

LM-79-08 Test Report

For

Beyond LED Technology (Brand Name: Beyond)

1939 Parker Court, Stone Mountain, GA 30087

Direct Linear Ambient Luminaires

Model name(s): AST-LA05-40W4FTBTA1-abc30/40/50

Remark: "a" can be any two letters for Housing color;
"b" can be "R", "M", "P" or blank for AC PIR sensor, DC Motion Sensor provided, DC PIR Sensor provided or not;
"c" can be "E" or blank for Emergency Driver provided or not;
"d" can be any digits for CCT.

Representative (Tested) Model:

AST-LA05-40W4FTBTA1-abc30/40/50(Setting at 3000K)
AST-LA05-40W4FTBTA1-abc30/40/50(Setting at 4000K)
AST-LA05-40W4FTBTA1-abc30/40/50(Setting at 5000K)

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

Test & Report By:

WinnyWu

Engineer: WinnyWu

Date: 2024-05-23

Review By:

Jason Luo

Manager: Jason Luo

1.1 Product Information:

Organization Name	ASSMART LIGHT CO., LTD	
Brand Name	ASSMART	
Model Number	AST-LA05-40W4FTBTA1-abc30/40/50	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Direct Linear Ambient Luminaires	
Rated Voltage / Frequency	100-277Vac, 50/60 Hz	
Nominal Power	40W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,4000K, 5000K (Color tunable)	
LED Manufacturer	Lumileds Holding B.V. L128-	
LED Model	3080RA35002U1 L128- 5080RA35002U1 UTU2505018E-B1	
Sample Number	--	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	N/A	mm
Number of Units (modular products)		s
Photo		
		

1.2 Test Specifications:

Date of Receipt	2025-05-13
Date of Test	2025-05-15
Test item	1. TotalLuminousFlux 2. LuminousDistributionIntensity 3. LuminousEfficacy 4. CorrelatedColorTemperature 5. ColorRenderingIndex 6. ChromaticityCoordinate 7. ElectricalParameters
Reference Standard	1. IESLM-79-2019ElectricalandPhotometricMeasurements of Solid-State Lighting Products 2. ANSIC78.377-2008SpecificationsfortheChromaticityofSolid State Lighting Products 3. CIE13.3-1995MethodofMeasuringandSpecifyingColour Rendering Properties of Light Sources 4. CIE15-2004TechnicalReportColorimetry 5. IESNALM-16-93PracticalGuidetoColorimetryofLightSource 6. IESNATM-16-05TechnicalMemorandumonLightEmitting Diode (LED) Sources and Systems
Reference Work Instruction	BL-QP-033

1.3 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

Photometric parameters were measured using the goniophotometer and software. The ambient temperature shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the sample and at the same height as the sample. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$. 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. Use 2m diameter integrated sphere (94-98% coating reflectance) and 4π geometry.

Self-absorption:

AST-LA05-40W4FTBTA1-abc30/40/50:1.0594

3) Electrical Measurements:

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

2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2025-05-15	Test Ambient:	25.2 ° C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-LA05-40W4FTBTA1-abc30/40/50(Setting at 3000K)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage(Vac)	Frequency(Hz)	Current(A)	Power (W)	Power Factor	THD%
UT U250501	120.0	60	0.324	38.79	0.998	6.98
8E-B1	277.0	60	0.142	37.85	0.961	17.18
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

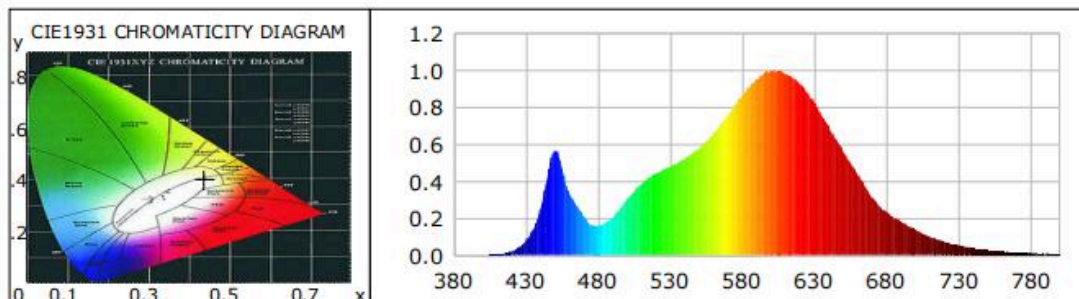
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	80	R9	2
Frequency (Hz)	60	R2	91	R10	79
CCT (K)	2946	R3	96	R11	79
Duv	-0.0018	R4	79	R12	72
Chromaticity (x, y)	x=0.4381 y=0.4	R5	80	R13	83
Chromaticity (u', v')	u'=0.2531 v'=0.5199	R6	89	R14	98
Color Rendering Index (CRI)	82	R7	81	R15	72
R9	2	R8	56	--	--
Rf	83	--	--	--	--
Rg	97	--	--	--	--
Rcs,h1(%)	-12				

Photometric Measurement – Goniophotometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	5560.0	5425.5	>=375 lm/ft(-10%)
Luminous Efficacy (lm/W)	143.34	143.34	Standard: >= 115(-3%)
Most worst Luminous/Highest	139.87		
Zonal lumens in the 0-60° zone (%)	87.60	--	>=40(-3%)
Beam Angle (°)	120.8	--	--
Center Beam Candle Power (cd)	1483	--	--

