



Report No.:
BLC2107021E-D-CP

LM-79-08 Test Report

For

ASmart LIGHT CO., LTD

(Brand Name: ASmart)

506 N GARFIELD AVE SUITE#210 ALHAMBRA CA 91801

Parking Garage Luminaires

Model name(s):

AST-PG07-75WBSP1SC1-abce

Remark: "a" can be any letters for Housing colors;
"b" can be "M", "P" or blank for DC Motion Microwave sensor, DC Motion PIR sensor provided or not;
"c" can be "10SP" or "20SP" for Surge-Protective Device type provided or blank for no Surge-Protective Device provided; "e" can be any two digits for CCT.

Representative (Tested) Model:

AST-PG07-75WBSP1SC1-abc30

AST-PG07-75WBSP1SC1-abc65

Test & Report By:

Arvin Qin

Engineer: Arvin Qin

Date: 2021-07-21

Review By:

Jason Luo

Manager: Jason Luo

This report is multiple listed report of BLC2107021E-D, all construction and rating are the same except without wattage adjustable.



Report No.:
BLC2107021E-D-CP

1.1 Product Information:

Organization Name	ASmart LIGHT CO., LTD	
Brand Name	ASmart	
Model Number	AST-PG07-75WBSP1SC1-abce	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Parking Garage Luminaires	
Rated Voltage / Frequency	120-347Vac, 50/60 Hz	
Nominal Power	75W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,3500K,4000K, 4500K,5000K,5700K,6500K	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-XX80RA35000H1	
Sample Number	BLC2107021E-D1~2	
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	2021-07-15
Date of Test	2021-07-21
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 Premium	<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.



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BLC2107021E-D-CP**2.1 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

Test date	2021-07-21	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-PG07-75WBSP1SC1-abc30		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210702	120.0	60	0.617	73.97	0.999	2.62
1E-D1	347.0	60	0.238	73.6	0.892	20.54
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	81	R9	2
Frequency (Hz)	60	R2	91	R10	81
CCT (K)	2961	R3	95	R11	81
Duv	-0.0019	R4	80	R12	75
Chromaticity (x, y)	x=0.4368 y=0.3992	R5	82	R13	83
Chromaticity (u', v')	u(u')=0.2526 v'=0.5194	R6	90	R14	98
Color Rendering Index (CRI)	82	R7	80	R15	72
R9	2	R8	56	--	--
Rf	84	--	--	--	--
Rg	97	--	--	--	--
Rcs,h1 (%)	-12	--	--	--	--

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)	9330.4	9194.2	5000-10000lm (-10%)
Luminous Efficacy (lm/W)	126.14	124.92	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	124.3		
Zonal lumens in the 60-80 °zone (%)	30.2	--	>=30(-3)
Zonal lumens in the 70-80 °zone (%)	14.7	--	<=25(+3)
Beam Angle (°)	181.3	--	--
Center Beam Candle Power (cd)	1129	--	--

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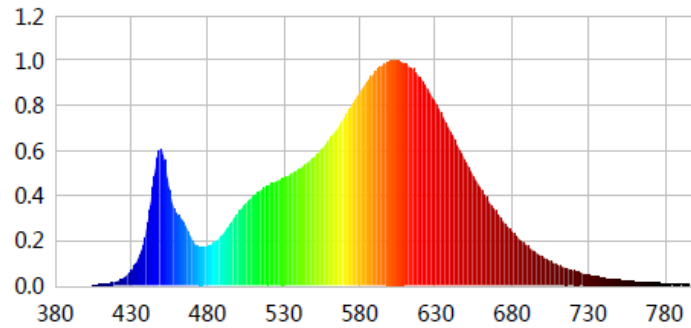
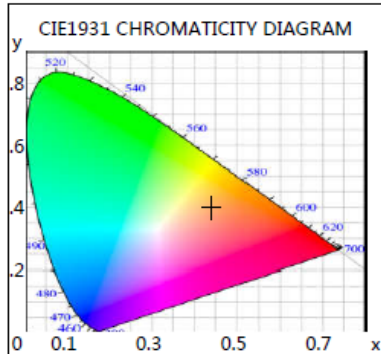
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Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0002	0.0521	525	0.4617	99.8897	670	0.3222	69.6971
385	0.0002	0.0427	530	0.4775	103.3089	675	0.2771	59.9534
390	0.0002	0.0523	535	0.4948	107.0370	680	0.2395	51.8232
395	0.0003	0.0711	540	0.5183	112.1296	685	0.2055	44.4571
400	0.0005	0.1031	545	0.5411	117.0594	690	0.1761	38.1076
405	0.0014	0.3097	550	0.5713	123.5918	695	0.1487	32.1607
410	0.0031	0.6738	555	0.6072	131.3679	700	0.1265	27.3748
415	0.0074	1.5977	560	0.6492	140.4573	705	0.1078	23.3189
420	0.0161	3.4937	565	0.6955	150.4700	710	0.0906	19.6000
425	0.0332	7.1786	570	0.7470	161.6064	715	0.0770	16.6582
430	0.0658	14.2336	575	0.8058	174.3237	720	0.0660	14.2683
435	0.1251	27.0576	580	0.8581	185.6452	725	0.0554	11.9758
440	0.2474	53.5165	585	0.9065	196.1152	730	0.0469	10.1559
445	0.4846	104.8324	590	0.9510	205.7475	735	0.0387	8.3715
450	0.6052	130.9209	595	0.9799	211.9898	740	0.0335	7.2386
455	0.4298	92.9745	600	0.9989	216.1104	745	0.0296	6.4047
460	0.3197	69.1741	605	0.9986	216.0260	750	0.0242	5.2404
465	0.2760	59.7156	610	0.9873	213.5856	755	0.0208	4.5019
470	0.2028	43.8632	615	0.9619	208.0995	760	0.0178	3.8572
475	0.1687	36.4894	620	0.9215	199.3588	765	0.0151	3.2608
480	0.1750	37.8699	625	0.8690	187.9885	770	0.0133	2.8687
485	0.1934	41.8473	630	0.8113	175.5129	775	0.0103	2.2178
490	0.2269	49.0844	635	0.7463	161.4572	780	0.0087	1.8831
495	0.2740	59.2730	640	0.6795	146.9929	785	0.0082	1.7692
500	0.3210	69.4502	645	0.6119	132.3882	790	0.0075	1.6199
505	0.3613	78.1712	650	0.5459	118.0964	795	0.0058	1.2483
510	0.3961	85.6921	655	0.4843	104.7731	800	0.0036	0.7827
515	0.4232	91.5502	660	0.4255	92.0436			
520	0.4435	95.9474	665	0.3703	80.1168			

