LM-79-08 Test Report

For

Beyond LED Technology

(Brand Name: Beyond LED Technology)

1939 Parker Court,Stone Mountain, GA 30087

Fuel Pump Canopy Luminaries

Model name(s): BLT-CP3C-150WSB SA1-WH57

Remark: a = Housing colors, WH=White, b= CCT ,b=30～65, for 3000K～6500K.

Representative (Tested) Model:
AST-CP3C-150WSBSA1-a30
AST-CP3C-150WSBSA1-a65

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

Test & Report By:

Winny Wu

Engineer: Winny Wu

Date: 2023-09-12

Review By:

Jason Luo

Manager: Jason Luo

1.1 Product Information:

Organization Name	Beyond LED Technology	
Brand Name	Beyond LED Technology	
Model Number	BLT-CP3C-150WSB SA1-WH57	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Fuel Pump Canopy Luminaires	
Rated Voltage / Frequency	120-277Vac, 50/60 Hz	
Nominal Power	150W	
Rated Initial Lamp Lumen	--	
Declared CCT	3000K,3500K,4000K,4500K,5000K,5700K,6500 K	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-3080RC35005A1 L128-6580RC35005A1	
Sample Number	UTC2308058E-C1-2	
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	2023-08-29
Date of Test	2023-08-31
Test item	1. Total Luminous Flux 2. Luminous Distribution Intensity 3. Luminous Efficacy 4. Correlated Color Temperature 5. Color Rendering Index 6. Chromaticity Coordinate 7. Electrical Parameters
Reference Premium	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2008 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	BL-QP-033

1.3 Test Methods

1) Photometric and Light Distribution Measurement – Goniophotometer Method:

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

2) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25º C ± 1º C. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.
Self-absorption:
AST-CP3C-150WSBSA1-a30:1.022
AST-CP3C-150WSBSA1-a65:1.025

3) Electrical Measurements:

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

2.1 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2023-08-31	Test Ambient:	25.2 ° C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	BLT-CP3C-150WSB SA1-WH57		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC230805 8E-C1	120.0	60	1.235	148.04	0.999	3.31
	277.0	60	0.539	142.84	0.957	8.32
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

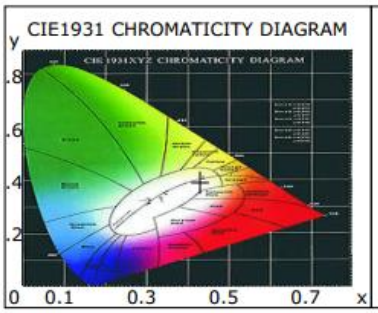
Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	3030
Duv	-0.0018
Chromaticity (x, y)	x=0.4322 y=0.3979
Chromaticity (u', v')	u(u')=0.2502 v'=0.5182
Color Rendering Index (CRI)	82
R9	7
Rf	84
Rg	97
Rcs,h1 (%)	-11

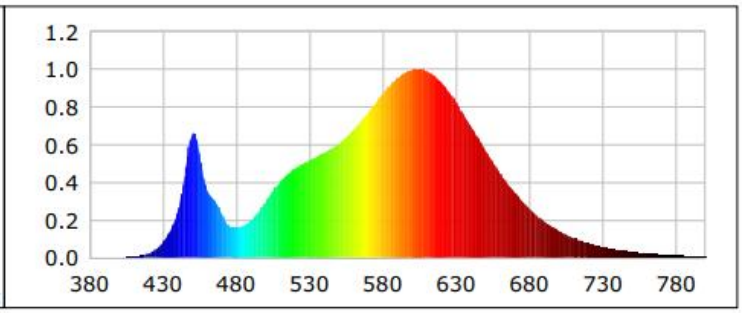
Special Color Rendering Indices			
R1	81	R9	7
R2	90	R10	78
R3	96	R11	80
R4	81	R12	70
R5	81	R13	83
R6	89	R14	99
R7	82	R15	74
R8	59	--	--
--	--	--	--
--	--	--	--
--	--	--	--

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)	21993.6	21869.1	2000lm (-10%)
Luminous Efficacy (lm/W)	148.57	153.10	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	147.72		
Zonal lumens in the 0-40° zone (%)	43.5	--	>=40(-3%)
Zonal lumens in the 40-70° zone (%)	45.4		>=40(-3%)
Beam Angle (°)	113.7	--	--
Center Beam Candle Power (cd)	7276	--	--

