	1751	1890	1929	1871	2065	2087	2041	2001	21210	2307	2215	2059
7	0	7	5	7	8	2	4	4	0	5	9	9	8		0	2	0
2	1855	1911	1859	1733	1476	1601	1697	1775	1738	1880	1906	1891	1789	19192	2003	2024	1855
8	6	6	7	9	3	4	3	8	5	8	0	0	2		7	7	6
2	1710	1760	1708	1583	1373	1439	1590	1591	1599	1686	1757	1709	1606	17267	1856	1834	1710
9	7	7	6	0	0	4	1	5	8	9	9	3	9		7	2	7
3	1590	1582	1582	1453	1288	1360	1458	1474	1495	1613	1625	1564	1497	15586	1721	1699	1590
0	5	2	1	7	0	0	4	7	0	0	3	6	6		8	0	5
3	1491	1492	1461	1370	1202	1265	1384	1407	1380	1474	1532	1456	1333	14547	1584	1554	1491
1	9	9	9	5	9	2	8	1	9	5	8	8	5		0	6	9
3	1380	1428	1406	1305	1111	1191	1299	1336	1285	1360	1424	1410	1272	13202	1458	1468	1380
2	9	3	3	8	8	9	0	5	4	6	9	6	8		4	6	9
3	1331	1345	1357	1241	1054	1139	1256	1275	1260	1311	1353	1302	1163	12469	1351	1373	1331
3	6	2	0	2	1	9	2	0	7	3	9	8	4		1	3	6
3	1239	1286	1242	1195	1005	1057	1225	1192	1196	1255	1292	1219	1099	11919	1256	1333	1239

**Laboratory: Belling Test Laboratory Co., LTD A2LA Certificate# 4810.01**  
**Unit 401, No. 309 Xinxin Seven Road, Zengcheng District,**  
**Guangzhou, People' s Republic of China. Website: <http://www.blst.com>**

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4	1	7	9	0	5	4	5	1	0	9	2	6	6		2	4	1
3	1202	1194	1209	1136	9660	1005	1099	1192	1100	1222	1212	1195	1048	11369	1292	1284	1202
5	1	3	0	5		5	9	1	4	0	0	0	0		9	2	1
3	1125	1215	1153	1065	8900	9566	1035	1109	1075	1154	1175	1142	9629	10819	1167	1210	1125
6	1	9	5	6			6	1	8	3	0	6			3	5	1
3	1069	1132	1082	1031	8202	8863	1029	1078	1017	1089	1079	1074	8992	10024	1099	1182	1069
7	6	8	5	7			4	4	2	7	4	9			9	8	6
3	1017	1089	1014	1007	7594	8771	9957	1041	9833	1062	1070	1034	8992	9382	1072	1020	1017
8	2	7	7	1				5		0	2	8			3	0	2
3	9525	1040	1005	9424	7564	8129	9406	9924	9463	9819	1020	9794	8566	9291	9927	1063	9525
9		4	4							8						0	
4	9309	1028	9807	9085	7412	8374	9253	9924	9093	1006	9838	9763	8019	8741	9773	1041	9309
0		1								6						5	
4	9340	9758	9715	9178	7078	7915	8732	9586	8970	9758	9653	9517	7868	8435	9528	9985	9340
4																	
4	9155	9142	9345	9116	7047	7946	8671	9524	9001	9604	9499	8932	7290	8282	9406	9555	9155
4																	
4	8877	9389	9160	8624	6865	7488	8395	9186	8353	9573	9252	8839	7382	8007	9253	9371	8877
3																	
4	8600	9450	8697	8408	6804	7243	8150	8480	8322	8804	8975	8778	7230	7426	8517	9678	8600
4																	
4	8322	9142	8512	8069	6045	6876	7905	8387	8014	8711	8389	8131	6470	7824	8456	8818	8322
5																	
4	7953	8496	7864	7607	6015	6754	7169	8172	7768	8250	8389	8192	6653	6937	8272	8664	7953
6																	
4	7675	8188	7957	7299	5468	6540	7108	7681	7614	8250	8049	7576	6440	7060	7996	7988	7675
7																	
4	7213	8034	7618	7022	5680	6143	6955	7712	7429	7726	7618	7484	5589	6357	7414	7742	7213
8																	
4	7274	7634	7679	7022	5559	5807	6832	7159	7120	7757	7278	7515	5893	6082	7414	7712	7274
9																	
5	6781	7634	7464	6714	5437	5807	6465	7251	7028	7511	7001	7145	5164	5593	7047	7466	6781
0																	
5	6781	6988	7063	6560	4557	5593	6587	7281	6288	7357	7309	6899	5316	6051	6924	7128	6781
1																	
5	6442	7111	6878	6683	5255	5654	5974	6728	6843	7203	7217	6714	5620	5837	6710	7281	6442