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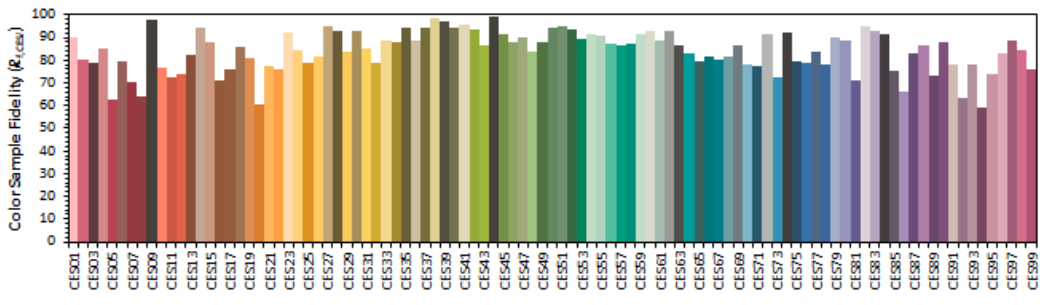
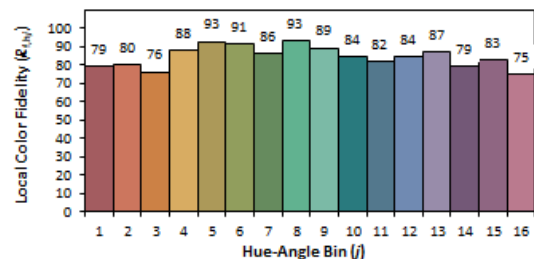
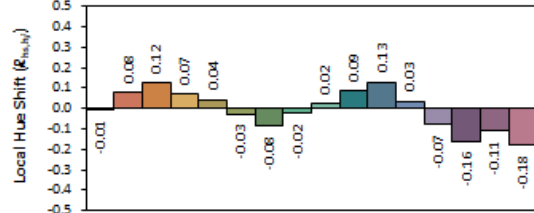
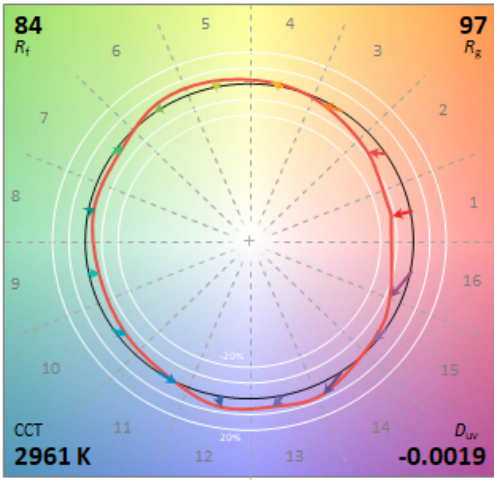
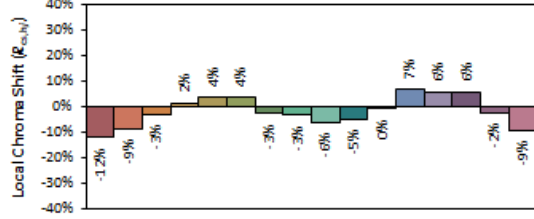
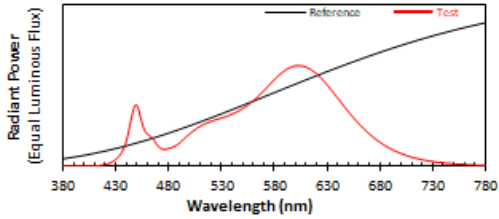
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TM30

ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1
Date: 2021/7/20

Manufacturer: ASMA RT LIGHT CO., LTD
Model: AST-PG07-75WBSP1SC1-abc30



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

x 0.4368
y 0.3992
u' 0.2526
v' 0.5194

CIE 13.3-1995 (CRI)
Ra 82
R9 2

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



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Zonal Lumen Tabulation

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	1,079.2	11.2%	11.2%
0-40	1,974.1	20.5%	20.5%
0-60	4,290.0	44.5%	44.5%
60-90	4,033.7	41.9%	41.9%
70-100	3,284.9	34.1%	34.1%
90-120	1,228.4	12.8%	12.8%
0-90	8,323.6	86.4%	86.4%
90-180	1,307.2	13.6%	13.6%
0-180	9,630.9	100%	100%

Lumens Per Zone

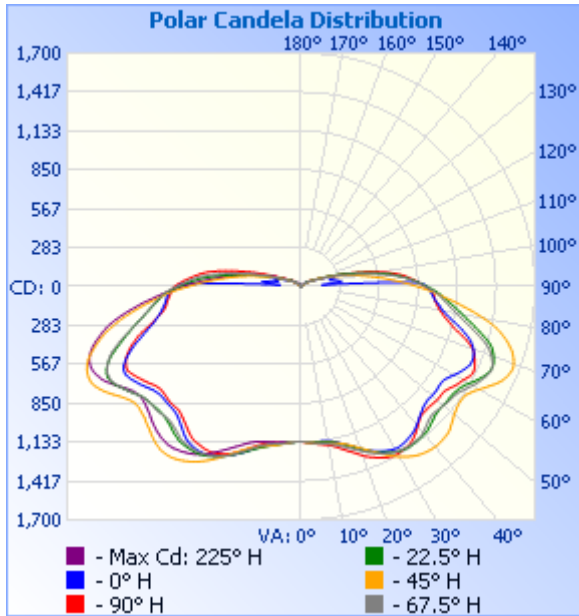
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	109.6	1.1%	90-100	740.8	7.7%
10-20	344.1	3.6%	100-110	353.8	3.7%
20-30	625.5	6.5%	110-120	133.8	1.4%
30-40	894.9	9.3%	120-130	56.0	0.6%
40-50	1,070.8	11.1%	130-140	18.0	0.2%
50-60	1,245.0	12.9%	140-150	2.2	0%
60-70	1,489.5	15.5%	150-160	1.5	0%
70-80	1,414.2	14.7%	160-170	0.9	0%
80-90	1,129.9	11.7%	170-180	0.3	0%