Spectral Power Distribution & Chromaticity Diagram



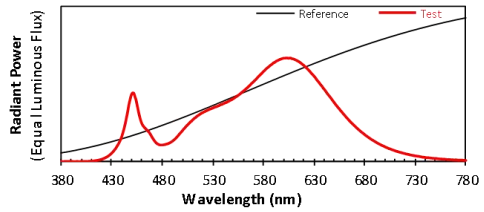


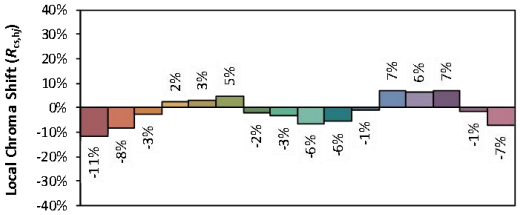
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0001	0.0419	535	0.4959	228.7370	690	0.3452	159.2169
385	0.0006	0.2556	540	0.5165	238.2282	695	0.3005	138.6047
390	0.0007	0.3257	545	0.5356	247.0324	700	0.2602	120.0166
395	0.0005	0.2532	550	0.5571	256.9548	705	0.2253	103.9350
400	0.0006	0.2554	555	0.5788	266.9550	710	0.1938	89.3861
405	0.0018	0.8264	560	0.6056	279.2923	715	0.1668	76.9512
410	0.0041	1.9003	565	0.6380	294.2756	720	0.1430	65.9624
415	0.0100	4.6001	570	0.6773	312.3640	725	0.1227	56.5709
420	0.0213	9.8233	575	0.7217	332.8646	730	0.1043	48.1019
425	0.0429	19.7922	580	0.7686	354.5031	735	0.0890	41.0476
430	0.0798	36.8151	585	0.8196	378.0057	740	0.0768	35.4165
435	0.1415	65.2513	590	0.8693	400.9175	745	0.0635	29.2997
440	0.2415	111.3839	595	0.9129	421.0422	750	0.0545	25.1524
445	0.4400	202.9498	600	0.9529	439.5027	755	0.0470	21.6616
450	0.6546	301.9022	605	0.9793	451.6592	760	0.0396	18.2772
455	0.5549	255.9384	610	0.9980	460.2967	765	0.0345	15.9306
460	0.3633	167.5613	615	0.9976	460.0918	770	0.0293	13.4908
465	0.3042	140.2899	620	0.9892	456.2551	775	0.0252	11.6258
470	0.2342	108.0192	625	0.9651	445.1191	780	0.0216	9.9833
475	0.1724	79.5000	630	0.9277	427.8932	785	0.0185	8.5468
480	0.1597	73.6627	635	0.8798	405.7789	790	0.0151	6.9826
485	0.1704	78.6129	640	0.8243	380.1982	795	0.0135	6.2191
490	0.1953	90.0805	645	0.7624	351.6117	800	0.0109	5.0148
495	0.2417	111.4929	650	0.6989	322.3446			
500	0.2988	137.8237	655	0.6342	292.5063			
505	0.3535	163.0563	660	0.5688	262.3399			
510	0.4016	185.2252	665	0.5081	234.3551			
515	0.4419	203.8140	670	0.4500	207.5319			
520	0.4723	217.8099	675	0.3943	181.8660			
525	0.4959	228.7370	680	0.3452	159.2169			
530	0.5165	238.2282	685	0.3005	138.6047			

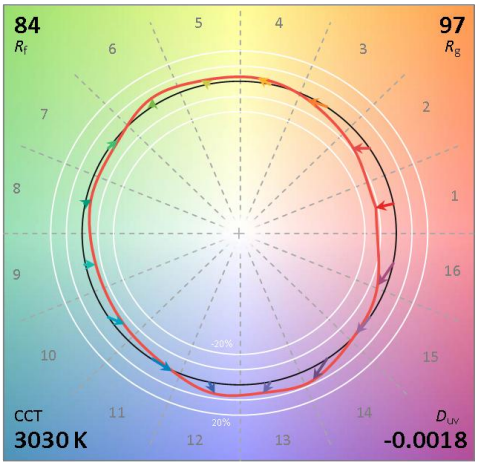
TM30

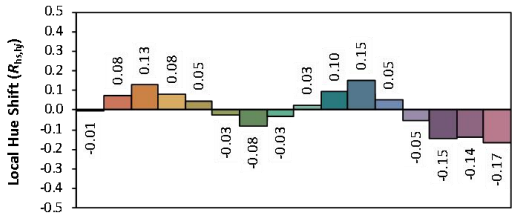
ANSI/IES TM-30-18 Color Rendition Report