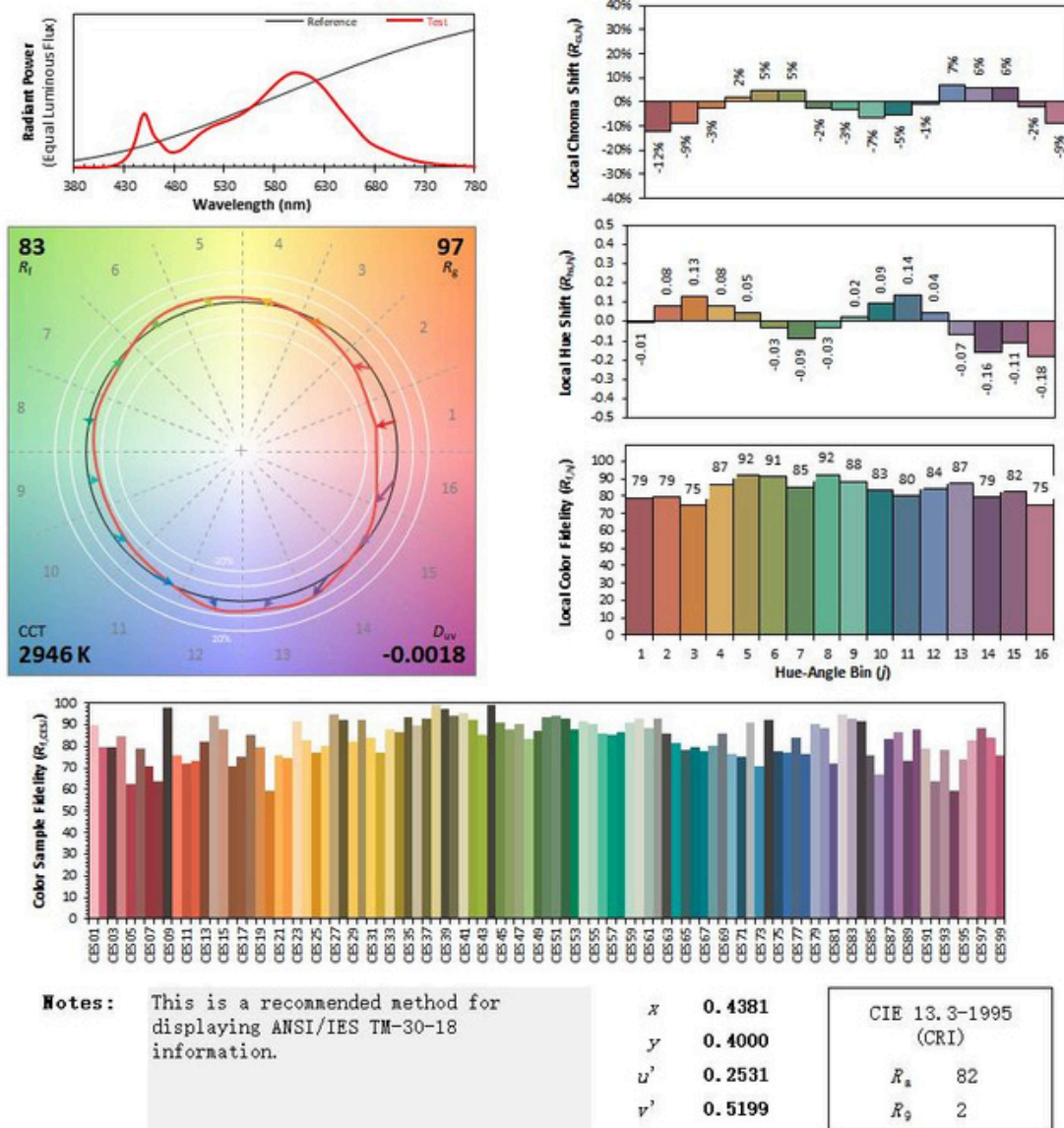
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0000	0.0043	535	0.4638	58.2331	690	0.3116	39.1307
385	0.0005	0.0648	540	0.4812	60.4208	695	0.2642	33.1755
390	0.0004	0.0495	545	0.5006	62.8629	700	0.2312	29.0325
395	0.0007	0.0882	550	0.5250	65.9243	705	0.2051	25.7537
400	0.0007	0.0894	555	0.5481	68.8277	710	0.1807	22.6849
405	0.0017	0.2113	560	0.5800	72.8245	715	0.1583	19.8814
410	0.0042	0.5290	565	0.6168	77.4449	720	0.1369	17.1849
415	0.0098	1.2294	570	0.6609	82.9796	725	0.1173	14.7241
420	0.0211	2.6432	575	0.7079	88.8829	730	0.0998	12.5287
425	0.0418	5.2525	580	0.7589	95.2880	735	0.0857	10.7649
430	0.0784	9.8480	585	0.8143	102.2467	740	0.0726	9.1176
435	0.1406	17.6560	590	0.8678	108.9635	745	0.0624	7.8292
440	0.2498	31.3710	595	0.9125	114.5837	750	0.0528	6.6309
445	0.4355	54.6846	600	0.9538	119.7681	755	0.0432	5.4300
450	0.5690	71.4513	605	0.9845	123.6141	760	0.0377	4.7293
455	0.4678	58.7438	610	0.9969	125.1791	765	0.0323	4.0555
460	0.3363	42.2244	615	0.9939	124.7953	770	0.0277	3.4823
465	0.2712	34.0556	620	0.9836	123.5092	775	0.0244	3.0640
470	0.2090	26.2449	625	0.9620	120.7891	780	0.0193	2.4262
475	0.1661	20.8523	630	0.9263	116.3083	785	0.0165	2.0733
480	0.1595	20.0233	635	0.8796	110.4417	790	0.0145	1.8161
485	0.1745	21.9162	640	0.8223	103.2475	795	0.0125	1.5689
490	0.2062	25.8900	645	0.7587	95.2714	800	0.0092	1.1595
495	0.2515	31.5826	650	0.6926	86.9618			
500	0.3017	37.8837	655	0.6247	78.4361			
505	0.3469	43.5529	660	0.5602	70.3405			
510	0.3862	48.4886	665	0.4972	62.4318			
515	0.4163	52.2743	670	0.4343	54.5327			
520	0.4417	55.4672	675	0.3708	46.5582			
525	0.4638	58.2331	680	0.3116	39.1307			
530	0.4812	60.4208	685	0.2642	33.1755			

