

LM-79-08 Test Report

For

ASMARK LIGHT CO., LTD

(Brand Name: ASMARK)

506 N GARFIELD AVE SUITE#210 ALHAMBRA CA 91801

Architectural Flood and Spot Luminaires

Model name(s): AST-SP17-500BA1A1-acdWaf

Remark: "a" can be can be 2 letters represent lamp colors; "BH = Black、WH=White、BR=Bronze or Customized";

"c" can be "10SP", "20SP" or blank for Surge protector type provided or not;

"d" can be "AM" or "FM" and "FM2" for mounting bracket types;

"f" can be any digits to represent CCT,40=4000K, 50=5000K,57=5700k.

Representative (Tested) Model:

AST-SP17-500BA1A1-acdWA40(Setting at 30°)

AST-SP17-500BA1A1-acdWA57(Setting at 30°)

AST-SP17-500BA1A1-acdWA40(Setting at 40°)

AST-SP17-500BA1A1-acdWA40(Setting at 50°)

AST-SP17-500BA1A1-acdWA40(Setting at 60°)

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

Test & Report By:



Engineer: Winnie Wu

Date: 2026-02-12

Review By:



Manager: Jason Luo

1.1 Product Information:

Organization Name	ASmart LIGHT CO., LTD	
Brand Name	ASmart	
Model Number	AST-SP17-500BA1A1-acdWaf	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires Architectural Flood and Spot Luminaires	
Rated Voltage / Frequency	120-277Vac, 50/60 Hz	
Nominal Power	500W(Power adjustable)	
Rated Initial Lamp Lumen	--	
Declared CCT	4000K,5000K,5700K	
LED Manufacturer	Lumileds Holding B.V.	
LED Model	L128-4070RC35001W1 L128-5770RC35001W1	
Sample Number	UTU2601056E-A1	
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	2026-02-06
Date of Test	2026-02-08
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 Standard	1. IES LM-79-2019 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 $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, 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-SP17-500BA1A1-acdWA40(Setting at 30°):1.2431

AST-SP17-500BA1A1-acdWA57(Setting at 30°):1.2434

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	2026-02-08	Test Ambient:	25.2 ° C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-SP17-500BA1A1-acdWA40(Setti ng at 30°)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTU260105	120.0	60	4.314	517.15	0.999	1.8
6E-A1	277.0	60	1.848	496.13	0.969	7.27
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

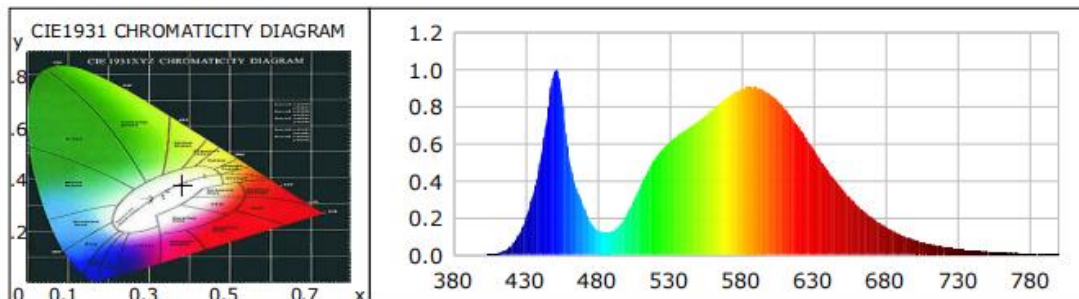
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	69	R9	-32
Frequency (Hz)	60	R2	80	R10	52
CCT (K)	3907	R3	88	R11	65
Duv	-0.0006	R4	70	R12	42
Chromaticity (x, y)	x=0.3842 y=0.3779	R5	69	R13	71
Chromaticity (u', v')	u'=0.2271 v'=0.5026	R6	71	R14	93
Color Rendering Index (CRI)	72	R7	81	R15	63
R9	-32	R8	51	--	--
Rf	74	--	--	--	--
Rg	94	--	--	--	--
Rcs,h1(%)	-17				

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)	75369.4	73779.4	>=1000(-10%)
Luminous Efficacy (lm/W)	145.74	148.71	Premium: >= 120(-3%)
Most worst Luminous/Highest	142.67		
Zonal lumens in the 0-90° zone (%)	100	--	>=85(-3)
Beam Angle (°)	31.2	--	--
Center Beam Candle Power (cd)	112464	--	--