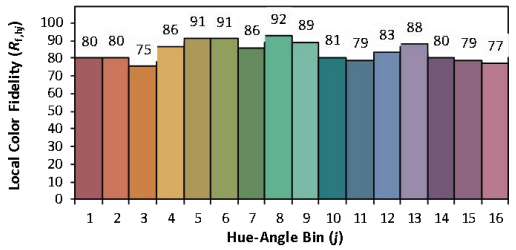
Source:	L128-3080RC35005A1	Manufacturer:	ASMART LIGHT CO., LTD
Date:	2023/8/31	Model:	AST-CP3C-150WSBSA1-a30

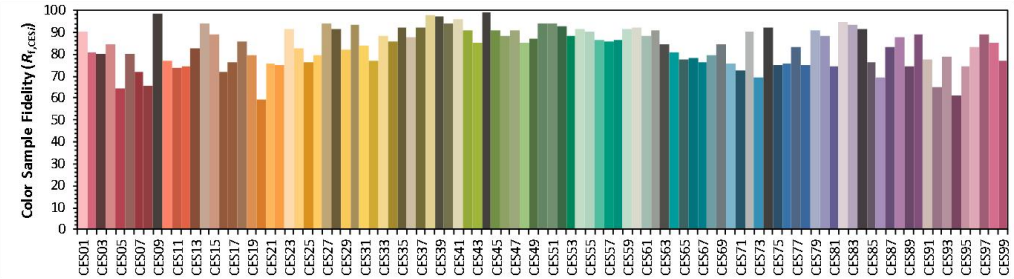












Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.4322
y	0.3979
u'	0.2502
v'	0.5182

CIE 13.3-1995 (CRI)

R_a	82
R_9	7

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

Zonal Lumen Tabulation

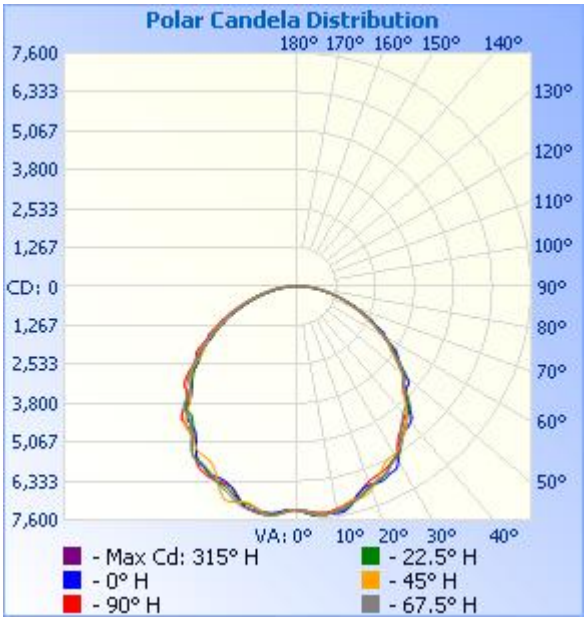
Zonal Lumen Summary

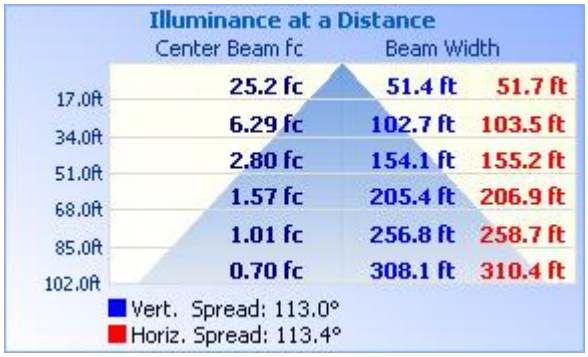
Zone	Lumens	% Lamp	% Luminaire
0-30	5,832.1	26.5%	26.5%
0-40	9,570.8	43.5%	43.5%
0-60	16,950.7	77.1%	77.1%
60-90	4,840.6	22%	22%
70-100	2,341.2	10.6%	10.6%
90-120	140.9	0.6%	0.6%
0-90	21,791.3	99.1%	99.1%
90-180	200.4	0.9%	0.9%
0-180	21,991.7	100%	100%