TM30

ANSI/IES TM-30-18 Color Rendition Report



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

Zonal Lumen Tabulation

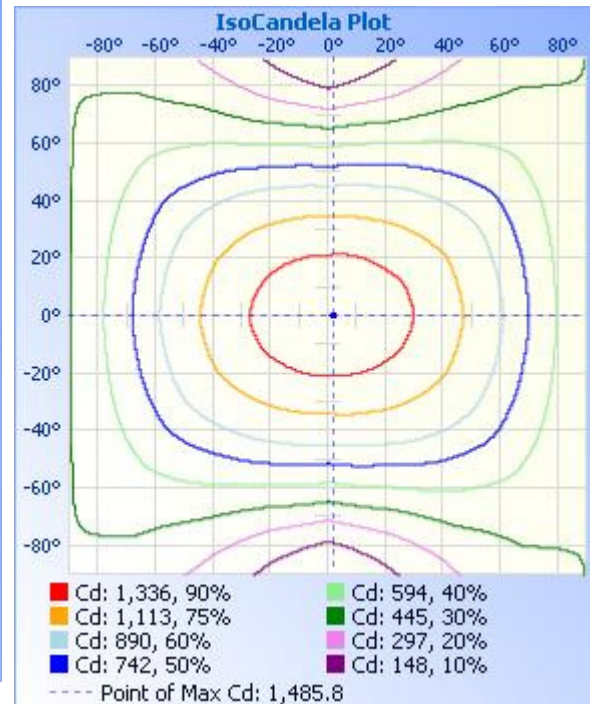
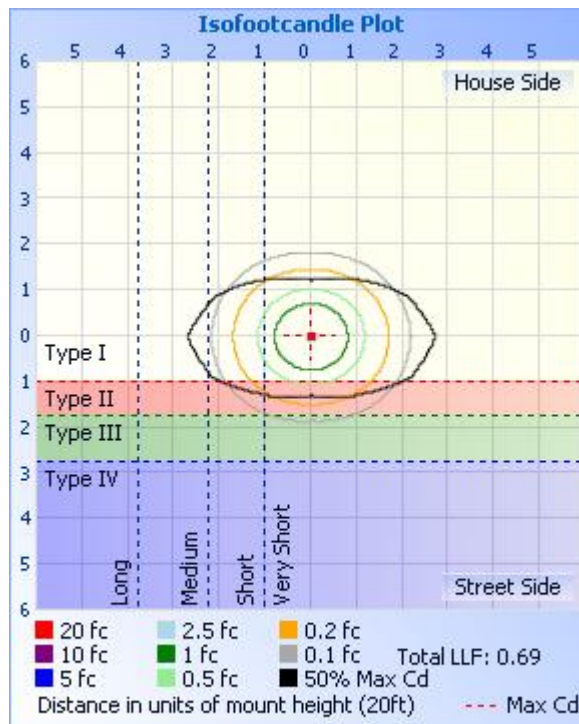
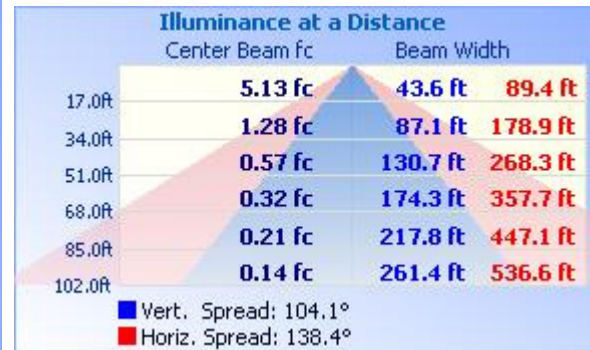
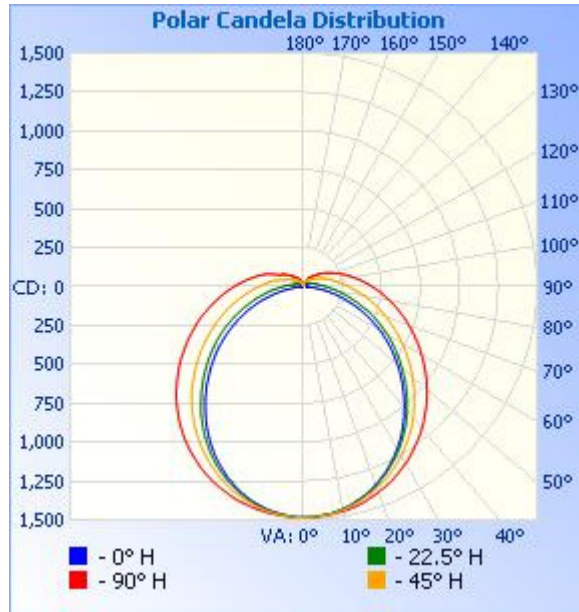
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	1,152.1	20.7%	0-40 20.7%
1,891.1	34%	0-60 3,407.4	34%
61.3%	60-90 1,465.6	61.3%	
26.4%	70-100 1,076.9	26.4%	
19.4%	90-120 519.4	9.3%	19.4%
0-90 4,873.0	87.6%	90-180 87.6%	
180 686.8	12.4%		
5,559.8	100%		100%

Lumens Per Zone

Zone	Lumens	%Total	Zone	Lumens	% Total
0-10	140.4	2.5%	90-100	242.2	4.4%
10-20	402.0	7.2%	100-110	167.4	3%
20-30	609.8	11.0%	110-120	109.8	2%
30-40	739.0	13.3%	120-130	71.2	1.3%
40-50	779.0	14.0%	130-140	45.3	0.8%
50-60	737.2	13.3%	140-150	28.0	0.5%
60-70	630.9	11.3%	150-160	14.9	0.3%
70-80	488.3	8.8%	160-170	6.4	0.1%
80-90	346.4	6.2%	170-180	1.6	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	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483	1483
1	1480	1484	1483	1482	1484	1483	1483	1483	1483	1484	1486	1483	1485	1485	1484	1484	1480
2	1483	1482	1482	1482	1483	1485	1482	1482	1481	1483	1484	1483	1484	1484	1483	1484	1483
3	1478	1482	1481	1480	1482	1483	1480	1479	1479	1480	1482	1482	1484	1485	1482	1483	1478
4	1477	1479	1482	1478	1481	1481	1478	1477	1475	1478	1481	1481	1482	1484	1481	1481	1477
5	1473	1476	1479	1477	1479	1479	1474	1473	1472	1474	1478	1479	1480	1482	1478	1479	1473
6	1470	1473	1475	1474	1478	1476	1471	1470	1467	1471	1476	1477	1479	1480	1475	1475	1470
7	1469	1468	1472	1471	1475	1473	1466	1466	1463	1467	1471	1473	1475	1478	1472	1472	1469
8	1464	1463	1469	1466	1472	1468	1462	1461	1457	1463	1467	1470	1474	1476	1469	1468	1464
9	1457	1459	1463	1463	1469	1463	1457	1455	1452	1457	1462	1467	1471	1472	1465	1463	1457
10	1452	1452	1458	1458	1466	1459	1452	1449	1444	1451	1457	1463	1467	1468	1460	1457	1452
11	1445	1445	1452	1454	1462	1455	1446	1442	1437	1443	1452	1458	1464	1464	1456	1451	1445
12	1437	1437	1445	1449	1458	1449	1439	1434	1429	1437	1446	1454	1461	1461	1450	1443	1437
13	1427	1431	1439	1444	1453	1442	1434	1424	1421	1429	1438	1451	1457	1455	1444	1437	1427
14	1419	1422	1431	1438	1448	1438	1426	1416	1411	1418	1431	1446	1452	1451	1437	1428	1419
15	1411	1413	1423	1432	1442	1432	1418	1406	1401	1411	1424	1440	1447	1445	1430	1420	1411
16	1402	1403	1415	1425	1436	1424	1409	1397	1390	1399	1416	1433	1442	1438	1422	1411	1402
17	1389	1394	1406	1418	1427	1418	1400	1387	1379	1389	1406	1424	1438	1432	1414	1401	1389
18	1378	1384	1397	1412	1420	1410	1390	1375	1367	1378	1399	1418	1431	1425	1405	1391	1378
19	1367	1373	1387	1401	1414	1401	1378	1363	1356	1367	1389	1411	1425	1418	1395	1381	1367
20	1354	1361	1377	1393	1405	1392	1367	1351	1340	1355	1380	1404	1418	1411	1386	1369	1354
21	1342	1350	1367	1384	1398	1383	1357	1339	1327	1343	1369	1396	1410	1402	1376	1357	1342
22	1328	1334	1357	1375	1390	1375	1345	1325	1316	1331	1358	1387	1403	1395	1366	1346	1328
23	1313	1321	1345	1366	1382	1364	1334	1310	1298	1317	1347	1378	1395	1387	1354	1333	1313
24	1301	1308	1333	1356	1374	1354	1321	1296	1283	1303	1336	1370	1388	1378	1343	1320	1301
25	1285	1294	1321	1347	1365	1345	1309	1282	1268	1290	1321	1360	1381	1369	1330	1305	1285
26	1269	1279	1308	1337	1353	1333	1296	1267	1252	1275	1309	1351	1371	1359	1318	1287	1269
27	1253	1264	1296	1325	1342	1323	1283	1252	1236	1259	1297	1342	1362	1349	1306	1272	1253