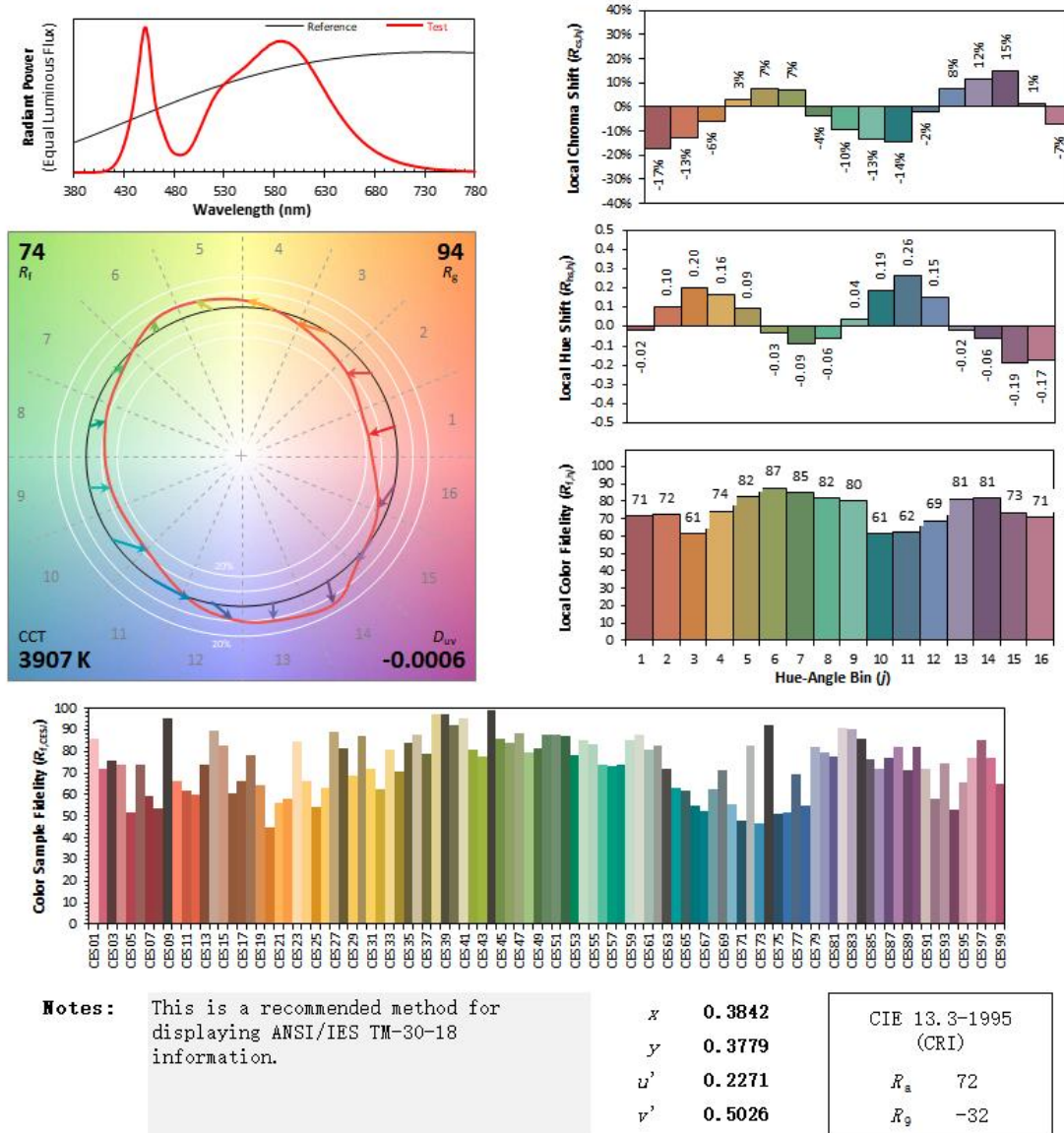
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0010	1.5161	535	0.5700	834.1305	690	0.2011	294.3390
385	0.0003	0.3962	540	0.6085	890.4624	695	0.1736	254.0779
390	0.0004	0.5976	545	0.6403	936.8845	700	0.1492	218.2899
395	0.0005	0.7106	550	0.6712	982.1691	705	0.1288	188.4856
400	0.0011	1.6321	555	0.6944	1016.1637	710	0.1097	160.5314
405	0.0025	3.7020	560	0.7221	1056.5989	715	0.0937	137.0862
410	0.0079	11.5374	565	0.7527	1101.4796	720	0.0803	117.5418
415	0.0204	29.8330	570	0.7878	1152.7703	725	0.0688	100.7457
420	0.0477	69.7418	575	0.8184	1197.5579	730	0.0588	86.0417
425	0.1015	148.4706	580	0.8502	1244.0548	735	0.0500	73.1358
430	0.1915	280.1769	585	0.8783	1285.1630	740	0.0431	63.0078
435	0.3232	472.8928	590	0.8968	1312.3418	745	0.0372	54.4678
440	0.5001	731.7671	595	0.9037	1322.3236	750	0.0311	45.5333
445	0.7499	1097.3730	600	0.9037	1322.3411	755	0.0267	38.9987
450	0.9894	1447.7523	605	0.8909	1303.7074	760	0.0218	31.9231
455	0.8722	1276.2838	610	0.8646	1265.2029	765	0.0198	28.9238
460	0.5337	780.9243	615	0.8309	1215.9170	770	0.0173	25.3541
465	0.3650	534.0917	620	0.7877	1152.5793	775	0.0144	21.0840
470	0.2649	387.6411	625	0.7386	1080.7437	780	0.0117	17.1836
475	0.1767	258.4967	630	0.6841	1001.0457	785	0.0095	13.9633
480	0.1326	193.9635	635	0.6264	916.5951	790	0.0094	13.7693
485	0.1211	177.1868	640	0.5654	827.3411	795	0.0082	12.0363
490	0.1269	185.6841	645	0.5072	742.2328	800	0.0064	9.4128
495	0.1569	229.6034	650	0.4530	662.8795			
500	0.2146	314.0568	655	0.3999	585.1615			
505	0.2912	426.0652	660	0.3522	515.3999			
510	0.3739	547.0978	665	0.3085	451.4144			
515	0.4508	659.7157	670	0.2681	392.2670			
520	0.5162	755.3332	675	0.2331	341.1434			
525	0.5700	834.1305	680	0.2011	294.3390			
530	0.6085	890.4624	685	0.1736	254.0779			

TM30

ANSI/IES TM-30-18 Color Rendition Report

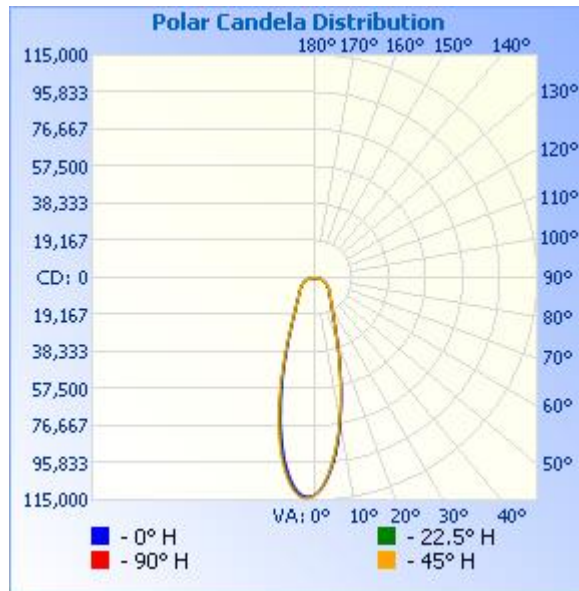


Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

Zonal Lumen Tabulation

Zonal Lumen Summary				Lumens Per Zone					
Zone	Lumens	% Lamp	% Luminaire	Zone	Lumens	% Total	Zone	Lumens	% Total
0-30	38,149.3	50.6%	50.6%	0-10	9,338.3	12.4%	90-100	0	0%
0-40	47,742.1	63.3%	63.4%	10-20	16,484.4	21.9%	100-110	0	0%
0-60	63,996.5	84.9%	84.9%	20-30	12,326.6	16.4%	110-120	0	0%
60-90	11,347.1	15.1%	15.1%	30-40	9,592.8	12.7%	120-130	0	0%
70-100	5,115.2	6.8%	6.8%	40-50	8,523.3	11.3%	130-140	0	0%
90-120	0	0%	0%	50-60	7,731.2	10.3%	140-150	0	0%
0-90	75,343.6	100%	100%	60-70	6,231.9	8.3%	150-160	0	0%
90-180	0	0%	0%	70-80	4,057.6	5.4%	160-170	0	0%
0-180	75,343.6	100%	100%	80-90	1,057.5	1.4%	170-180	0	0%