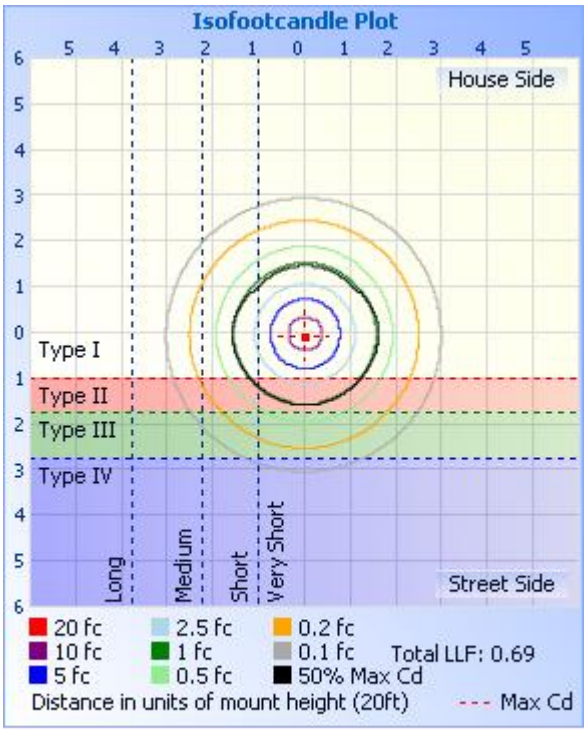
Lumens Per Zone

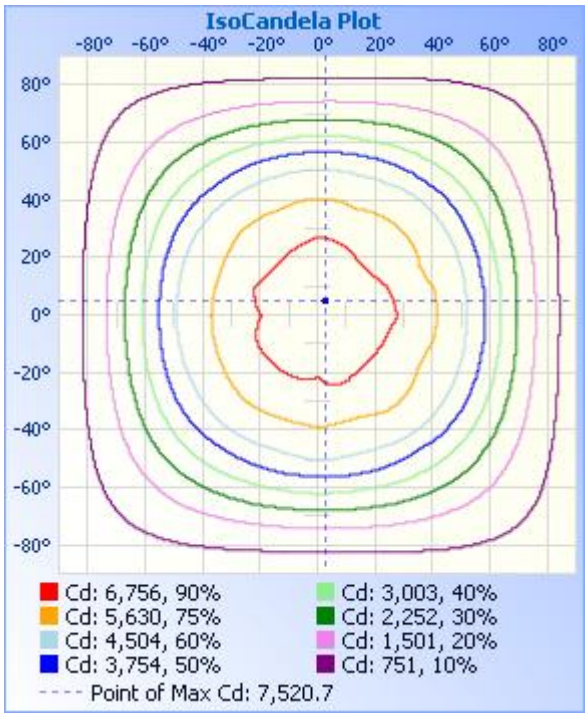
Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	709.0	3.2%	90-100	110.2	0.5%
10-20	2,037.3	9.3%	100-110	16.7	0.1%
20-30	3,085.9	14.0%	110-120	14.0	0.1%
30-40	3,738.7	17.0%	120-130	13.0	0.1%
40-50	3,879.4	17.6%	130-140	13.0	0.1%
50-60	3,500.5	15.9%	140-150	12.7	0.1%
60-70	2,609.6	11.9%	150-160	10.8	0%
70-80	1,554.0	7.1%	160-170	7.4	0%
80-90	677.0	3.1%	170-180	2.6	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	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276	7276
1	7308	7305	7302	7293	7283	7276	7266	7256	7264	7266	7271	7279	7286	7293	7306	7300	7308
2	7360	7353	7331	7315	7297	7285	7266	7259	7267	7271	7287	7305	7309	7330	7354	7352	7360
3	7415	7403	7374	7347	7333	7309	7289	7278	7287	7312	7333	7348	7349	7379	7414	7420	7415
4	7461	7447	7420	7387	7367	7350	7326	7317	7330	7367	7392	7400	7392	7434	7473	7471	7461
5	7488	7471	7462	7427	7394	7387	7382	7357	7376	7418	7451	7446	7438	7474	7509	7501	7488
6	7498	7483	7487	7448	7412	7415	7420	7380	7409	7457	7495	7478	7468	7500	**7521**	7508	7498
7	7485	7475	7487	7459	7423	7430	7444	7403	7429	7471	7508	7498	7490	7505	7505	7483	7485
8	7472	7456	7472	7450	7408	7438	7442	7408	7435	7458	7484	7509	7495	7500	7464	7447	7472
9	7467	7433	7435	7429	7383	7426	7420	7402	7432	7419	7441	7497	7488	7483	7402	7409	7467
10	7481	7413	7383	7401	7349	7409	7379	7386	7416	7367	7369	7467	7482	7469	7337	7387	7481
11	7486	7402	7324	7369	7315	7381	7313	7368	7404	7312	7312	7438	7462	7451	7276	7367	7486
12	7464	7392	7256	7336	7281	7348	7235	7357	7404	7280	7251	7419	7436	7455	7245	7359	7464
13	7400	7361	7206	7301	7249	7318	7165	7346	7391	7276	7223	7398	7391	7459	7237	7330	7400
14	7294	7307	7177	7263	7222	7289	7113	7319	7329	7274	7226	7385	7317	7454	7257	7288	7294
15	7161	7231	7164	7230	7160	7252	7082	7263	7238	7245	7242	7342	7198	7427	7295	7232	7161
16	7049	7149	7169	7190	7083	7197	7080	7167	7127	7192	7278	7277	7080	7365	7331	7154	7049
17	6969	7079	7179	7134	6989	7135	7101	7069	7006	7115	7324	7214	6968	7285	7353	7084	6969
18	6919	7019	7160	7081	6893	7073	7117	6971	6899	7022	7345	7134	6881	7195	7340	7041	6919
19	6878	6972	7111	7012	6814	6988	7113	6895	6832	6956	7318	7072	6839	7097	7284	7002	6878
20	6863	6930	7031	6929	6753	6911	7069	6847	6777	6915	7218	7017	6836	7025	7185	6980	6863
21	6869	6904	6931	6873	6720	6849	6986	6812	6743	6889	7091	6966	6837	6982	7028	6960	6869
22	6888	6874	6825	6830	6688	6808	6865	6779	6731	6875	6935	6911	6837	6948	6884	6945	6888
23	6902	6840	6726	6797	6664	6769	6729	6752	6737	6854	6748	6839	6839	6905	6735	6911	6902
24	6893	6803	6619	6765	6640	6730	6595	6709	6746	6816	6590	6770	6835	6850	6596	6873	6893
25	6851	6760	6523	6732	6615	6684	6476	6663	6726	6764	6478	6702	6827	6801	6490	6821	6851
26	6804	6683	6431	6682	6581	6630	6368	6598	6688	6702	6399	6639	6808	6742	6433	6755	6804
27	6776	6580	6368	6610	6538	6548	6270	6520	6640	6633	6340	6585	6770	6696	6407	6685	6776
28	6767	6500	6337	6537	6487	6465	6218	6433	6615	6569	6312	6548	6739	6652	6401	6637	6767