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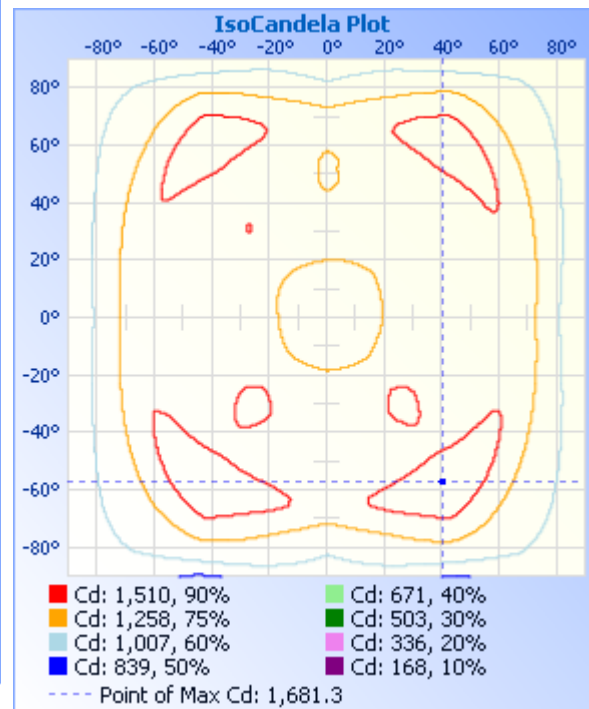
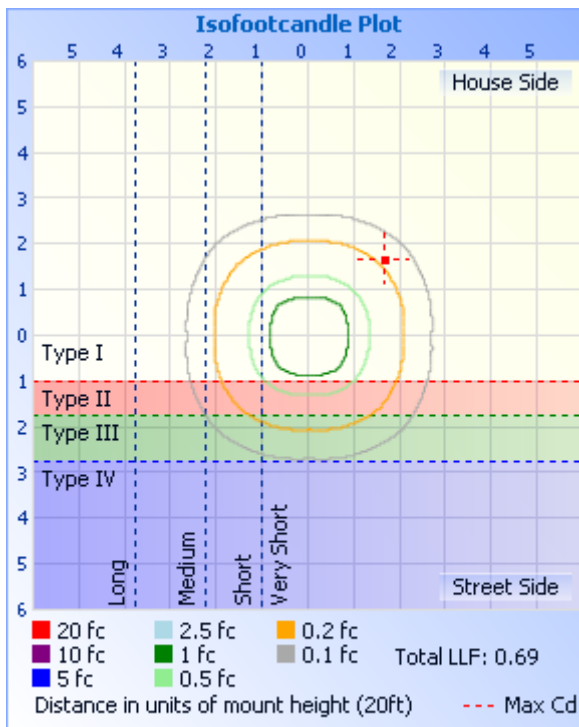
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Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width
17.0ft	3.91 fc	
34.0ft	0.98 fc	
51.0ft	0.43 fc	
68.0ft	0.24 fc	
85.0ft	0.16 fc	
102.0ft	0.11 fc	



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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	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129	1129
1	1129	1130	1129	1130	1131	1131	1131	1131	1129	1129	1130	1129	1128	1129	1128	1129	1129
2	1129	1132	1134	1133	1135	1133	1133	1133	1130	1131	1131	1130	1129	1128	1128	1129	1129
3	1130	1132	1137	1136	1140	1138	1137	1136	1134	1134	1133	1133	1131	1131	1130	1131	1130
4	1133	1135	1138	1139	1144	1142	1141	1141	1137	1138	1138	1137	1134	1135	1132	1132	1133
5	1134	1138	1142	1144	1148	1146	1148	1147	1142	1142	1145	1141	1139	1139	1135	1133	1134
6	1135	1141	1146	1147	1152	1153	1154	1151	1147	1148	1150	1147	1143	1145	1138	1135	1135
7	1135	1142	1150	1150	1157	1155	1159	1159	1151	1154	1156	1151	1147	1148	1141	1135	1135
8	1137	1144	1152	1154	1161	1160	1167	1165	1155	1160	1162	1155	1149	1150	1145	1138	1137
9	1138	1146	1155	1157	1165	1166	1172	1172	1161	1166	1168	1159	1152	1154	1149	1140	1138
10	1142	1149	1158	1163	1171	1172	1179	1179	1166	1172	1175	1163	1154	1157	1150	1143	1142
11	1146	1154	1160	1170	1181	1181	1184	1186	1173	1180	1180	1168	1159	1159	1153	1147	1146
12	1154	1161	1165	1177	1192	1191	1191	1193	1183	1189	1186	1174	1163	1165	1156	1153	1154
13	1163	1169	1169	1186	1204	1202	1199	1204	1191	1198	1191	1182	1170	1171	1158	1160	1163
14	1174	1178	1177	1196	1217	1214	1207	1214	1200	1207	1199	1192	1184	1180	1162	1169	1174
15	1185	1190	1185	1207	1231	1227	1220	1226	1212	1219	1205	1204	1194	1191	1167	1180	1185
16	1198	1202	1195	1220	1245	1241	1231	1238	1225	1231	1217	1219	1209	1203	1175	1191	1198
17	1209	1214	1208	1232	1259	1256	1243	1253	1242	1244	1227	1235	1223	1215	1183	1203	1209
18	1223	1228	1219	1245	1274	1272	1257	1268	1259	1259	1239	1250	1240	1230	1194	1216	1223
19	1240	1242	1235	1259	1291	1286	1271	1283	1275	1274	1253	1267	1257	1243	1207	1228	1240
20	1256	1256	1250	1272	1309	1302	1288	1301	1288	1290	1269	1284	1274	1260	1223	1242	1256
21	1271	1272	1267	1288	1325	1318	1304	1317	1306	1305	1288	1301	1291	1275	1239	1255	1271
22	1284	1288	1284	1302	1339	1333	1324	1334	1319	1320	1306	1319	1306	1290	1256	1271	1284
23	1299	1302	1301	1314	1350	1348	1342	1349	1335	1334	1327	1334	1322	1306	1273	1285	1299
24	1311	1317	1320	1328	1363	1360	1361	1364	1348	1349	1346	1349	1333	1322	1292	1298	1311
25	1323	1332	1338	1339	1375	1372	1382	1381	1360	1363	1367	1363	1345	1335	1311	1312	1323
26	1334	1346	1357	1352	1387	1384	1403	1394	1373	1376	1390	1376	1355	1346	1331	1322	1334
27	1343	1357	1377	1363	1393	1396	1422	1408	1384	1388	1411	1387	1362	1357	1350	1336	1343
28	1351	1368	1395	1373	1401	1406	1440	1419	1390	1399	1432	1395	1370	1367	1370	1347	1351
29	1358	1379	1413	1382	1404	1415	1459	1431	1399	1410	1452	1402	1372	1374	1391	1355	1358