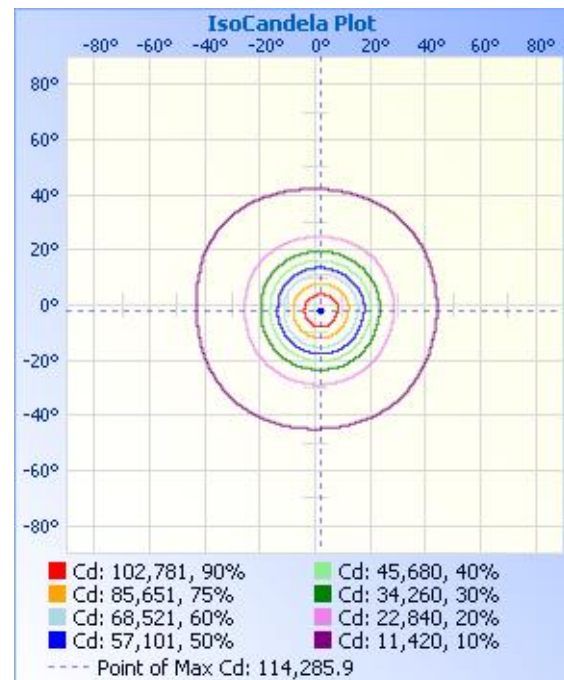
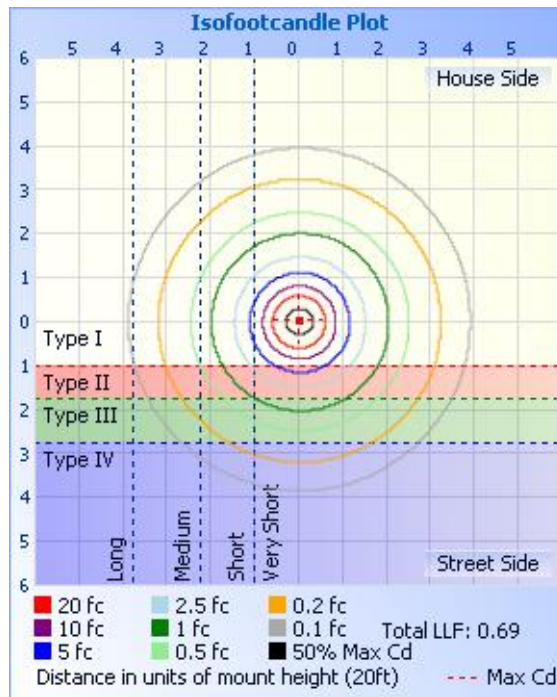
Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
17.0ft	389 fc	9.5 ft	9.5 ft
34.0ft	97.3 fc	18.9 ft	19.1 ft
51.0ft	43.2 fc	28.4 ft	28.6 ft
68.0ft	24.3 fc	37.9 ft	38.2 ft
85.0ft	15.6 fc	47.3 ft	47.7 ft
102.0ft	10.8 fc	56.8 ft	57.2 ft

■ Vert. Spread: 31.1°
■ Horiz. Spread: 31.3°



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	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464	112464
1	111065	110733	110663	110880	110772	111380	112150	112760	113260	113656	113783	113572	113437	112874	112255	111477	111065
2	108986	108377	108221	108641	108573	109755	111158	112344	113400	114075	114286	113951	113828	112611	111359	109875	108986
3	106089	105168	105281	105885	105835	107543	109370	111376	112854	113873	114184	113619	113541	111750	109610	107720	106089
4	102920	101733	101850	102270	102560	104780	107086	109692	111657	113000	113430	112693	112667	110284	107509	104971	102920
5	99176	97642	98132	98549	98814	101437	104232	107164	109782	111440	111982	111116	111155	108145	104760	101685	99176
6	95320	93784	93488	94540	94980	97639	100924	104322	107392	109305	109987	108940	108811	105231	101491	97785	95320
7	90957	89301	89013	90160	90139	93397	97020	101032	104167	106382	107173	105972	106149	102058	97621	93578	90957
8	86232	84539	84243	85473	85516	88993	92801	97287	100674	103145	104024	102720	102878	98218	93382	89013	86232
9	81311	79652	79352	80652	80729	84303	88299	93142	97071	99373	100323	98663	99125	94173	89191	84191	81311
10	76332	74218	74406	75779	75834	79490	83595	88146	92486	95375	96405	94891	95291	89664	84293	79272	76332
11	70900	69273	69463	70378	70848	74484	78667	83296	87725	90729	91820	90259	90135	84963	78802	74225	70900
12	65937	64383	64231	65545	65895	69570	73680	78304	82828	85944	87058	85422	85375	79524	73773	69228	65937
13	61141	59656	59532	60846	60732	64317	68829	73377	77907	81053	81715	79993	80453	74503	68821	63858	61141
14	56408	54975	54911	56195	56156	59635	63462	68396	72347	75526	76671	74924	75252	69385	63462	58892	56408
15	51783	50507	50499	51724	51728	55030	59154	63461	67306	70329	71473	69685	69963	64155	58530	54187	51783
16	47518	46420	46459	47621	47691	50780	54237	58316	62428	65353	66405	64639	64823	59160	53733	49750	47518
17	43237	42314	42730	43470	43861	46754	49979	53790	57632	60389	61334	59601	59392	54486	49340	45722	43237
18	39747	38875	38969	40005	40299	42609	45962	49447	53023	55607	56387	54697	54551	49676	45214	41872	39747
19	36542	35727	35849	36819	36879	39266	42344	45539	48746	50659	51355	49706	49920	45492	41460	38372	36542
20	33606	32941	33081	34009	34056	36198	38661	41856	44367	46428	47009	45441	45600	41586	38059	35281	33606
21	31009	30457	30628	31474	31510	33403	35586	38469	40624	42442	42903	41428	41678	38070	34670	32217	31009
22	28713	28104	28492	29085	29296	30998	32894	35133	37333	38825	39225	37868	37760	34939	31972	29833	28713
23	26588	26238	26408	27118	27258	28752	30424	32353	34242	35502	35809	34568	34551	32083	29567	27694	26588
24	24806	24495	24747	25371	25496	26610	28214	29969	31520	32568	32751	31675	31628	29528	27318	25723	24806
25	23227	23020	23204	23791	23857	24919	26364	27838	29138	29762	29878	28915	29074	27316	25372	23988	23227
26	21846	21646	21877	22423	22509	23410	24499	25734	26861	27503	27581	26763	26860	25170	23654	22503	21846
27	20564	20458	20668	21193	21260	22078	22956	24093	25020	25516	25520	24800	24933	23414	22142	21154	20564
28	19519	19395	19679	20085	20157	20886	21684	22592	23398	23785	23754	23136	23229	21928	20870	19999	19519
29	18474	18459	18639	19115	19054	19685	20463	21243	21913	22224	22074	21634	21739	20569	19679	18910	18474