28	1237	1249	1282	1314	1332		1312	1270	1233	1219	1244	1284	1331	1353	1339	1293	1257	1237
29	1220	1233	1267	1303	1322		1299	1253	1217	1202	1228	1271	1318	1343	1329	1280	1241	1220
30	1203	1216	1254	1291	1311		1288	1239	1200	1184	1212	1257	1308	1333	1318	1267	1225	1203
31	1185	1200	1240	1280	1301		1275	1224	1182	1166	1193	1243	1296	1322	1306	1253	1210	1185
32	1168	1183	1225	1266	1287		1264	1210	1164	1146	1176	1229	1286	1312	1295	1239	1191	1168
33	1149	1166	1209	1254	1276		1250	1194	1146	1126	1159	1215	1273	1301	1283	1224	1173	1149
34	1130	1148	1194	1240	1263		1238	1179	1129	1107	1141	1200	1258	1289	1272	1209	1155	1130
35	1110	1130	1179	1227	1250		1224	1160	1110	1088	1122	1184	1246	1278	1256	1194	1137	1110
36	1090	1112	1163	1214	1238		1208	1144	1091	1068	1104	1168	1233	1266	1244	1178	1118	1090
37	1070	1094	1147	1201	1225		1194	1127	1072	1046	1085	1152	1220	1254	1231	1163	1099	1070
38	1050	1073	1131	1186	1213		1181	1111	1050	1026	1066	1137	1207	1241	1217	1147	1080	1050
39	1027	1055	1114	1171	1199		1165	1094	1030	1005	1048	1121	1193	1229	1203	1130	1060	1027
40	1007	1035	1096	1156	1185		1151	1076	1011	985	1028	1103	1180	1214	1189	1113	1040	1007
41	986	1013	1079	1142	1171		1136	1059	992	964	1005	1086	1165	1201	1175	1097	1021	986
42	966	994	1058	1125	1157		1119	1041	973	942	985	1070	1150	1187	1160	1076	1003	966
43	944	974	1041	1110	1140		1103	1023	952	920	965	1053	1136	1173	1145	1059	984	944
44	922	954	1024	1094	1125		1088	1002	933	899	945	1035	1118	1159	1130	1041	964	922
45	900	933	1005	1078	1111		1072	984	913	878	924	1018	1102	1144	1114	1022	945	900
46	879	913	987	1062	1096		1055	965	894	853	904	1001	1088	1129	1098	1005	925	879
47	856	892	970	1047	1081		1040	946	875	832	884	982	1071	1114	1082	987	906	856
48	835	870	952	1031	1065		1024	927	854	810	863	964	1056	1100	1067	968	886	835
49	814	850	934	1016	1051		1007	908	834	789	843	946	1039	1084	1051	951	866	814
50	792	829	916	999	1035		988	890	815	767	822	925	1024	1068	1034	932	847	792
51	770	808	897	983	1018		971	871	796	745	802	906	1007	1053	1017	913	827	770
52	746	788	880	964	1003		956	853	776	724	782	888	990	1034	999	894	808	746
53	725	768	861	948	987		938	835	753	702	761	869	972	1019	983	876	788	725
54	704	748	843	933	971		921	814	732	680	741	851	955	1003	966	857	767	704
55	682	726	823	915	956		904	796	712	658	719	832	939	987	949	836	746	682
56	660	706	805	899	938		888	778	692	634	699	814	922	971	931	820	725	660
57	638	685	787	883	923		871	761	670	612	679	796	903	955	914	798	704	638
58	613	665	770	867	906		854	743	649	589	659	778	886	939	894	781	683	613
59	591	646	752	851	892		834	723	629	567	638	758	869	922	878	762	663	591

60	568	626	732	834	876	818	706	607	544	618	740	851	906	860	744	641	568
61	546	603	715	818	860	802	688	587	520	598	722	835	887	843	727	620	546
62	524	583	698	800	844	785	670	563	498	579	703	818	871	826	708	598	524
63	500	564	681	784	829	768	655	543	477	556	686	801	855	808	691	577	500
64	478	544	662	768	814	751	638	522	454	536	669	784	839	791	674	553	478
65	456	523	646	751	795	735	621	502	431	516	651	767	821	775	657	533	456
66	432	503	629	736	780	719	605	480	409	497	633	751	806	758	641	513	432
67	410	484	612	719	765	703	589	460	387	477	616	731	789	741	624	493	410
68	387	464	595	704	750	687	571	441	365	456	599	714	772	722	607	472	387
69	365	445	577	687	734	670	555	421	341	437	583	697	756	706	590	451	365
70	344	425	561	672	719	655	539	402	319	418	567	681	740	690	574	433	344
71	321	406	546	657	704	641	523	382	298	400	551	664	725	673	556	414	321
72	301	387	531	641	689	623	507	364	277	380	532	648	710	657	540	396	301
73	280	369	514	626	674	608	492	347	254	362	517	632	694	642	524	377	280
74	258	350	500	609	658	593	477	328	234	345	502	616	677	626	506	358	258
75	236	333	485	594	644	578	460	313	213	328	486	599	660	609	490	341	236
76	216	317	471	579	629	563	445	296	193	312	471	584	645	594	474	322	216
77	195	302	455	564	615	548	431	281	174	294	456	569	630	579	459	306	195
78	175	286	441	549	599	534	416	267	152	279	441	555	615	564	443	290	175
79	156	271	428	534	586	520	402	251	134	264	426	541	601	550	428	274	156
80	139	257	414	520	572	507	388	237	117	250	410	525	585	533	416	260	139
81	120	244	399	506	558	492	374	224	99	235	397	511	570	519	400	245	120
82	102	230	386	490	544	479	362	210	83	222	383	498	556	505	387	231	102
83	88	218	373	477	531	466	350	198	68	209	370	485	540	490	374	218	88
84	73	205	359	464	518	454	336	185	55	198	356	471	527	476	360	205	73
85	60	194	347	451	505	442	325	173	43	184	345	459	514	462	349	192	60
86	49	182	335	437	492	430	314	163	33	174	334	447	500	449	336	179	49
87	38	171	323	425	478	419	304	152	25	163	322	434	488	434	322	168	38
88	31	161	310	414	466	407	292	143	19	154	312	422	473	421	310	158	31
89	27	152	300	402	454	396	283	135	16	146	302	410	461	409	299	148	27
90	24	143	289	390	441	384	273	127	14	136	291	398	447	397	288	140	24
91	23	135	280	380	429	373	263	119	14	129	281	387	434	385	277	131	23