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30	1364	1387	1429	1387	1406	1420	1477	1441	1404	1418	1469	1408	1374	1381	1408	1366	1364
31	1368	1395	1445	1392	1405	1422	1491	1449	1408	1425	1486	1413	1374	1386	1424	1373	1368
32	1366	1401	1461	1394	1400	1425	1505	1455	1410	1430	1503	1416	1372	1389	1439	1380	1366
33	1364	1405	1472	1399	1397	1428	1519	1460	1408	1433	1517	1418	1369	1391	1452	1385	1364
34	1358	1407	1485	1400	1394	1429	1532	1462	1407	1434	1529	1420	1367	1393	1464	1386	1358
35	1353	1405	1494	1400	1388	1429	1541	1463	1402	1434	1541	1420	1363	1392	1473	1387	1353
36	1348	1405	1502	1401	1379	1429	1551	1465	1396	1434	1551	1420	1356	1392	1483	1385	1348
37	1340	1404	1509	1400	1367	1428	1557	1464	1387	1434	1559	1418	1344	1389	1489	1386	1340
38	1333	1402	1514	1398	1352	1424	1564	1462	1377	1432	1565	1414	1332	1385	1497	1386	1333
39	1323	1402	1517	1392	1337	1418	1568	1457	1362	1426	1568	1406	1320	1379	1501	1386	1323
40	1309	1400	1520	1383	1321	1409	1567	1449	1347	1419	1569	1395	1308	1372	1504	1385	1309
41	1298	1395	1521	1371	1305	1399	1568	1440	1334	1411	1566	1386	1296	1361	1503	1381	1298
42	1284	1387	1520	1361	1291	1390	1565	1430	1321	1402	1560	1379	1286	1352	1500	1375	1284
43	1272	1379	1516	1350	1280	1379	1559	1421	1309	1392	1554	1373	1277	1342	1497	1369	1272
44	1263	1369	1514	1341	1278	1372	1550	1413	1300	1384	1544	1368	1269	1337	1491	1359	1263
45	1251	1361	1509	1336	1278	1369	1541	1408	1295	1379	1536	1365	1265	1333	1485	1350	1251
46	1244	1353	1501	1333	1277	1372	1529	1404	1292	1374	1524	1366	1267	1330	1477	1343	1244
47	1239	1349	1488	1335	1277	1375	1514	1402	1290	1371	1513	1371	1269	1332	1469	1336	1239
48	1237	1345	1477	1338	1280	1380	1502	1402	1291	1372	1505	1376	1271	1339	1460	1334	1237
49	1237	1344	1464	1344	1284	1384	1490	1402	1290	1372	1497	1382	1270	1345	1450	1333	1237
50	1239	1346	1452	1348	1288	1388	1481	1404	1291	1375	1486	1384	1269	1349	1440	1333	1239
51	1239	1349	1444	1352	1290	1394	1473	1404	1291	1379	1481	1384	1266	1352	1432	1337	1239
52	1240	1350	1436	1358	1287	1400	1467	1408	1292	1383	1478	1386	1265	1354	1425	1338	1240
53	1239	1350	1430	1363	1287	1407	1466	1410	1296	1388	1472	1389	1264	1355	1420	1339	1239
54	1236	1352	1427	1365	1291	1410	1467	1417	1304	1394	1475	1394	1266	1357	1417	1339	1236
55	1237	1353	1427	1371	1301	1418	1474	1427	1313	1403	1477	1405	1274	1363	1415	1340	1237
56	1236	1360	1430	1379	1314	1429	1483	1439	1326	1416	1488	1417	1285	1375	1418	1343	1236
57	1242	1367	1440	1392	1328	1446	1499	1454	1342	1434	1505	1433	1300	1388	1425	1348	1242
58	1255	1377	1454	1406	1341	1462	1520	1468	1357	1452	1525	1451	1316	1406	1437	1358	1255
59	1269	1390	1472	1422	1350	1478	1543	1486	1374	1470	1547	1470	1331	1424	1454	1371	1269
60	1286	1410	1496	1440	1360	1494	1565	1505	1386	1488	1573	1487	1345	1443	1477	1391	1286
61	1301	1430	1520	1457	1374	1508	1590	1524	1402	1505	1598	1504	1362	1463	1502	1413	1301