30	17593	17644	17814	18228	18185	18643	19354	20061	20622	20819	20672	20188	20452	19427	18528	17938	17593
31	16824	16853	17072	17460	17331	17852	18322	18988	19390	19573	19502	19088	19334	18427	17682	17094	16824
32	16099	16208	16362	16762	16699	17022	17438	17981	18415	18522	18466	18063	18189	17512	16845	16344	16099
33	15432	15510	15710	16009	15975	16304	16690	17133	17479	17559	17485	17101	17250	16671	16065	15682	15432
34	14852	14955	15129	15453	15347	15594	15988	16421	16680	16732	16586	16324	16458	15849	15410	15018	14852
35	14294	14427	14607	14929	14707	15019	15371	15682	15932	15933	15785	15563	15703	15204	14735	14438	14294
36	13803	13883	14113	14353	14255	14428	14766	15045	15226	15207	15161	14905	15040	14598	14188	13940	13803
37	13393	13398	13681	13892	13731	13934	14208	14485	14614	14559	14513	14357	14451	14096	13704	13466	13393
38	12906	13088	13265	13454	13355	13479	13731	13948	14048	14019	14003	13790	13899	13552	13204	13042	12906
39	12528	12676	12868	13048	12896	13042	13258	13450	13553	13488	13433	13257	13313	13073	12781	12626	12528
40	12212	12358	12456	12686	12505	12637	12870	13023	13105	13057	12915	12812	12907	12610	12374	12218	12212
41	11810	12032	12165	12362	12137	12336	12478	12630	12676	12575	12495	12378	12471	12205	12032	11856	11810
42	11561	11671	11883	12035	11785	11958	12098	12229	12216	12160	12114	12016	12076	11838	11668	11557	11561
43	11218	11364	11577	11763	11486	11661	11796	11829	11908	11784	11781	11704	11705	11498	11362	11234	11218
44	10906	11108	11298	11412	11172	11336	11462	11537	11526	11508	11400	11274	11341	11182	11036	10900	10906
45	10676	10833	11043	11160	10927	11066	11117	11230	11206	11108	11117	10959	10961	10865	10718	10647	10676
46	10368	10588	10776	10896	10659	10788	10850	10907	10902	10794	10811	10656	10682	10568	10431	10382	10368
47	10126	10328	10528	10652	10360	10545	10648	10651	10586	10534	10458	10407	10391	10283	10191	10149	10126
48	9915	10091	10316	10447	10153	10321	10419	10398	10336	10270	10230	10123	10138	10036	9962	9889	9915
49	9615	9870	10093	10214	9904	10047	10125	10200	10067	10014	10006	9871	9851	9769	9686	9682	9615
50	9358	9661	9853	10005	9663	9804	9923	9896	9783	9746	9728	9583	9613	9553	9473	9488	9358
51	9225	9459	9641	9772	9487	9569	9690	9737	9549	9517	9449	9433	9299	9287	9260	9282	9225
52	8980	9226	9465	9579	9230	9433	9504	9472	9330	9292	9257	9150	9100	9113	9070	9053	8980
53	8796	9016	9225	9378	9039	9198	9322	9340	9104	9098	9064	8933	8851	8901	8915	8905	8796
54	8547	8822	8986	9150	8824	9013	9078	9068	8886	8842	8833	8700	8610	8689	8651	8652	8547
55	8371	8554	8793	8945	8675	8866	8923	8893	8664	8655	8621	8460	8438	8546	8457	8508	8371
56	8137	8368	8581	8732	8411	8658	8713	8738	8469	8473	8393	8318	8235	8276	8256	8271	8137
57	7950	8174	8373	8546	8269	8507	8535	8555	8247	8248	8169	8073	7978	8098	8023	8100	7950
58	7736	7999	8102	8314	8035	8341	8341	8345	8052	8046	7941	7868	7783	7820	7825	7886	7736
59	7467	7732	7859	8046	7832	8075	8104	8119	7829	7759	7694	7616	7545	7627	7511	7610	7467
60	7283	7464	7600	7837	7576	7832	7872	7886	7642	7603	7498	7395	7331	7415	7329	7342	7283
61	7030	7246	7333	7561	7380	7565	7577	7637	7408	7332	7247	7171	7086	7110	7026	7104	7030

62	6769	6990	7058	7281	7093	7264	7337	7326	7170	7142	6995	6895	6860	6932	6798	6817	6769
63	6496	6738	6772	7033	6844	7044	7054	7174	6929	6889	6756	6709	6641	6647	6553	6622	6496
64	6281	6478	6509	6745	6599	6809	6759	6902	6718	6637	6509	6469	6373	6400	6255	6319	6281
65	6044	6202	6199	6501	6385	6527	6526	6642	6519	6392	6261	6217	6185	6114	6053	6101	6044
66	5763	5942	5924	6165	6090	6238	6270	6334	6238	6179	6014	5980	5910	5898	5778	5829	5763
67	5533	5643	5614	5917	5875	5979	5921	6113	6063	5997	5771	5720	5741	5686	5514	5580	5533
68	5338	5434	5429	5633	5596	5720	5692	5809	5821	5748	5508	5495	5454	5415	5250	5304	5338
69	5014	5147	5107	5365	5331	5450	5440	5584	5564	5480	5315	5290	5228	5195	5041	4985	5014
70	4792	4894	4836	5074	5048	5195	5169	5370	5330	5271	5072	5042	5040	4902	4781	4791	4792
71	4577	4650	4558	4829	4799	4910	4940	5106	5104	4999	4840	4817	4810	4701	4583	4561	4577
72	4355	4425	4381	4620	4588	4670	4723	4880	4854	4774	4652	4593	4573	4485	4335	4340	4355
73	4168	4211	4220	4372	4332	4462	4455	4620	4644	4584	4424	4403	4393	4288	4126	4145	4168
74	3895	3936	3930	4084	4136	4238	4227	4413	4383	4339	4224	4210	4163	4080	3936	3900	3895
75	3685	3711	3694	3875	3887	3983	4025	4246	4191	4149	3965	3950	3941	3817	3684	3605	3685
76	3392	3408	3400	3583	3623	3736	3761	3951	4004	3889	3753	3639	3727	3578	3401	3325	3392
77	3100	3202	3215	3296	3393	3485	3536	3694	3669	3668	3517	3390	3439	3285	3102	3107	3100
78	2768	2868	2866	3024	3129	3200	3230	3356	3447	3342	3227	3146	3148	3003	2819	2846	2768
79	2472	2585	2571	2736	2846	2945	2920	3076	3174	3105	2897	2858	2880	2710	2528	2547	2472
80	2195	2240	2312	2472	2520	2594	2610	2839	2858	2826	2591	2515	2524	2362	2164	2158	2195
81	1813	1894	1971	2105	2229	2308	2315	2469	2546	2430	2308	2164	2229	2015	1807	1824	1813
82	1497	1553	1637	1719	1808	1969	1985	2158	2215	2104	1853	1774	1865	1602	1508	1505	1497
83	1220	1254	1288	1419	1555	1652	1633	1824	1856	1774	1590	1459	1517	1266	1086	1151	1220
84	905	935	970	1167	1283	1243	1287	1505	1552	1494	1260	1127	1195	965	783	828	905
85	565	617	750	832	869	973	997	1229	1248	1141	879	781	785	656	516	498	565
86	218	330	420	520	601	645	702	828	815	722	573	390	375	224	229	241	218
87	199	179	239	237	207	324	310	459	335	342	243	158	214	166	136	183	199
88	214	144	133	181	222	154	143	210	183	194	141	146	192	124	155	191	214
89	203	194	122	126	234	147	124	171	191	175	122	126	237	166	147	187	203
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BUG Rating

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	17889.0	23.7	23.7
FM (30-60)	12710.2	16.9	16.9
FH (60-80)	5004.5	6.6	6.6
FVH (80-90)	461.6	0.6	0.6
BL (0-30)	20280.9	26.9	26.9
BM (30-60)	13143.1	17.4	17.4
BH (60-80)	5284.3	7.0	7.0
BVH (80-90)	595.7	0.8	0.8
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	75369.3	99.9	100.0
BUG Rating	B5-U0-G4		