29	6700	6460	6325	6466	6436	6378	6194	6359	6593	6515	6303	6534	6693	6618	6409	6620	6700
30	6556	6456	6302	6398	6381	6313	6179	6315	6530	6486	6295	6549	6575	6606	6400	6617	6556
31	6380	6410	6263	6334	6268	6271	6150	6302	6403	6473	6269	6532	6411	6588	6363	6570	6380
32	6220	6298	6203	6272	6143	6241	6104	6247	6221	6444	6217	6457	6245	6495	6298	6470	6220
33	6107	6170	6139	6181	5993	6161	6036	6142	6051	6330	6127	6339	6079	6350	6213	6318	6107
34	6019	6052	6056	6064	5880	6049	5961	6009	5921	6162	6041	6189	5999	6171	6121	6156	6019
35	5931	5966	5972	5894	5803	5896	5871	5882	5807	5950	5966	6025	5945	5979	6052	6021	5931
36	5871	5881	5896	5744	5729	5767	5774	5771	5725	5789	5904	5891	5895	5855	6008	5892	5871
37	5838	5799	5831	5614	5664	5648	5699	5665	5684	5674	5876	5781	5852	5752	6019	5761	5838
38	5819	5718	5749	5528	5583	5546	5658	5571	5661	5552	5871	5679	5808	5664	6010	5668	5819
39	5776	5635	5658	5440	5514	5427	5604	5482	5634	5460	5816	5582	5768	5599	5928	5615	5776
40	5736	5552	5527	5364	5463	5336	5498	5410	5590	5417	5695	5505	5751	5550	5758	5581	5736
41	5664	5489	5396	5303	5447	5253	5360	5348	5524	5405	5526	5461	5750	5532	5561	5546	5664
42	5507	5427	5288	5262	5391	5195	5211	5291	5408	5362	5318	5454	5646	5528	5375	5502	5507
43	5273	5358	5158	5224	5251	5171	5053	5221	5219	5299	5139	5433	5453	5538	5226	5432	5273
44	5108	5236	5001	5185	5065	5106	4914	5135	5015	5187	5020	5320	5245	5458	5085	5296	5108
45	4985	5048	4866	5078	4888	4964	4787	4963	4881	5036	4901	5108	5089	5266	4976	5095	4985
46	4899	4873	4791	4888	4780	4780	4685	4776	4775	4861	4821	4916	5004	5071	4921	4921	4899
47	4842	4766	4757	4726	4697	4624	4613	4627	4692	4729	4777	4788	4943	4912	4889	4785	4842
48	4824	4664	4687	4639	4639	4524	4550	4518	4652	4632	4727	4732	4917	4831	4816	4718	4824
49	4794	4588	4570	4574	4570	4474	4453	4434	4628	4528	4643	4714	4876	4779	4718	4653	4794
50	4682	4530	4444	4493	4472	4432	4355	4356	4552	4448	4540	4653	4780	4722	4637	4585	4682
51	4503	4465	4344	4382	4369	4332	4282	4290	4384	4356	4451	4521	4662	4601	4564	4468	4503
52	4311	4309	4251	4227	4209	4199	4181	4175	4200	4224	4340	4383	4471	4456	4445	4309	4311
53	4158	4153	4131	4123	4044	4086	4016	4025	4037	4088	4182	4244	4253	4345	4255	4205	4158
54	4071	4044	3951	4025	3922	3940	3835	3902	3935	4021	3949	4122	4119	4239	4037	4147	4071
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180	31	27	26	28	30	24	24	26	27	31	27	26	24	24	26	27	31