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62	1315	1449	1544	1469	1389	1523	1612	1538	1414	1527	1622	1520	1375	1483	1529	1431	1315
63	1329	1466	1571	1480	1397	1528	1633	1554	1425	1541	1643	1534	1389	1499	1552	1450	1329
64	1341	1482	1595	1493	1398	1542	1650	1562	1428	1551	1661	1543	1400	1514	1578	1467	1341
65	1352	1496	1615	1504	1392	1550	1662	1561	1425	1554	1675	1545	1403	1523	1597	1479	1352
66	1356	1505	1629	1511	1383	1547	1670	1559	1412	1549	1680	1542	1394	1526	1611	1491	1356
67	1356	1509	1640	1508	1372	1538	1672	1547	1392	1538	1681	1532	1384	1524	1625	1498	1356
68	1352	1508	1648	1502	1360	1527	1669	1528	1366	1519	1677	1518	1371	1517	1634	1500	1352
69	1345	1500	1651	1488	1349	1510	1659	1502	1336	1497	1669	1500	1352	1505	1637	1495	1345
70	1333	1491	1646	1472	1328	1489	1644	1473	1306	1469	1657	1478	1328	1490	1635	1486	1333
71	1319	1477	1635	1453	1300	1467	1626	1441	1272	1435	1637	1452	1302	1467	1628	1471	1319
72	1299	1461	1621	1430	1265	1442	1604	1404	1235	1398	1614	1417	1271	1444	1616	1456	1299
73	1274	1438	1603	1401	1226	1407	1580	1371	1203	1365	1584	1383	1240	1413	1598	1435	1274
74	1243	1406	1579	1364	1185	1364	1549	1340	1170	1335	1554	1347	1205	1374	1575	1408	1243
75	1211	1371	1553	1325	1147	1324	1517	1309	1140	1300	1522	1310	1162	1339	1546	1375	1211
76	1176	1335	1522	1287	1119	1286	1481	1279	1111	1268	1487	1274	1126	1302	1515	1340	1176
77	1141	1297	1490	1253	1093	1253	1441	1247	1088	1238	1451	1238	1096	1262	1484	1303	1141
78	1110	1264	1451	1215	1069	1218	1392	1219	1068	1209	1406	1206	1068	1230	1449	1264	1110
79	1082	1227	1408	1186	1049	1182	1347	1194	1048	1177	1363	1179	1042	1198	1412	1231	1082
80	1052	1197	1357	1153	1030	1156	1297	1167	1033	1150	1318	1154	1020	1168	1365	1194	1052
81	1033	1168	1302	1127	1014	1133	1248	1139	1020	1125	1265	1130	1002	1142	1316	1163	1033
82	1018	1139	1248	1099	1000	1106	1194	1111	1009	1101	1215	1108	992	1117	1266	1133	1018
83	1000	1112	1191	1078	990	1086	1143	1086	997	1079	1164	1087	987	1098	1213	1106	1000
84	984	1083	1141	1055	980	1065	1097	1063	990	1055	1114	1066	978	1077	1165	1077	984
85	970	1057	1085	1036	975	1043	1051	1040	983	1034	1067	1044	968	1053	1108	1053	970
86	960	1032	1035	1016	968	1024	1006	1017	976	1015	1018	1022	958	1033	1060	1026	960
87	950	1007	989	994	960	996	954	992	962	991	974	1001	952	1013	1009	1003	950
88	942	981	944	970	947	965	907	962	944	960	926	975	949	990	963	975	942
89	931	951	900	941	927	931	856	928	921	926	877	942	939	967	920	950	931
90	916	919	849	906	904	903	811	892	900	890	824	904	922	935	872	918	916
91	895	888	807	884	877	879	764	861	879	861	781	876	902	901	824	884	895
92	852	857	760	850	858	844	721	826	715	826	739	849	874	876	778	856	852
93	559	823	717	819	833	813	679	785	450	791	697	822	851	841	736	825	559

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94	292	793	673	789	808	779	640	749	260	754	650	790	824	811	691	794	292
95	154	761	635	755	784	741	597	710	153	717	611	759	798	780	652	763	154
96	225	724	599	714	758	696	561	667	254	673	573	724	771	748	616	728	225
97	294	690	559	674	725	655	526	625	285	630	537	682	745	707	576	693	294
98	286	652	524	624	690	613	493	578	272	587	500	639	716	666	540	655	286
99	274	613	490	579	650	564	458	536	254	541	468	597	683	623	506	612	274
100	262	571	457	532	605	521	426	492	236	497	436	553	646	578	473	572	262
101	245	529	427	491	563	478	396	451	216	457	405	509	604	531	443	534	245
102	228	492	398	450	519	437	365	407	196	416	372	461	563	490	412	495	228
103	211	451	369	409	474	399	333	369	177	378	343	420	517	446	382	460	211
104	226	414	342	374	427	360	306	336	170	340	316	383	469	409	355	419	226
105	249	376	314	339	386	326	281	302	193	307	290	344	426	371	327	383	249
106	253	340	286	309	347	295	257	275	199	279	265	312	387	335	301	351	253
107	242	311	264	279	311	264	236	249	185	252	244	282	352	306	276	318	242
108	244	281	244	252	274	235	218	227	171	228	225	251	315	275	256	291	244
109	221	256	223	225	243	211	200	205	173	207	208	225	282	249	234	263	221
110	198	229	205	203	218	190	185	188	159	190	192	202	249	224	216	236	198
111	178	208	189	183	193	170	171	174	145	172	178	183	224	201	199	213	178
112	161	186	173	166	175	153	159	159	134	159	165	163	200	180	182	193	161
113	145	167	159	150	160	138	146	145	126	146	153	146	178	161	168	172	145
114	133	152	146	135	147	126	133	135	117	135	139	132	162	146	154	157	133
115	121	137	134	122	135	112	121	126	109	125	127	119	148	133	142	142	121
116	111	123	120	112	125	103	111	118	103	118	116	107	136	118	128	127	111
117	102	112	108	103	118	96	100	110	98	110	104	99	125	107	116	115	102
118	93	103	97	95	110	90	92	103	93	103	96	92	115	99	103	105	93
119	85	96	87	88	103	84	84	97	88	97	88	85	107	92	94	97	85
120	80	90	79	82	97	78	77	90	84	91	80	80	101	85	84	90	80
121	75	85	71	76	91	73	71	86	81	86	73	75	94	80	76	84	75
122	71	78	64	70	84	68	65	81	77	81	66	70	88	74	68	78	71
123	68	72	58	66	79	64	59	77	74	77	61	66	82	68	61	73	68
124	66	69	53	62	74	61	53	73	71	73	55	62	76	64	55	69	66
125	64	66	47	59	71	58	48	70	69	70	49	60	73	61	50	65	64