2.2 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2026-02-08	Test Ambient:	25.2 ° C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-SP17-500BA1A1-acdWA57(Setti ng at 30°)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTU260105	120.0	60	4.323	518.23	0.999	1.85
6E-A1	277.0	60	1.849	496.21	0.969	7.19
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

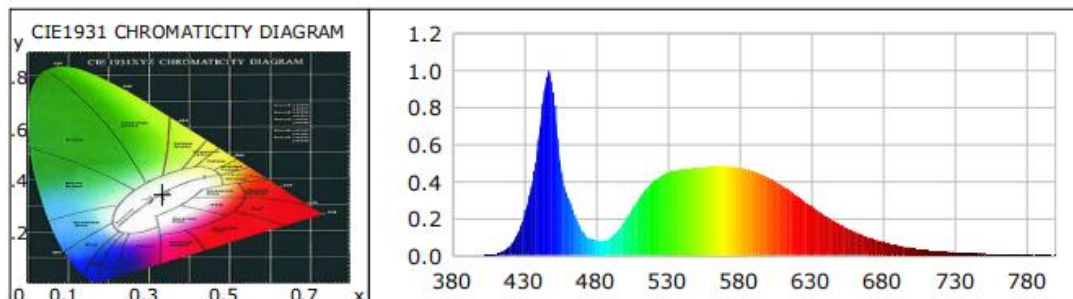
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	71	R9	-26
Frequency (Hz)	60	R2	76	R10	42
CCT (K)	5451	R3	79	R11	73
Duv	0.0022	R4	74	R12	43
Chromaticity (x, y)	x=0.3336 y=0.3465	R5	72	R13	71
Chromaticity (u', v')	u'=0.2056 v'=0.4805	R6	67	R14	88
Color Rendering Index (CRI)	72	R7	80	R15	66
R9	-26	R8	59	--	--
Rf	73	--	--	--	--
Rg	96	--	--	--	--
Rcs,h1(%)	-17				

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)	76345.6	74550.5	>=1000(-10%)
Luminous Efficacy (lm/W)	147.32	150.24	Premium: >= 120(-3%)
Most worst Luminous/Highest Watts	143.86		

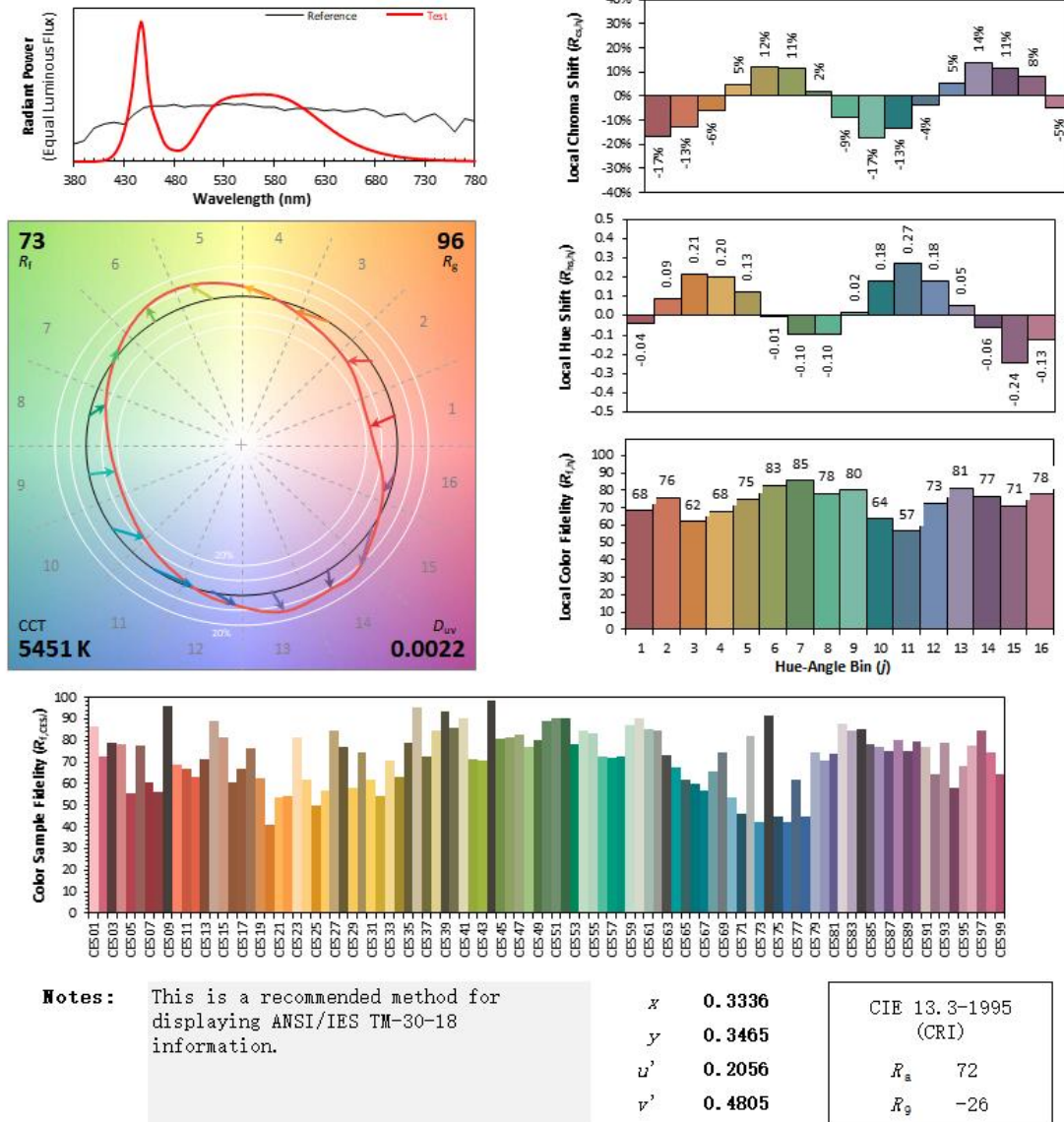
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0009	2.1689	535	0.4294	1047.1773	690	0.0967	235.7494
385	0.0006	1.4838	540	0.4459	1087.5008	695	0.0848	206.8028
390	0.0009	2.1673	545	0.4584	1117.8254	700	0.0731	178.2313
395	0.0006	1.4087	550	0.4668	1138.3322	705	0.0633	154.2820
400	0.0010	2.3632	555	0.4704	1147.0773	710	0.0537	130.9559
405	0.0028	6.9329	560	0.4724	1151.9458	715	0.0467	114.0021
410	0.0080	19.4888	565	0.4764	1161.8245	720	0.0401	97.8389
415	0.0216	52.7252	570	0.4796	1169.6745	725	0.0336	81.9189
420	0.0515	125.6649	575	0.4804	1171.5773	730	0.0289	70.4317
425	0.1105	269.4833	580	0.4808	1172.6017	735	0.0256	62.5347
430	0.2143	522.6736	585	0.4786	1167.2036	740	0.0213	51.9870
435	0.3756	916.0458	590	0.4748	1157.9255	745	0.0180	44.0137
440	0.6299	1536.1602	595	0.4654	1134.8478	750	0.0153	37.2512
445	0.9449	2304.2762	600	0.4556	1110.9952	755	0.0133	32.4861
450	0.8897	2169.6105	605	0.4401	1073.1292	760	0.0119	28.9872
455	0.5054	1232.4937	610	0.4208	1026.2781	765	0.0099	24.2323
460	0.3245	791.4245	615	0.3990	972.9122	770	0.0089	21.6950
465	0.2250	548.7534	620	0.3749	914.2090	775	0.0073	17.8323
470	0.1361	331.8001	625	0.3495	852.2068	780	0.0063	15.4772
475	0.0954	232.6171	630	0.3226	786.6190	785	0.0051	12.3196
480	0.0817	199.3484	635	0.2942	717.3685	790	0.0041	10.0994
485	0.0787	191.8017	640	0.2661	648.8600	795	0.0044	10.7217
490	0.0949	231.4056	645	0.2396	584.2738	800	0.0035	8.5346
495	0.1317	321.0753	650	0.2138	521.3445			
500	0.1837	448.0125	655	0.1891	461.0836			
505	0.2450	597.5283	660	0.1681	409.9712			
510	0.3068	748.2596	665	0.1474	359.4611			
515	0.3586	874.5817	670	0.1284	313.2199			
520	0.4003	976.0996	675	0.1127	274.8168			
525	0.4294	1047.1773	680	0.0967	235.7494			
530	0.4459	1087.5008	685	0.0848	206.8028			