BUG

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	2925.2	13.3	13.3
FM (30-60)	5607.5	25.5	25.5
FH (60-80)	2119.1	9.6	9.6
FVH (80-90)	346.9	1.6	1.6
BL (0-30)	2906.9	13.2	13.2
BM (30-60)	5513.4	25.1	25.1
BH (60-80)	2044.2	9.3	9.3
BVH (80-90)	330.0	1.5	1.5
UL (90-100)	110.2	0.5	0.5
UH (100-180)	90.2	0.4	0.4
Total	21993.6	100.0	100.0
BUG Rating	**B4-U3-G3**		

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2023-08-31	Test Ambient:	25.2 º C
Test Orientation	As intended	Stabilization Time (min)	90
Model Number	AST-CP3C-150WSBSA1-a65		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTC230805 8E-C1	120.0	60	1.233	147.66	0.998	3.14
	277.0	60	0.538	142.63	0.957	8.51
				DLC Pass Criteria	>= 0.9(-3%)	<= 20(+5)

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	6707
Duv	0.0015
Chromaticity (x, y)	x=0.3100 y=0.3230
Chromaticity (u', v')	u(u')=0.1982 v'=0.4647
Color Rendering Index (CRI)	83
R9	4
Rf	82
Rg	93
Rcs,h1(%)	-14

Special Color Rendering Indices			
R1	82	R9	4
R2	89	R10	73
R3	92	R11	81
R4	81	R12	55
R5	82	R13	84
R6	83	R14	96
R7	87	R15	77
R8	68	--	--
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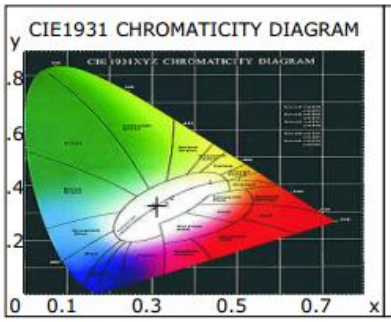
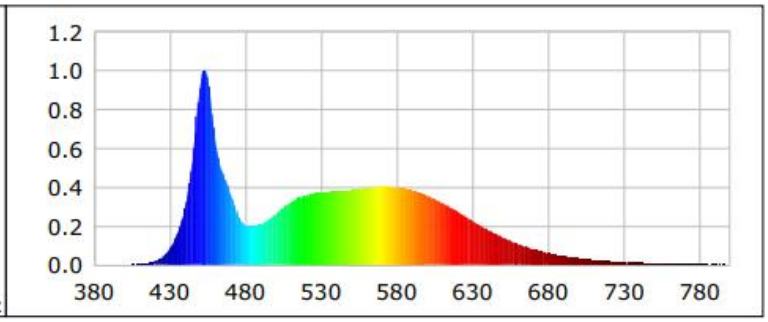
Photometric Measurement – Sphere-Spectroradiometer Method:

Parameter	Result		DLC V5.1 Pass Criteria
Test Voltage (V)	120.0	277.0	--
Frequency (Hz)	60	60	
Total Luminous (lm)	23098.5	22923.5	2000lm(-10%)
Luminous Efficacy (lm/W)	156.43	160.72	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	155.25		

Spectral Power Distribution & Chromaticity Diagram



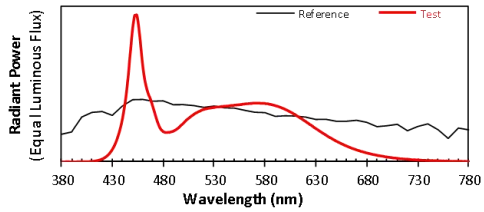


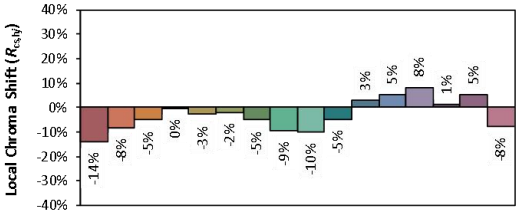
WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.3087	535	0.3649	331.3296	690	0.0806	73.1509
385	0.0008	0.7639	540	0.3695	335.4605	695	0.0699	63.4652
390	0.0003	0.2704	545	0.3738	339.3582	700	0.0601	54.5270
395	0.0004	0.3271	550	0.3785	343.6654	705	0.0521	47.2859
400	0.0009	0.8234	555	0.3814	346.3393	710	0.0448	40.6700
405	0.0014	1.3098	560	0.3857	350.2001	715	0.0386	35.0709
410	0.0031	2.7693	565	0.3884	352.6870	720	0.0326	29.6444
415	0.0078	7.1081	570	0.3938	357.5710	725	0.0276	25.0903
420	0.0187	16.9482	575	0.3970	360.4394	730	0.0235	21.3671
425	0.0407	36.9630	580	0.3989	362.1977	735	0.0204	18.5530
430	0.0828	75.2216	585	0.3990	362.3050	740	0.0180	16.3328
435	0.1610	146.1839	590	0.3975	360.9137	745	0.0146	13.2703
440	0.2931	266.1330	595	0.3914	355.3782	750	0.0121	10.9458
445	0.5416	491.7319	600	0.3829	347.6227	755	0.0104	9.4871
450	0.9078	824.2574	605	0.3711	336.9462	760	0.0090	8.1393
455	0.9680	878.9328	610	0.3564	323.5677	765	0.0084	7.6473
460	0.6504	590.5231	615	0.3392	307.9755	770	0.0058	5.2283
465	0.4711	427.7763	620	0.3194	289.9624	775	0.0059	5.3153
470	0.3707	336.5556	625	0.2966	269.2684	780	0.0048	4.3583
475	0.2602	236.2109	630	0.2750	249.7319	785	0.0037	3.3502
480	0.2054	186.5063	635	0.2510	227.9165	790	0.0030	2.7684
485	0.2009	182.3745	640	0.2258	205.0150	795	0.0027	2.4457
490	0.2082	189.0765	645	0.2035	184.7433	800	0.0026	2.3432
495	0.2307	209.4271	650	0.1813	164.6109			
500	0.2634	239.1562	655	0.1614	146.5359			
505	0.2962	268.9456	660	0.1403	127.4056			
510	0.3224	292.7187	665	0.1236	112.2319			
515	0.3425	310.9863	670	0.1079	97.9965			
520	0.3566	323.7686	675	0.0931	84.4861			
525	0.3649	331.3296	680	0.0806	73.1509			
530	0.3695	335.4605	685	0.0699	63.4652			