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126	62	63	42	56	68	55	41	65	66	66	43	57	70	57	43	63	62
127	60	61	37	52	66	52	36	62	63	62	38	54	68	55	38	60	60
128	58	58	32	49	64	50	30	58	60	59	31	52	66	51	33	57	58
129	56	53	25	46	55	48	22	53	56	55	25	49	62	48	27	54	56
130	52	50	18	44	50	45	15	49	52	50	18	46	52	44	20	50	52
131	49	46	11	40	46	43	8	46	49	46	11	43	48	40	13	45	49
132	46	43	8	37	43	39	5	41	45	42	7	40	44	37	8	42	46
133	44	38	6	33	41	35	4	37	42	38	6	38	42	34	7	37	44
134	42	33	5	29	37	30	4	32	38	33	4	32	40	29	5	33	42
135	38	28	5	24	34	25	4	27	35	29	5	26	36	25	4	27	38
136	35	22	5	19	30	18	3	22	30	23	4	21	32	19	4	22	35
137	29	16	4	15	25	13	2	16	27	18	4	15	27	14	4	16	29
138	24	11	4	8	21	7	4	11	22	13	4	9	22	9	3	11	24
139	19	6	5	5	14	4	3	6	17	8	4	5	16	5	4	6	19
140	15	4	4	4	8	2	3	4	12	3	4	4	11	4	4	4	15
141	7	5	5	3	3	3	3	4	6	4	4	4	6	4	3	4	7
142	5	4	4	3	3	2	3	3	3	4	4	4	4	3	4	4	5
143	4	3	4	3	2	2	3	3	3	4	4	4	3	3	4	3	4
144	4	4	4	4	2	2	2	3	4	4	4	4	3	2	4	4	4
145	4	4	4	3	2	2	4	3	3	2	4	4	3	3	4	4	4
146	4	2	4	3	2	2	3	4	4	3	3	4	3	4	3	4	4
147	4	3	4	3	2	2	3	3	4	4	4	3	3	2	2	3	4
148	3	3	4	4	2	2	3	3	4	3	3	4	2	3	3	4	3
149	4	4	4	3	2	2	3	4	3	3	4	2	2	3	3	4	4
150	4	4	4	4	2	2	3	3	3	4	4	4	2	3	4	4	4
151	4	3	4	3	2	2	3	4	4	4	4	3	3	3	3	4	4
152	4	4	3	4	2	2	3	3	3	4	4	4	1	3	4	3	4
153	4	4	3	4	2	3	3	4	3	4	4	4	2	3	4	4	4
154	3	2	4	4	1	2	3	3	4	4	3	3	2	3	4	3	3
155	4	4	3	3	2	3	3	3	4	3	3	3	3	3	4	4	4
156	4	4	3	3	2	2	3	4	3	3	4	4	2	3	4	3	4
157	4	4	4	4	2	2	3	3	3	4	4	3	2	3	3	4	4

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158	4	4	4	3	2	3	2	3	3	4	3	4	2	3	4	3	4
159	3	4	3	3	2	3	3	3	3	3	3	4	2	4	3	4	3
160	4	4	3	3	2	2	3	3	3	4	3	4	3	3	4	4	4
161	4	4	4	4	2	2	2	4	3	4	4	4	3	2	3	4	4
162	4	4	4	4	2	1	3	4	2	4	3	4	2	3	4	3	4
163	4	4	4	4	2	2	3	3	4	4	4	4	3	3	3	4	4
164	4	4	3	4	2	3	3	3	4	4	4	3	2	3	3	3	4
165	3	4	4	4	1	2	2	4	3	4	3	3	3	4	4	4	3
166	4	3	3	4	2	3	3	3	4	3	4	4	3	3	3	4	4
167	4	3	4	4	2	3	3	3	3	3	4	4	2	3	3	4	4
168	3	4	4	4	2	2	3	4	3	4	4	4	2	3	3	3	3
169	4	4	4	4	2	2	3	4	2	3	4	4	2	3	4	3	4
170	4	4	3	4	2	3	3	4	3	4	4	4	2	3	3	4	4
171	3	4	4	3	2	3	3	4	3	4	4	4	2	3	4	4	3
172	3	4	4	3	2	2	3	4	4	4	3	4	3	3	4	4	3
173	3	2	4	4	2	2	4	4	3	4	4	3	2	3	3	3	3
174	4	3	3	2	1	3	3	3	4	3	4	4	3	3	4	4	4
175	3	4	4	4	2	3	2	3	3	4	4	4	3	4	4	3	3
176	4	3	4	4	2	2	3	3	3	3	4	4	3	3	4	4	4
177	3	3	2	4	2	2	3	4	4	4	4	4	3	3	3	3	3
178	3	4	3	3	2	2	3	4	4	4	2	3	2	3	3	3	3
179	3	4	4	3	2	3	3	3	4	3	4	4	3	3	3	3	3
180	3	3	4	3	2	3	3	3	4	3	3	4	3	3	3	4	3



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BUG

Lum. Classification System (LCS)