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	2026-02-08	Test Ambient:	25.2 ° C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-SP17-500BA1A1-acdWA40(Setting at 40°)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTU260105	120.0	60	4.067	487.51	0.999	1.84
6E-A1	277.0	60	1.762	471.36	0.966	7.13
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

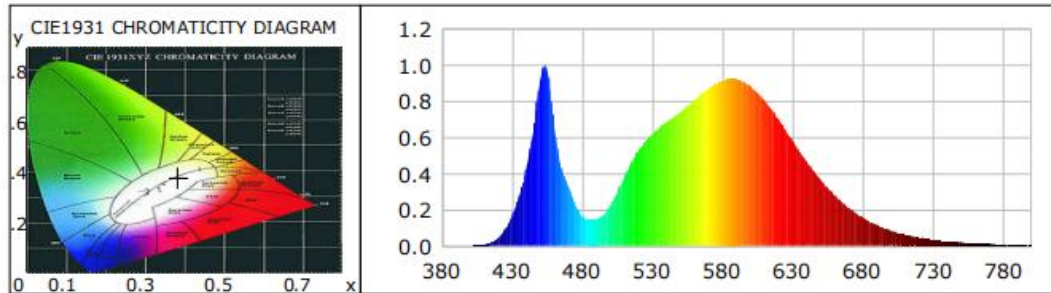
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	70	R9	-30
Frequency (Hz)	60	R2	81	R10	54
CCT (K)	3924	R3	89	R11	65
Duv	0.0003	R4	70	R12	42
Chromaticity (x, y)	x=0.3841 y=0.3797	R5	69	R13	72
Chromaticity (u', v')	u'=0.2263 v'=0.5034	R6	72	R14	94
Color Rendering Index (CRI)	73	R7	81	R15	64
R9	-30	R8	51	--	--
Rf	75	--	--	--	--
Rg	93	--	--	--	--
Rcs,h1(%)	-17				

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)	82618.3	81870.4	>=1000(-10%)
Luminous Efficacy (lm/W)	169.47	173.69	Premium: >= 120(-3%)
Most worst Luminous/Highest	167.94		
Zonal lumens in the 0-90° zone (%)	100	--	>=85(-3)
Beam Angle (°)	40.7	--	--
Center Beam Candle Power (cd)	97205	--	--