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2																	
5	6720	7234	6878	6745	5012	5318	6250	6636	6596	6803	6908	6683	5346	5287	6648	7281	6720
3																	
5	6812	7049	6723	6498	4678	5134	6219	6882	6565	7080	6939	6406	5437	5257	6740	6636	6812
4																	
5	6226	7111	6446	6437	3949	4737	5974	6390	6041	6957	6939	6406	5012	5409	6342	6083	6226
5																	
6	6072	6433	6076	5944	4496	4645	5668	5960	6134	6464	6723	6406	4739	5440	6097	6636	6072
5																	
7	5672	5941	6477	5728	4010	4706	5821	6329	5980	6064	6600	6160	5103	4645	6434	6698	5672
5																	
8	6041	5972	6353	5913	4101	4768	5545	5899	5610	6618	6446	5790	4557	5073	5637	6360	6041
5																	
9	5918	6280	6569	5451	3919	4859	5239	6083	5795	6126	6076	6129	4405	4981	5791	6268	5918
6																	
0	5610	6156	6168	5020	3919	4309	5147	5561	4963	6341	5305	5266	4405	4615	5852	5499	5610
6																	
1	5271	5879	6014	4805	3402	2751	2819	5868	4932	5879	5613	5205	4465	4951	5208	5653	5271
6																	
2	4624	6280	5459	5174	3858	4065	4688	5653	4346	6280	5736	4589	4283	4095	5392	5346	4624
6																	
3	4963	5787	5798	4712	3129	3790	4534	5254	5148	5787	4842	5359	3919	4493	5331	5653	4963
6																	
4	4778	5325	5397	3911	3159	3698	4902	5039	4870	5664	5459	4835	3615	4217	5178	4885	4778
6																	
5	4778	5325	4873	4866	3159	3698	4504	5039	4778	4894	5212	4743	3311	4187	4902	5377	4778
6																	
6	4377	5356	5027	4805	1610	3667	4351	5162	4716	5448	4965	4866	3341	3790	4749	4516	4377
6																	
7	4500	5233	5274	4373	3038	2567	4075	4701	4685	4740	4379	4651	3372	3881	4412	4516	4500
6																	
8	4562	5048	4657	4312	2552	3117	4289	4977	4469	5048	4410	3788	3433	3667	4044	4424	4562
6																	
9	4408	5079	4534	3480	2734	3240	4014	4301	3730	5233	4626	4189	3068	3117	4565	4854	4408
6																	
7	4100	4710	4564	4373	2764	3056	3431	4578	3945	4771	3978	4558	2521	3637	4504	4455	4100

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8	2004	2770	2498	2371	0	1222	1869	2827	1634	2740	2652	1417	1033	1498	1777	2550	2004

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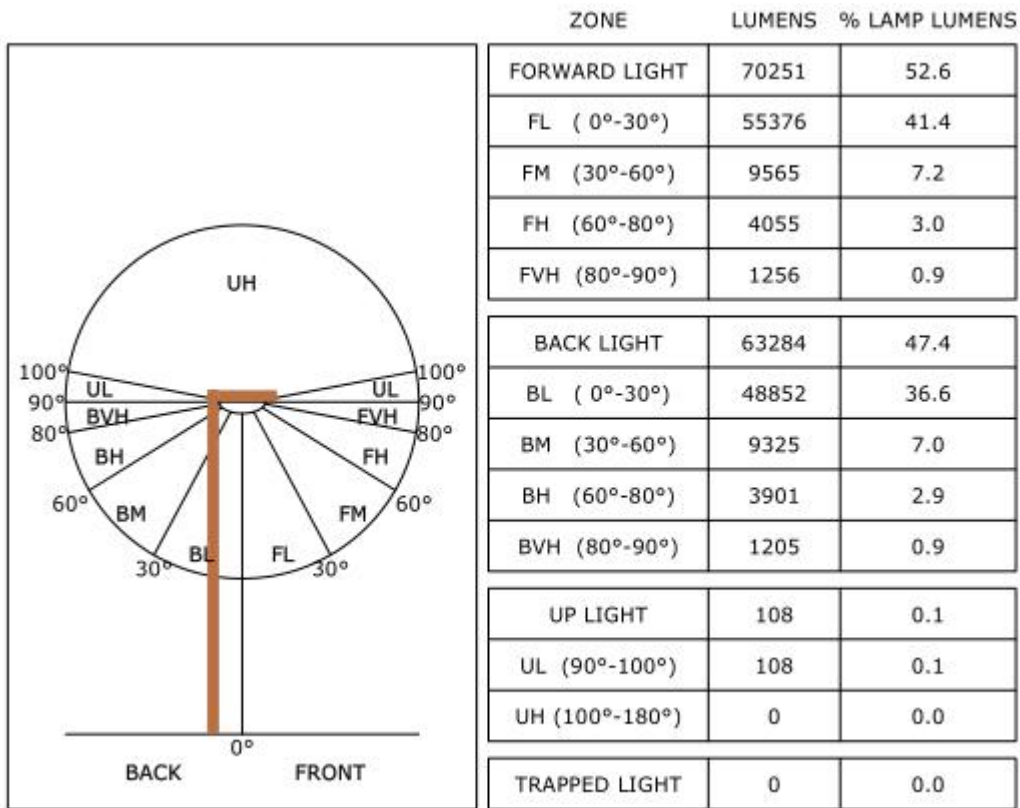
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**2.2 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