<u>LCS Zone</u>	<u>Lumens</u>	<u>%Lamp</u>	<u>%Lum</u>
FL (0-30)	533.1	5.5	5.5
FM (30-60)	1580.7	16.4	16.4
FH (60-80)	1448.9	15.0	15.0
FVH (80-90)	569.7	5.9	5.9
BL (0-30)	546.0	5.7	5.7
BM (30-60)	1630.6	16.9	16.9
BH (60-80)	1454.5	15.1	15.1
BVH (80-90)	559.9	5.8	5.8
UL (90-100)	740.6	7.7	7.7
UH (100-180)	566.3	5.9	5.9
Total	9630.3	99.9	100.0
BUG Rating	B3-U4-G4		



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Report No.:
BLC2107021E-D-CP**2.2 Electrical, Photometric and Chromaticity Measurements***(Refer to Work Instruction BL-QP-033)*

Test date	2021-07-21	Test Ambient:	25.2 °C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-PG07-75WBSP1SC1-abc65		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
BLC210702	120.0	60	0.617	73.93	0.998	2.66
1E-D2	347.0	60	0.236	73.21	0.893	20.66
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	82	R9	4
Frequency (Hz)	60	R2	91	R10	76
CCT (K)	6543	R3	93	R11	80
Duv	0.0034	R4	80	R12	55
Chromaticity (x, y)	x=0.3120 y=0.3287	R5	82	R13	85
Chromaticity (u', v')	u(u')=0.1975 v'=0.4681	R6	85	R14	97
Color Rendering Index (CRI)	83	R7	86	R15	77
R9	4	R8	67	--	--
Rf	82	--	--	--	--
Rg	92	--	--	--	--
Rcs,h1 (%)	-14	--	--	--	--

Photometric Measurement – Sphere-Spectroradiometer Method:

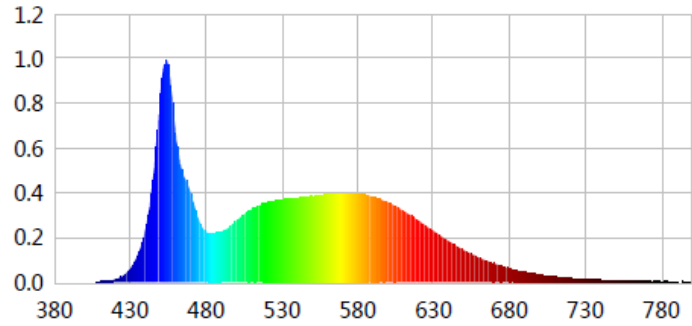
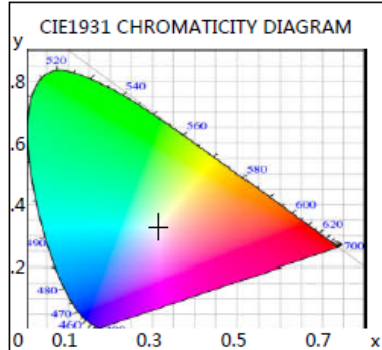
Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	347.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	10014.7	9845.4	5000-10000(-10%)
Luminous Efficacy (lm/W)	135.46	134.48	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	133.17		



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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	0.4015	525	0.3635	158.5081	670	0.0835	36.4045
385	0.0004	0.1841	530	0.3676	160.3011	675	0.0723	31.5357
390	0.0005	0.2262	535	0.3724	162.3736	680	0.0611	26.6524
395	0.0005	0.2269	540	0.3768	164.2882	685	0.0532	23.1996
400	0.0004	0.1679	545	0.3803	165.8361	690	0.0459	20.0074
405	0.0008	0.3533	550	0.3842	167.5441	695	0.0391	17.0462
410	0.0023	1.0097	555	0.3881	169.2110	700	0.0337	14.7099
415	0.0052	2.2683	560	0.3923	171.0439	705	0.0279	12.1791
420	0.0127	5.5307	565	0.3957	172.5580	710	0.0239	10.4028
425	0.0275	11.9870	570	0.3956	172.4843	715	0.0210	9.1369
430	0.0596	25.9980	575	0.3973	173.2436	720	0.0180	7.8652
435	0.1222	53.2969	580	0.3954	172.4236	725	0.0148	6.4747
440	0.2332	101.6857	585	0.3909	170.4521	730	0.0124	5.4054
445	0.4592	200.2377	590	0.3828	166.9024	735	0.0106	4.6258
450	0.8489	370.1357	595	0.3715	161.9708	740	0.0103	4.4921
455	0.9748	425.0497	600	0.3578	156.0075	745	0.0087	3.8066
460	0.6673	290.9802	605	0.3403	148.3630	750	0.0069	3.0088
465	0.4838	210.9390	610	0.3202	139.6280	755	0.0064	2.7924
470	0.3948	172.1321	615	0.2990	130.3827	760	0.0039	1.6838
475	0.2848	124.1953	620	0.2765	120.5728	765	0.0047	2.0361
480	0.2253	98.2315	625	0.2530	110.3344	770	0.0042	1.8517
485	0.2192	95.5931	630	0.2292	99.9454	775	0.0033	1.4605
490	0.2259	98.5008	635	0.2061	89.8806	780	0.0021	0.9193
495	0.2452	106.9192	640	0.1849	80.6056	785	0.0034	1.4984
500	0.2748	119.8337	645	0.1623	70.7662	790	0.0021	0.9218
505	0.3026	131.9622	650	0.1433	62.4866	795	0.0026	1.1513
510	0.3269	142.5615	655	0.1260	54.9422	800	0.0016	0.6901
515	0.3434	149.7139	660	0.1095	47.7619			
520	0.3551	154.8514	665	0.0955	41.6466			