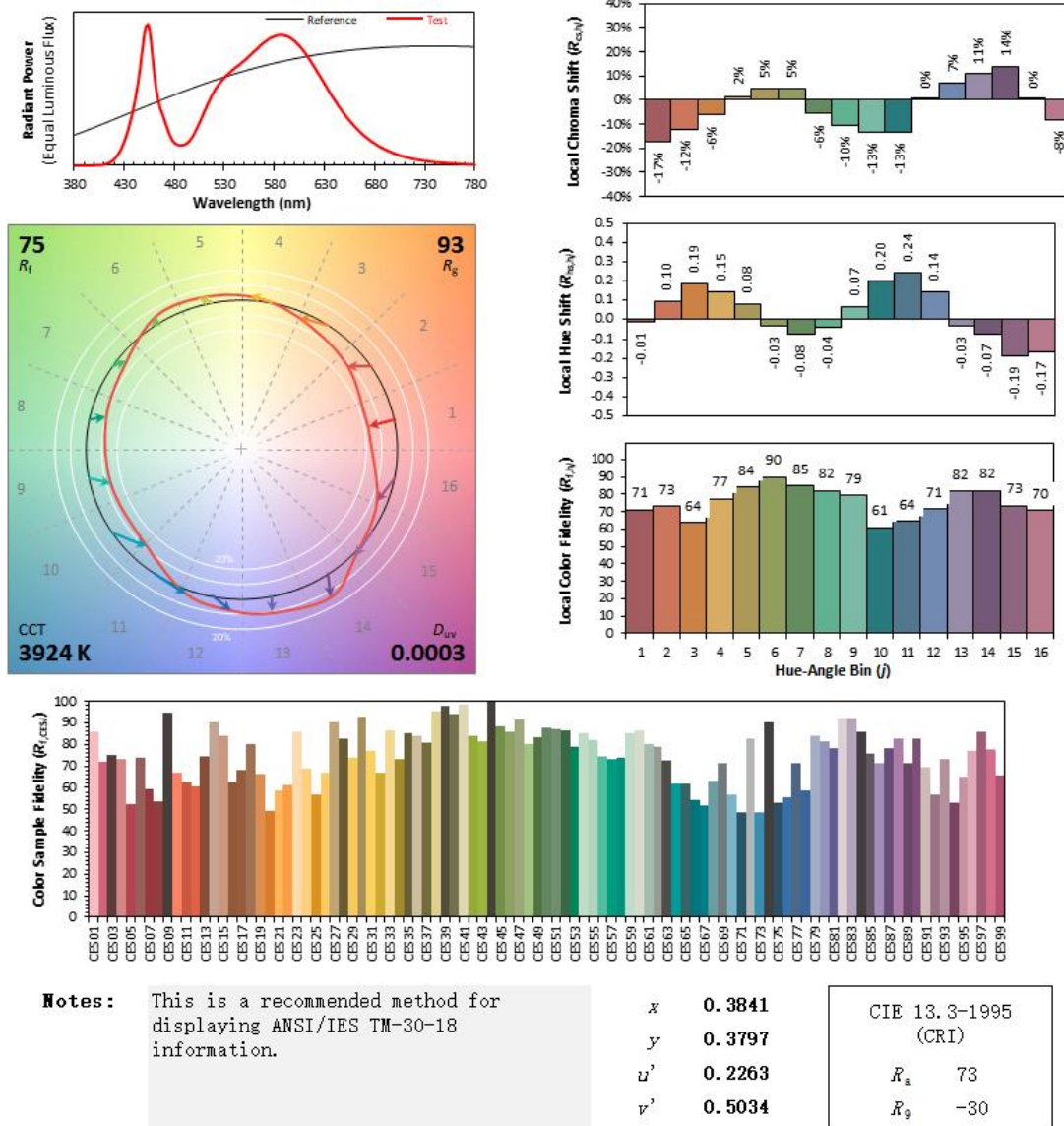
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.6804	535	0.5799	949.4967	690	0.2087	341.6799
385	0.0008	1.2474	540	0.6195	1014.1847	695	0.1804	295.3240
390	0.0003	0.4963	545	0.6547	1071.8967	700	0.1565	256.1555
395	0.0004	0.6241	550	0.6881	1126.4939	705	0.1346	220.3731
400	0.0010	1.6792	555	0.7132	1167.7228	710	0.1154	189.0156
405	0.0030	4.8885	560	0.7434	1217.0724	715	0.0992	162.3515
410	0.0073	11.9143	565	0.7752	1269.1155	720	0.0844	138.1194
415	0.0186	30.4210	570	0.8094	1325.1679	725	0.0721	118.1029
420	0.0434	71.1292	575	0.8426	1379.4965	730	0.0623	102.0752
425	0.0896	146.6730	580	0.8715	1426.8409	735	0.0534	87.4271
430	0.1660	271.8129	585	0.8992	1472.2359	740	0.0456	74.6750
435	0.2789	456.5535	590	0.9159	1499.4511	745	0.0392	64.1660
440	0.4288	702.0667	595	0.9229	1510.9748	750	0.0333	54.4474
445	0.6365	1042.1038	600	0.9218	1509.2341	755	0.0284	46.5394
450	0.9171	1501.4374	605	0.9083	1487.0929	760	0.0245	40.1931
455	0.9736	1593.9568	610	0.8826	1445.0417	765	0.0211	34.4633
460	0.6630	1085.4863	615	0.8475	1387.4722	770	0.0179	29.2680
465	0.4351	712.3577	620	0.8033	1315.2439	775	0.0157	25.6536
470	0.3279	536.9046	625	0.7525	1231.9280	780	0.0133	21.8433
475	0.2279	373.1953	630	0.6978	1142.4651	785	0.0119	19.4379
480	0.1634	267.5197	635	0.6380	1044.4668	790	0.0099	16.2259
485	0.1447	236.9171	640	0.5792	948.2181	795	0.0076	12.4746
490	0.1470	240.7456	645	0.5215	853.7490	800	0.0062	10.1629
495	0.1720	281.6020	650	0.4656	762.2096			
500	0.2250	368.4518	655	0.4120	674.4830			
505	0.2986	488.8301	660	0.3633	594.7643			
510	0.3805	622.9085	665	0.3193	522.6972			
515	0.4572	748.5915	670	0.2781	455.3192			
520	0.5254	860.1526	675	0.2424	396.8756			
525	0.5799	949.4967	680	0.2087	341.6799			
530	0.6195	1014.1847	685	0.1804	295.3240			