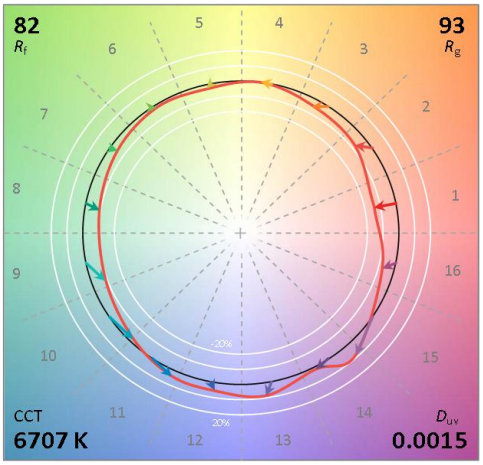
TM30

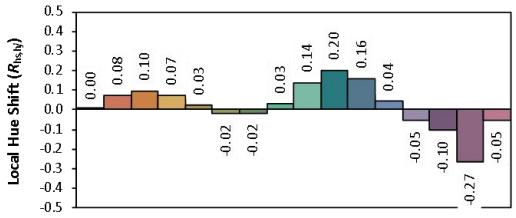
ANSI/IES TM-30-18 Color Rendition Report

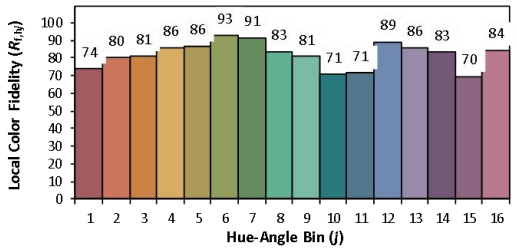
Source:	L128-6580RC35005A1	Manufacturer:	ASMART LIGHT CO., LTD
Date:	2023/8/31	Model:	AST-CP3C-150WSBSA1-a65

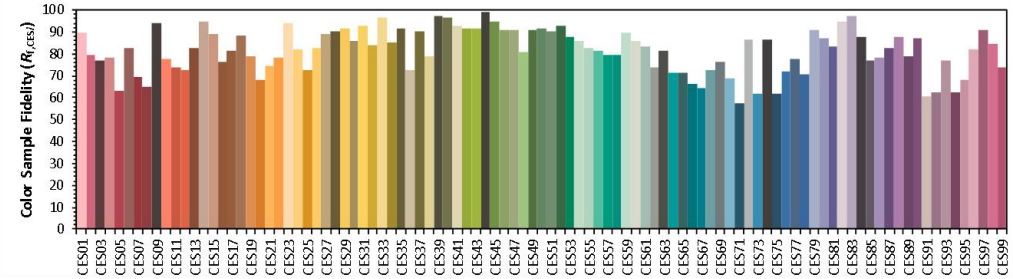












Notes:	This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3100
y	0.3230
u'	0.1982
v'	0.4647

CIE 13.3-1995 (CRI)	
R_a	83
R_9	4

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

Calculated Efficacy Data for family models:

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
AST-CP3C-150WSBSA1-a30	21993.6	148.04	148.57
AST-CP3C-150WSBSA1-a35	22177.8	147.85	150.00
AST-CP3C-150WSBSA1-a40	22361.9	147.85	151.25
AST-CP3C-150WSBSA1-a45	22546.1	147.85	152.49
AST-CP3C-150WSBSA1-a50	22730.2	147.85	153.74
AST-CP3C-150WSBSA1-a57	22914.4	147.85	154.98
AST-CP3C-150WSBSA1-a65	23098.5	147.66	156.43

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

22177.8 = (23098.5 -21993.6) / 6 + 21993.6
22361.9 = (23098.5 -21993.6) / 6 + 22177.8
22546.1 = (23098.5 -21993.6) / 6 + 22361.9
22730.2 = (23098.5 -21993.6) / 6 + 22546.1
22914.4 = (23098.5 -21993.6) / 6 + 22730.2

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

147.85 = (147.66 + 148.04) / 2

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

150.00 = 22177.8 / 147.85
151.25 = 22361.9 / 147.85
152.49 = 22546.1 / 147.85
153.74 = 22730.2 / 147.85
154.98 = 22914.4 / 147.85

3. Test Equipment

Equipment Name	Model No.	Serial No.	Calibration Date
Goniophotometeric System	GPM-3000	DYHXF120001	2023-01-17
AC Power Source	CHP-500C	DYBWD010159	2023-01-18
Total Luminous Flux Standard Lamp	24V/150W	DYJYR040040	2023-02-01
Digital Power Meter	WT500	DYDWQ20010	2023-01-18
Integral Sphere (2M)	2M	DYJCE120067	2023-01-17
Digital Power Meter	WT500	DYDWQ200006	2023-01-18
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2023-01-17
Expand Uncertainty: Photometric Measurement (Sphere): 2.08%, k=2 Chromaticity Measurement(Sphere):25.6K, k=2 Photometric Measurement(Goniophotometer):2.645%, k=2			

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