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TM30

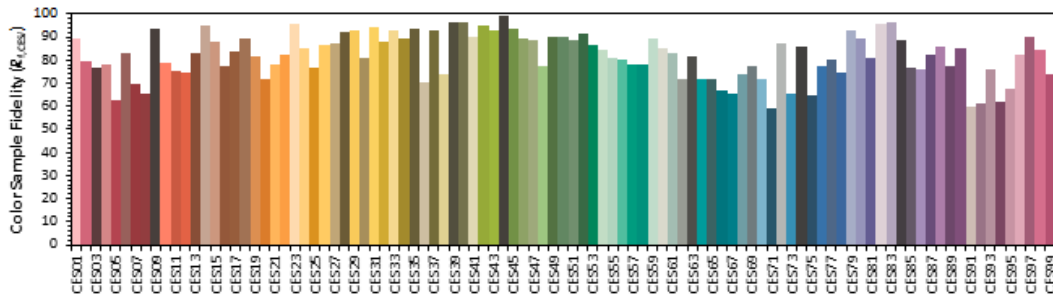
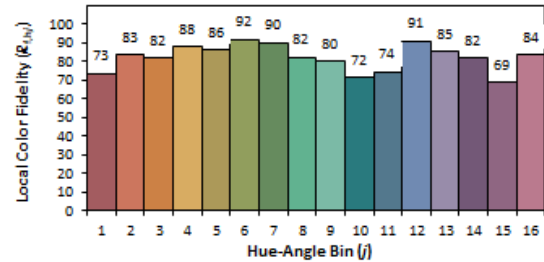
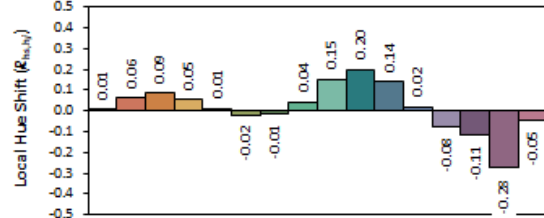
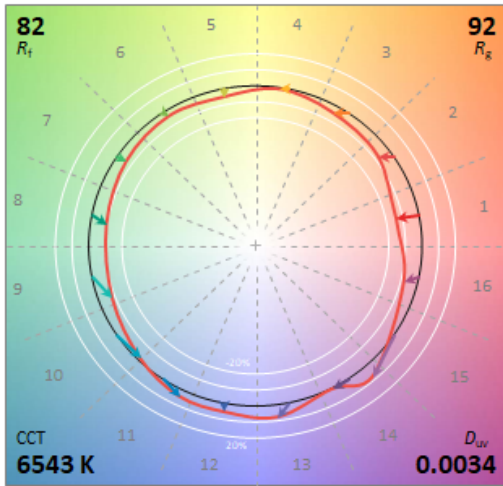
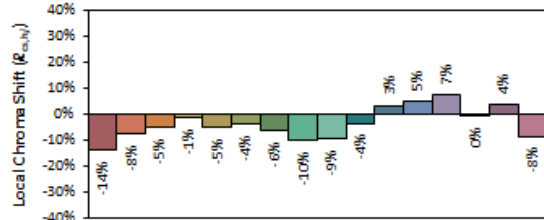
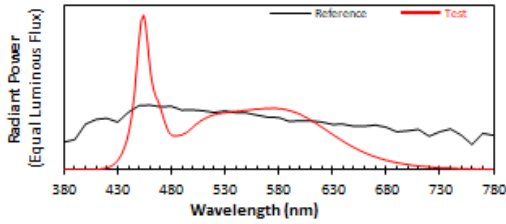
ANSI/IES TM-30-18 Color Rendition Report

Source: L128-XX80RA35000H1

Manufacturer: ASmart LIGHT CO., LTD

Date: 2021/7/21

Model: AST-PG07-75WBSP1SC1-abc65



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

x 0.3120
 y 0.3287
 u' 0.1975
 v' 0.4681

CIE 13.3-1995 (CRI)
 R_a 83
 R_g 4



Certificate#4810.01

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Calculated Efficacy Data for family models:

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
AST-PG07-75WBSP1SC1-abc30	9330.4	73.97	126.14
AST-PG07-75WBSP1SC1-abc35	9444.5	73.96	127.69
AST-PG07-75WBSP1SC1-abc40	9558.5	73.96	129.24
AST-PG07-75WBSP1SC1-abc45	9672.6	73.95	130.80
AST-PG07-75WBSP1SC1-abc50	9786.6	73.94	132.35
AST-PG07-75WBSP1SC1-abc57	9900.7	73.94	133.91
AST-PG07-75WBSP1SC1-abc65	10014.7	73.93	135.46

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

$$9444.5 = (9900.7 - 9330.4) / 6 + 9330.4$$

$$9558.5 = (9900.7 - 9330.4) / 6 + 9444.5$$

$$9672.6 = (9900.7 - 9330.4) / 6 + 9558.5$$

$$9786.6 = (9900.7 - 9330.4) / 6 + 9672.6$$

$$10014.7 = (9900.7 - 9330.4) / 6 + 9786.6$$

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

$$73.96 = (73.93 - 73.97) / 6 + 73.97$$

$$73.96 = (73.93 - 73.97) / 6 + 73.96$$

$$73.95 = (73.93 - 73.97) / 6 + 73.96$$

$$73.94 = (73.93 - 73.97) / 6 + 73.95$$

$$73.94 = (73.93 - 73.97) / 6 + 73.94$$

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

$$126.14 = 9330.4 / 73.97$$

$$127.69 = 9444.5 / 73.96$$

$$129.24 = 9558.5 / 73.96$$

$$130.80 = 9672.6 / 73.95$$

$$132.35 = 9786.6 / 73.94$$

$$133.91 = 9900.7 / 73.94$$

$$135.46 = 10014.7 / 73.93$$



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3. Test Equipment

Equipment Name	Model No.	Serial No.	Next Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2022-01-18
AC Power Source	CHP-500	DYBWD010159	2022-01-25
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2022-01-24
Digital Power Meter	WT500	DYDWQ20010	2022-01-25
Integral Sphere (2M)	2M	DYJCE120067	2022-01-18
Digital Power Meter	WT500	DYDWQ20006	2022-01-25
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2022-01-18

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 *****