92	23	128	271	370	418	363	252	112	14	121	270	375	424	374	268	125	23
93	23	122	262	358	407	351	244	106	14	114	260	363	411	363	259	118	23
94	23	115	254	349	395	340	234	101	13	108	251	353	398	352	250	112	23
95	23	110	246	339	384	330	226	96	13	103	243	342	387	342	242	106	23
96	22	105	238	330	374	320	218	91	13	98	234	331	377	332	234	101	22
97	22	100	230	321	364	311	210	86	13	93	226	320	366	323	227	96	22
98	22	96	223	312	352	301	204	82	12	85	219	311	356	313	220	89	22
99	22	92	215	303	342	291	197	79	12	78	211	300	344	304	212	82	22
100	22	88	208	295	333	283	190	75	12	71	203	292	333	295	204	75	22
101	21	85	201	285	323	273	184	72	12	67	196	283	323	287	197	70	21
102	22	81	194	277	314	265	177	70	12	66	190	274	314	279	190	70	22
103	21	78	187	269	304	257	172	67	11	65	181	267	304	270	182	68	21
104	22	76	181	261	295	250	166	65	12	62	172	258	295	262	173	66	22
105	21	74	176	253	287	242	161	62	11	59	163	251	286	255	164	63	21
106	21	71	170	246	278	235	155	60	11	57	154	242	277	246	154	61	21
107	21	69	165	239	269	228	150	58	11	55	145	232	268	236	145	59	21
108	20	67	159	232	261	221	145	57	11	53	135	222	258	227	136	57	20
109	20	65	154	224	253	214	140	54	11	50	127	211	248	217	128	55	20
110	20	63	150	217	245	208	135	53	10	48	124	202	237	205	124	53	20
111	20	61	145	210	238	202	130	51	11	47	121	190	225	195	122	51	20
112	20	60	140	204	231	196	127	50	10	45	119	181	213	185	120	50	20
113	19	57	136	198	224	189	123	48	10	44	117	172	202	175	118	49	19
114	19	55	132	191	217	183	119	46	10	43	113	163	193	166	114	47	19
115	19	54	128	186	210	178	115	45	10	41	109	158	183	159	111	45	19
116	19	52	124	180	204	172	111	43	10	39	105	154	173	156	106	44	19
117	19	50	119	174	197	167	106	41	10	38	101	152	167	152	101	43	19
118	19	49	114	169	191	162	99	40	9	37	94	149	164	149	95	42	19
119	19	48	108	164	185	157	95	39	10	37	89	146	160	147	91	42	19
120	19	47	103	158	180	152	91	39	10	37	85	142	158	142	87	42	19
121	18	46	99	153	174	147	88	38	10	36	82	137	155	138	83	42	18
122	18	45	96	149	168	143	85	37	9	36	78	132	150	133	80	41	18
123	18	44	92	144	163	137	82	36	9	35	75	127	145	128	76	41	18

124	17	43	90	138	158	131	80	36	9	34	73	121	140	122	73	40	17
125	17	43	87	131	152	125	78	35	10	34	71	114	135	115	71	40	17
126	17	42	84	125	146	120	75	34	10	33	68	109	130	110	69	39	17
127	17	42	81	120	139	116	73	33	10	32	67	105	126	106	67	38	17
128	17	41	79	116	133	111	71	33	9	32	65	101	121	101	67	37	17
129	17	40	76	112	129	108	69	33	9	31	64	97	117	97	66	36	17
130	17	40	75	108	124	104	67	32	10	31	63	94	113	95	64	36	17
131	17	38	73	105	121	100	66	31	10	30	61	91	108	91	63	35	17
132	17	38	71	102	116	97	64	31	10	30	60	88	104	88	61	34	17
133	17	37	69	98	112	93	62	30	9	29	59	85	100	85	59	34	17
134	16	36	67	94	108	90	61	30	11	28	57	83	96	83	58	33	16
135	17	36	66	91	104	87	59	29	10	28	56	81	92	81	57	32	17
136	16	35	63	88	100	84	57	29	11	28	54	80	89	79	55	32	16
137	16	35	62	85	96	82	56	29	11	27	53	78	87	78	54	31	16
138	16	34	61	83	93	79	55	28	11	27	53	76	85	75	53	31	16
139	16	34	59	80	90	76	54	28	11	27	51	74	84	73	52	30	16
140	16	33	57	78	87	74	52	28	11	26	50	72	82	71	50	29	16
141	16	33	56	75	84	72	51	27	11	26	49	69	79	69	50	28	16
142	16	32	55	73	81	69	49	27	11	25	48	67	77	66	48	27	16
143	16	32	54	70	78	67	48	27	11	24	46	65	74	64	46	27	16
144	16	32	52	68	76	65	47	26	11	24	45	63	71	62	44	26	16
145	15	32	51	66	73	63	45	26	12	24	44	61	69	60	44	25	15
146	16	32	50	63	70	61	44	26	11	23	42	58	66	58	42	24	16
147	15	31	49	61	68	59	43	25	12	22	41	57	64	55	40	23	15
148	15	31	48	59	66	56	41	25	11	22	40	54	61	53	38	22	15
149	15	30	46	57	63	54	40	24	11	21	38	53	59	51	37	22	15
150	15	30	46	55	61	53	39	23	12	20	37	51	56	49	35	21	15
151	15	29	44	53	59	51	38	23	11	20	35	49	54	47	34	21	15
152	15	30	43	51	56	49	36	23	12	19	35	47	52	45	32	18	15
153	16	28	42	49	54	48	35	23	11	19	33	45	50	44	30	18	16
154	16	29	41	47	52	46	34	22	11	18	32	43	48	41	29	17	16
155	16	28	40	46	50	44	33	22	12	18	29	42	46	39	27	17	16