<b>Test date</b>	2018-09-17	<b>Test Ambient:</b>	25.2 ° C
<b>Test Orientation</b>	As intended	<b>Stabilization Time (min)</b>	90
<b>Model Number</b>	AST-SP01-1000WMHT1B1-ac57		

**Electrical Measurement:**

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC180901	120.0	60	8.6031	1029.69	0.9974	4.81
1E-U-E2	277.0	60	3.7967	995.22	0.9463	8.93
<b>DLC Pass Criteria</b>					<b>&gt;= 0.9(-3%)</b>	<b>&lt;= 20(+5)</b>

**Chromaticity Measurement - Sphere-Spectroradiometer Method:**

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	72	R9	0
Frequency (Hz)	60	R2	77	R10	44
CCT (K)	5606	R3	80	R11	74
Duv	0.00295	R4	75	R12	48
Chromaticity (x, y)	x=0.3301 y=0.3448	R5	73	R13	72
Chromaticity (u', v')	u(u')=0.2038 v'(v')=0.4791	R6	69	R14	89
Color Rendering Index (CRI)	73.4	R7	81	R15	66
R9	0	R8	61	--	--

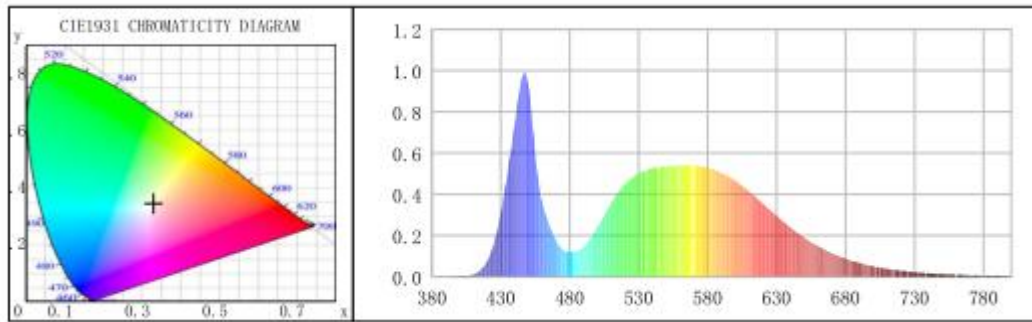
**Photometric Measurement – Sphere-Spectroradiometer Method:**

Parameter	Result		DLC V4.3 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	136722.24	137877.78	>=30000(-10%)
Luminous Efficacy (lm/W)	132.78	138.54	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	132.78		



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## Spectral Power Distribution & Chromaticity Diagram





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**Calculated Efficacy Data for family models (4500K and 5000K):**

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
AST-SP01-1000WMHT1B1-ac40	133642.80	1030.4	129.70
AST-SP01-1000WMHT1B1-ac45	134412.66	1030.05	130.49
AST-SP01-1000WMHT1B1-ac50	135182.52	1030.05	131.24
AST-SP01-1000WMHT1B1-ac57	136722.24	1029.69	132.78



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### 3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2019-01-15
AC Power Source	CHP-500C	N/A	2019-01-14
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2019-01-22
Digital Power Meter	WT500	DYDWQ200006	2019-01-14
Integral Sphere (2M)	2M	DYJCE120067	2019-01-15
Digital Power Meter	WT500	DYDWQ200006	2019-01-14
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2019-01-15

Expand Uncertainty:  
Photometric Measurement (Sphere): 2.04%, k=2  
Chromaticity Measurement(Sphere):28.8K, k=2  
Photometric Measurement(Goniophotometer):2.7%, k=2

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