156	17	28	38	44	47	42	32	21	12	17	29	40	44	38	26	16	17
157	17	28	38	43	46	40	32	21	12	16	27	38	42	35	25	15	17
158	18	26	36	41	43	38	30	21	12	15	27	37	41	33	24	15	18
159	18	26	35	39	42	37	30	20	12	15	25	35	38	32	23	15	18
160	18	26	34	38	40	36	29	21	12	15	24	33	36	30	22	15	18
161	18	25	33	36	38	34	28	20	12	15	23	32	35	27	20	14	18
162	18	25	32	35	36	33	27	20	12	14	22	30	33	26	19	14	18
163	17	24	31	33	35	31	26	19	12	14	21	29	31	24	18	13	17
164	17	24	30	32	33	30	25	19	12	14	20	27	29	22	17	12	17
165	17	23	29	30	32	30	24	19	12	13	19	25	28	20	16	12	17
166	17	23	27	29	31	28	23	19	13	13	18	24	26	19	15	12	17
167	16	22	27	27	29	27	23	18	13	13	17	23	25	18	15	13	16
168	16	21	25	26	28	25	22	18	14	13	16	21	23	17	14	13	16
169	16	21	24	25	26	24	21	18	14	13	16	20	22	16	14	13	16
170	16	20	23	24	25	24	20	18	15	13	15	18	20	15	13	14	16
171	16	19	23	23	24	22	19	18	14	13	14	16	18	14	13	14	16
172	16	18	22	22	23	22	18	17	15	13	13	15	16	13	12	14	16
173	16	18	21	21	22	21	18	17	15	13	14	14	15	13	13	15	16
174	16	18	20	20	21	19	18	17	16	14	14	13	14	13	12	15	16
175	16	17	18	19	21	18	17	16	16	14	14	12	12	12	12	15	16
176	16	16	17	17	20	16	16	17	16	15	14	12	11	13	14	16	16
177	17	17	15	15	18	15	15	17	16	15	14	12	11	12	15	16	17
178	17	16	15	14	16	14	16	17	16	16	16	14	12	15	15	17	17
179	17	17	15	15	12	15	16	17	17	16	17	15	14	15	16	16	17
180	17	17	16	15	8	15	16	17	17	17	17	16	15	16	16	17	17

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2025-05-15	Test Ambient:	25.2 °C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-LA05-40W4FTBTA1-abc30/40/50 (Setting at 4000K)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage(Vac)	Frequency(Hz)	Current(A)	Power (W)	Power Factor	THD%
UT U250501	120.0	60	0.311	37.3	0.998	6.96
8E-B1	277.0	60	0.138	36.65	0.961	17.25
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

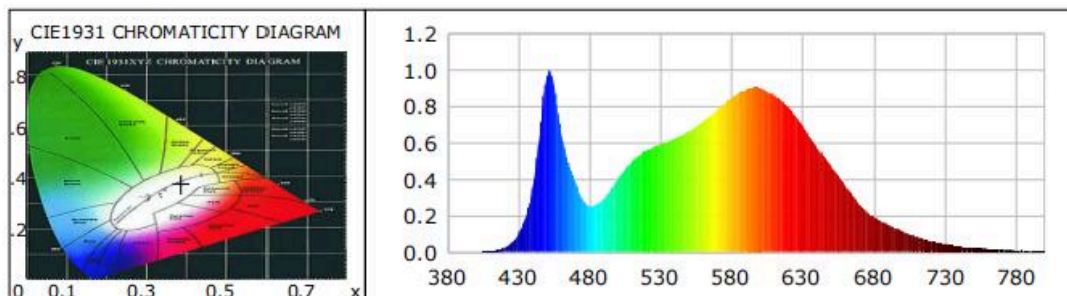
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	84	R9	14
Frequency (Hz)	60	R2	92	R10	80
CCT (K)	3830	R3	96	R11	83
Duv	-0.0030	R4	83	R12	66
Chromaticity (x, y)	x=0.3858 y=0.3736	R5	84	R13	86
Chromaticity (u', v')	u'=0.23 v'=0.501	R6	88	R14	98
Color Rendering Index (CRI)	85	R7	85	R15	78
R9	14	R8	65	--	--
Rf	84	--	--	--	--
Rg	96	--	--	--	--
Rcs,h1(%)	-11				

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result t		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	5877.4	5774.9	>=375 lm/ft(-10%)
Luminous Efficacy (lm/W)	157.57	157.57	Standard: >= 115(-3%)
Most worst Luminous/Highest Watts	154.82		

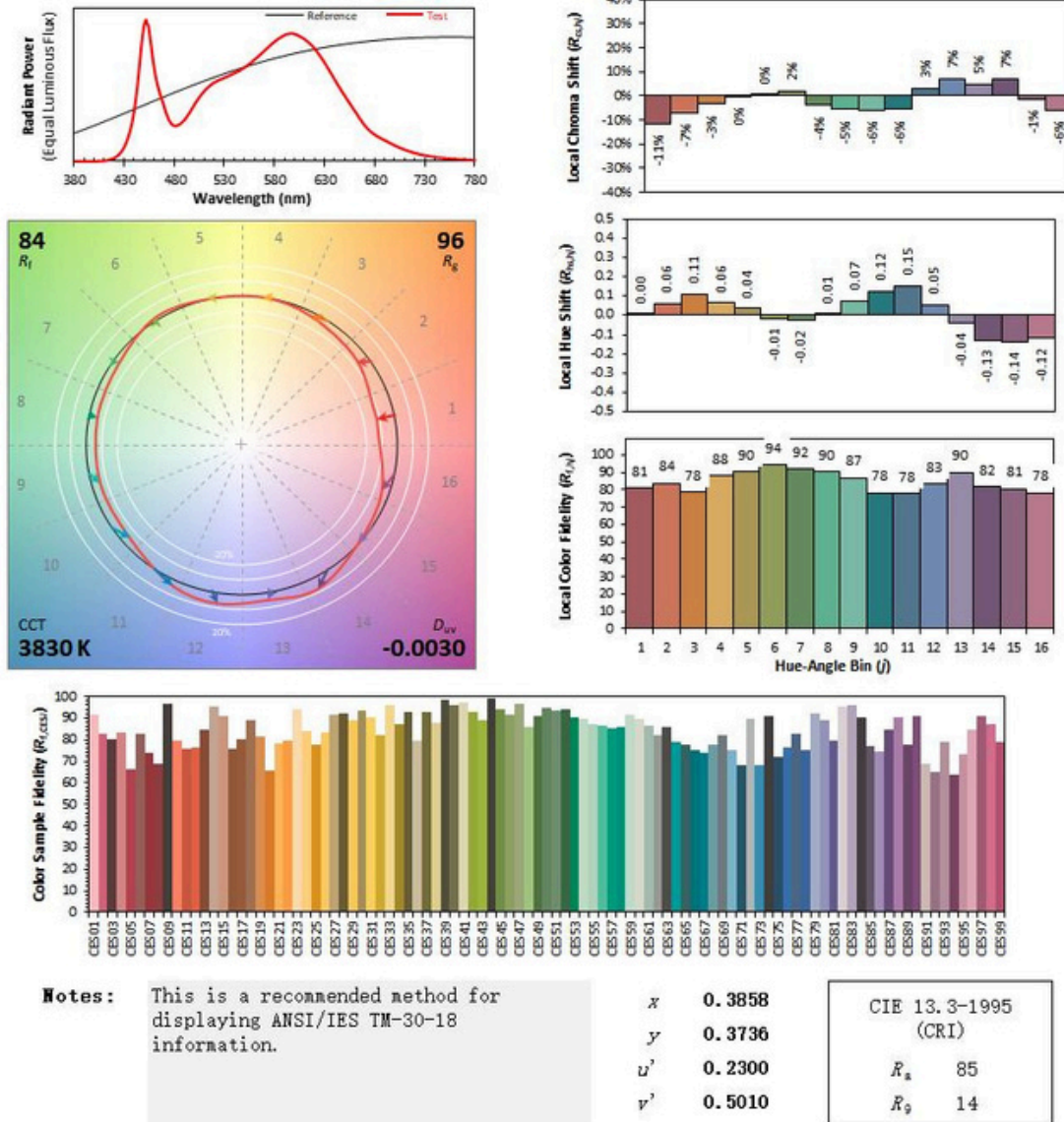
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.0343	535	0.5767	73.2776	690	0.2561	32.5379
385	0.0007	0.0913	540	0.5906	75.0463	695	0.2176	27.6507
390	0.0009	0.1136	545	0.6065	77.0588	700	0.1895	24.0823
395	0.0008	0.1033	550	0.6246	79.3627	705	0.1682	21.3663
400	0.0011	0.1365	555	0.6398	81.2894	710	0.1493	18.9657
405	0.0020	0.2582	560	0.6624	84.1648	715	0.1302	16.5489
410	0.0039	0.5004	565	0.6888	87.5217	720	0.1123	14.2743
415	0.0105	1.3291	570	0.7182	91.2591	725	0.0967	12.2806
420	0.0235	2.9839	575	0.7489	95.1512	730	0.0823	10.4578
425	0.0496	6.3044	580	0.7816	99.3098	735	0.0696	8.8490
430	0.0997	12.6702	585	0.8150	103.5592	740	0.0607	7.7156
435	0.1913	24.3127	590	0.8457	107.4572	745	0.0505	6.4122
440	0.3552	45.1351	595	0.8711	110.6792	750	0.0431	5.4756
445	0.6520	82.8380	600	0.8921	113.3560	755	0.0359	4.5586
450	0.9642	122.5172	605	0.9021	114.6188	760	0.0316	4.0117
455	0.9221	117.1639	610	0.8991	114.2405	765	0.0270	3.4327
460	0.6614	84.0320	615	0.8845	112.3821	770	0.0239	3.0318
465	0.4978	63.2548	620	0.8658	110.0052	775	0.0199	2.5248
470	0.3845	48.8601	625	0.8358	106.1928	780	0.0165	2.0979
475	0.2897	36.8146	630	0.7979	101.3824	785	0.0142	1.8105
480	0.2523	32.0579	635	0.7524	95.5987	790	0.0126	1.6005
485	0.2600	33.0311	640	0.6966	88.5066	795	0.0101	1.2826
490	0.2910	36.9731	645	0.6393	81.2358	800	0.0083	1.0604
495	0.3414	43.3754	650	0.5803	73.7280			
500	0.3992	50.7202	655	0.5222	66.3558			
505	0.4516	57.3772	660	0.4661	59.2229			
510	0.4979	63.2650	665	0.4116	52.2959			
515	0.5300	67.3363	670	0.3581	45.4975			
520	0.5561	70.6595	675	0.3049	38.7459			
525	0.5767	73.2776	680	0.2561	32.5379			
530	0.5906	75.0463	685	0.2176	27.6507			

TM30

ANSI/IES TM-30-18 Color Rendition Report



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	2025-05-15	Test Ambient:	25.2 ° C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-LA05-40W4FTBTA1-abc30/40/50(Setting at 5000K)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage(Vac)	Frequency(Hz)	Current(A)	Power (W)	Power Factor	THD%
UT U250501	120.0	60	0.325	38.93	0.999	7.13
8E-B1	277.0	60	0.143	38.01	0.96	17.05
DLC Pass Criteria					$\geq 0.9(-3\%)$	$\leq 20(+5)$

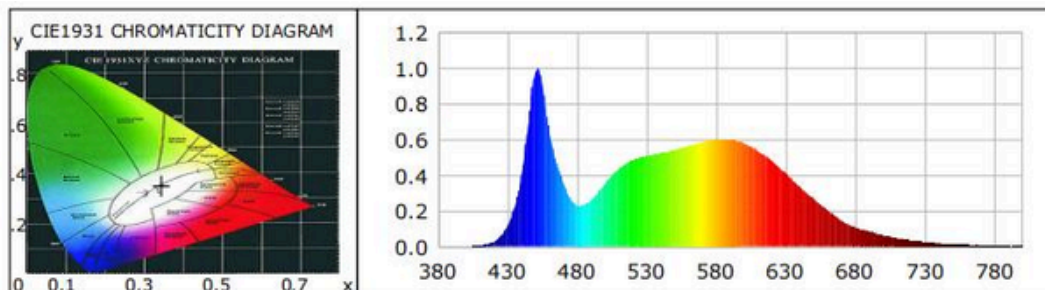
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	81	R9	5
Frequency (Hz)	60	R2	89	R10	72
CCT (K)	5037	R3	93	R11	82
Duv	0.0012	R4	83	R12	61
Chromaticity (x, y)	x=0.3443 y=0.3533	R5	82	R13	83
Chromaticity (u', v')	u'=0.2102 v'=0.4854	R6	84	R14	96
Color Rendering Index (CRI)	83	R7	86	R15	76
R9	5	R8	66	--	--
Rf	83	--	--	--	--
Rg	96	--	--	--	--
Rcs,h1(%)	-13				

Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	5798.6	5662.3	$\geq 375 \text{ lm/ft}(-10\%)$
Luminous Efficacy (lm/W)	148.95	148.97	Standard: $\geq 115(-3\%)$
Most worst Luminous/Highest Watts	145.45		

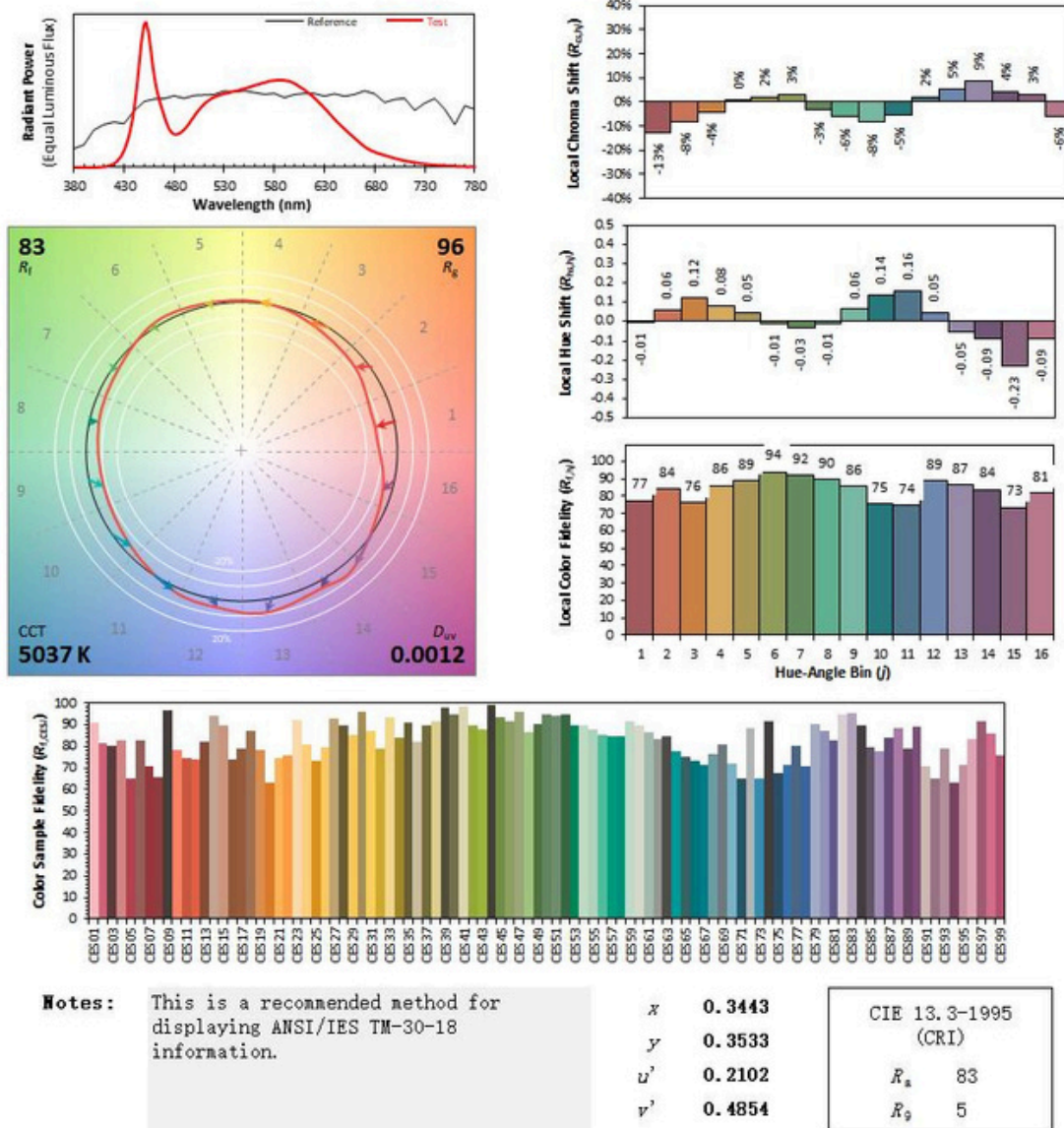
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0005	0.0900	535	0.4994	82.4898	690	0.1442	23.8208
385	0.0001	0.0182	540	0.5086	84.0000	695	0.1229	20.2953
390	0.0003	0.0500	545	0.5165	85.3041	700	0.1072	17.7048
395	0.0008	0.1402	550	0.5267	86.9934	705	0.0948	15.6621
400	0.0008	0.1284	555	0.5314	87.7779	710	0.0846	13.9676
405	0.0022	0.3678	560	0.5426	89.6281	715	0.0740	12.2240
410	0.0052	0.8650	565	0.5534	91.3995	720	0.0630	10.4013
415	0.0123	2.0380	570	0.5649	93.3125	725	0.0548	9.0489
420	0.0276	4.5539	575	0.5755	95.0597	730	0.0468	7.7225
425	0.0589	9.7280	580	0.5851	96.6369	735	0.0402	6.6367
430	0.1179	19.4705	585	0.5966	98.5426	740	0.0350	5.7807
435	0.2230	36.8402	590	0.5998	99.0657	745	0.0295	4.8792
440	0.4062	67.0964	595	0.6014	99.3263	750	0.0253	4.1753
445	0.7086	117.0459	600	0.6001	99.1245	755	0.0203	3.3583
450	0.9827	162.3143	605	0.5936	98.0439	760	0.0182	3.0037
455	0.9028	149.1202	610	0.5785	95.5436	765	0.0169	2.7842
460	0.6364	105.1195	615	0.5567	91.9486	770	0.0137	2.2651
465	0.4696	77.5586	620	0.5361	88.5474	775	0.0121	1.9994
470	0.3559	58.7893	625	0.5093	84.1247	780	0.0101	1.6677
475	0.2661	43.9590	630	0.4792	79.1413	785	0.0081	1.3337
480	0.2297	37.9397	635	0.4443	73.3780	790	0.0075	1.2405
485	0.2349	38.7936	640	0.4091	67.5704	795	0.0065	1.0736
490	0.2617	43.2294	645	0.3706	61.2177	800	0.0050	0.8189
495	0.3044	50.2752	650	0.3341	55.1860			
500	0.3544	58.5387	655	0.2984	49.2865			
505	0.4000	66.0720	660	0.2660	43.9390			
510	0.4385	72.4211	665	0.2335	38.5733			
515	0.4648	76.7648	670	0.2032	33.5686			
520	0.4841	79.9635	675	0.1721	28.4261			
525	0.4994	82.4898	680	0.1442	23.8208			
530	0.5086	84.0000	685	0.1229	20.2953			

TM30

ANSI/IES TM-30-18 Color Rendition Report



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3. Test Equipment

Equipment Name	Model No.	Serial No.	Calibration Date
GoniophotometricSystem	GPM-3000	DYHXF120001	2025-01-08
ACPowerSource	CHP-500C	DYBWD010159	2025-01-02
StandardLamp*	24V/150W	DYJYR040040	2025-01-14
StandardLamp**	24V/100W	DYBWR030014	2025-01-14
DigitalPowerMeter	WT500 2M	DYDWQ20010	2025-01-02
IntegralSphere(2M)	WT500	DYJCE120067	2025-01-08
DigitalPowerMeter		DYDWQ200006	2025-01-02
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2025-01-08
* Reference standard lamp (150W incandescent directional lamp) calibrated by Guangzhou Institute of Measurement and Testing Technology. ** Reference standard lamp (100W incandescent omni-directional lamp) calibrated by Guangzhou Institute of Measurement and Testing Technology. Expand Uncertainty: Photometric Measurement (Sphere): 2.02%, k=2 Chromaticity Measurement(Sphere):24.8K, k=2 Photometric Measurement(Goniophotometer):2.88%, k=2			

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