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

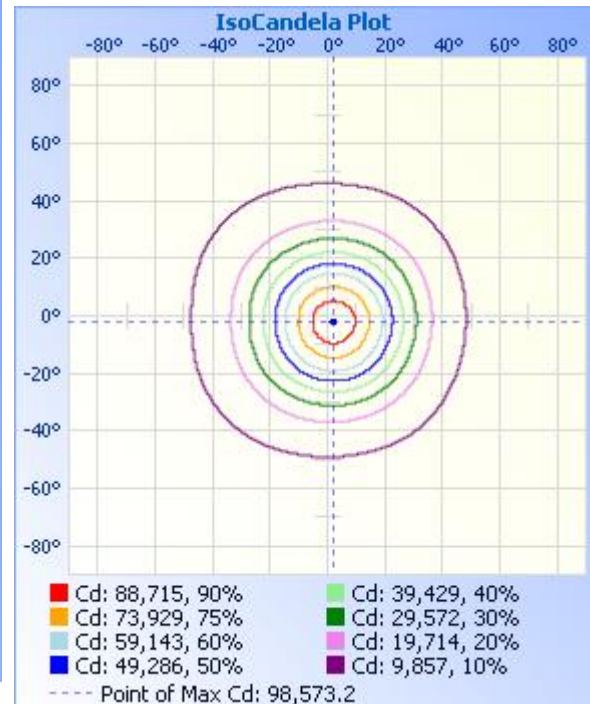
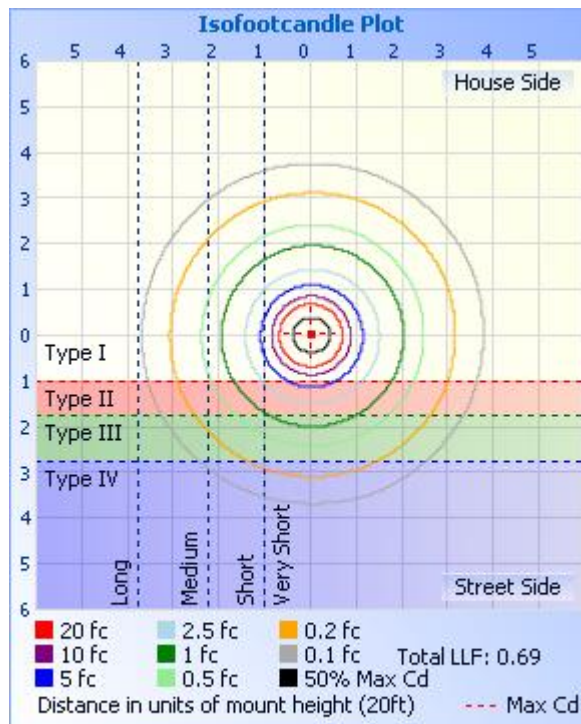
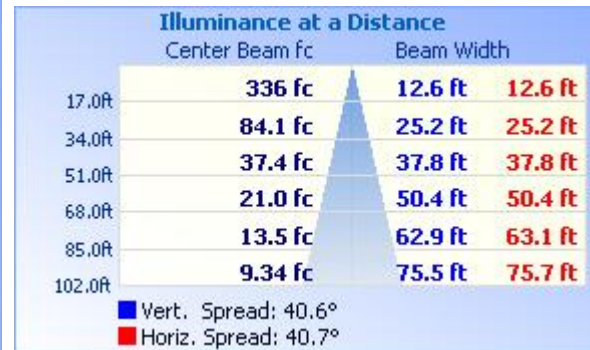
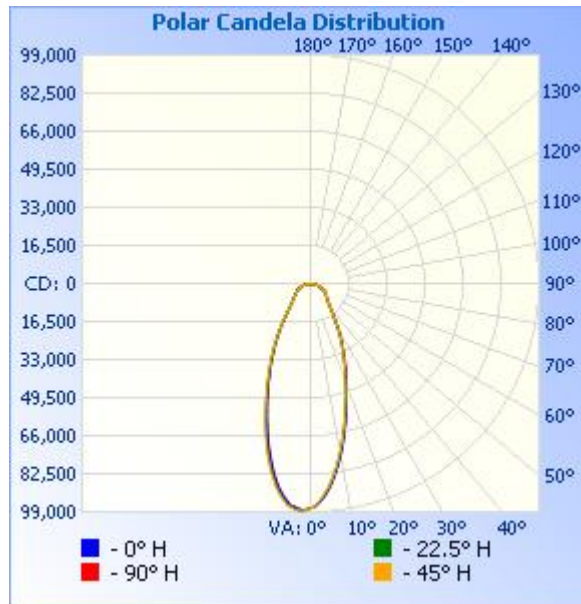
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	43,951.4	53.2%	53.2%
0-40	56,488.0	68.4%	68.4%
0-60	72,382.5	87.6%	87.6%
60-90	10,213.6	12.4%	12.4%
70-100	4,402.2	5.3%	5.3%
90-120	0	0%	0%
0-90	82,596.1	100%	100%
90-180	0	0%	0%
0-180	82,596.1	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	8,472.7	10.3%	90-100	0	0%
10-20	18,007.6	21.8%	100-110	0	0%
20-30	17,471.1	21.2%	110-120	0	0%
30-40	12,536.6	15.2%	120-130	0	0%
40-50	8,578.7	10.4%	130-140	0	0%
50-60	7,315.8	8.9%	140-150	0	0%
60-70	5,811.5	7.0%	150-160	0	0%
70-80	3,525.4	4.3%	160-170	0	0%
80-90	876.7	1.1%	170-180	0	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	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205	97205
1	96984	96821	96733	96875	96789	97208	97205	97597	97984	98114	98190	98099	97799	97205	97205	97208	96984
2	95499	94920	94916	95211	95274	95939	97208	97212	98120	98474	98569	98374	98082	97205	97201	96295	95499
3	93843	93089	93060	93445	93607	94549	95961	97212	97825	98428	98573	98258	97877	97201	95996	94896	93843
4	91893	91006	90740	91440	91420	92856	94579	96284	96991	97905	98160	97731	97201	96280	94660	93222	91893
5	89644	88617	88579	89144	89156	90837	92897	94857	96685	96848	97259	96891	97006	94949	92998	91267	89644
6	86954	86093	85721	86391	86662	88562	90919	93187	94894	96194	96748	95997	95398	93170	90853	88780	86954
7	84282	83058	82996	83685	84012	85867	88484	91049	93169	94560	94865	94231	93603	91260	88616	86293	84282
8	81382	80046	80061	80777	80881	83176	85982	88764	91149	92694	93037	92350	91817	89008	86072	83511	81382
9	78292	76941	76898	77680	77875	80252	83271	86219	88842	90522	90898	90166	89548	86477	83321	80565	78292
10	75183	73801	73685	74540	74759	77282	80373	83511	86260	87870	88505	87731	86805	83728	80400	77511	75183
11	72004	70641	70523	71454	71570	74141	77301	80530	83468	85152	85845	84990	84141	80633	77398	74379	72004
12	68491	67416	67097	68013	68396	70946	74189	77445	80165	82276	83054	82128	81235	77593	73960	70862	68491
13	65366	63967	64054	64861	65281	67587	70771	74091	77191	79341	79787	78830	77910	74502	70782	67711	65366
14	62180	60858	60965	61706	61890	64454	67613	70921	74036	76244	76751	75694	74689	71299	67566	64513	62180
15	59028	57710	57791	58624	59132	61359	64451	67699	70841	73026	73496	72465	71733	68037	64284	61295	59028
16	55972	54733	54748	55651	55907	58396	61436	64653	67716	69573	70310	69275	68466	64850	61180	58202	55972
17	53119	51949	51914	52871	53044	55488	58430	61556	64161	66325	67058	66007	64993	61732	58205	55303	53119
18	50424	49301	49227	50114	50302	52673	55505	58571	61059	63111	63780	62782	61882	58393	55054	52269	50424
19	47513	46672	46671	47253	47738	49788	52514	55397	58097	60010	60315	59332	58766	55438	52258	49560	47513
20	45001	43974	44046	44814	45042	47222	49869	52653	55166	56704	57215	56289	55705	52611	49527	46926	45001
21	42585	41655	41757	42487	42711	44803	47320	49949	52289	54044	54218	53304	52566	49847	46936	44458	42585
22	40305	39459	39452	40338	40532	42493	44928	47400	49610	50931	51349	50486	49793	47253	44469	42123	40305
23	38165	37353	37361	38058	38399	40256	42558	44893	46703	48194	48562	47752	47116	44504	41925	39667	38165
24	35890	35321	35331	36025	36340	38167	40328	42496	44244	45623	45925	45104	44506	42073	39598	37487	35890
25	33877	33369	33607	34233	34449	35985	38068	40102	41899	43141	43195	42429	42024	39717	37419	35373	33877
26	31912	31468	31673	32320	32433	34098	36055	37973	39650	40571	40864	40075	39627	37437	35259	33337	31912
27	30175	29626	29833	30481	30599	32227	34105	35863	37444	38310	38575	37764	37347	35263	33185	31374	30175
28	28333	27821	28023	28650	28832	30452	32210	33873	35118	36130	36340	35568	35105	33337	31359	29614	28333
29	26546	26106	26353	26946	27173	28503	30178	31720	33052	33973	34175	33156	33000	31260	29265	27780	26546

30	24879	24492	24745	25351	25518	26756	28380	29812	31067	31879	31828	31027	30743	29268	27420	26016	24879
31	23227	22951	23194	23841	23964	25160	26651	27990	29147	29893	29814	29033	28750	27315	25599	24252	23227
32	21700	21441	21729	22223	22364	23595	25020	26257	27275	27775	27853	27094	26784	25296	23882	22456	21700
33	20207	19985	20275	20732	20919	22089	23377	24566	25313	25882	25955	25189	24896	23483	22180	20898	20207
34	18838	18653	18984	19528	19609	20672	21885	22938	23588	24078	24111	23385	23117	21965	20588	19589	18838
35	17516	17403	17720	18317	18351	19185	20308	21236	21959	22362	22166	21503	21404	20342	19127	18205	17516
36	16357	16346	16614	17016	17201	17950	18882	19752	20378	20713	20530	19908	19815	18734	17795	16892	16357
37	15365	15262	15605	15994	16028	16824	17698	18423	18959	19099	19034	18437	18370	17379	16470	15788	15365
38	14426	14426	14712	15123	15099	15779	16536	17199	17497	17728	17677	17078	16945	16133	15340	14727	14426
39	13577	13589	13884	14228	14214	14751	15375	15948	16330	16435	16374	15750	15799	15042	14435	13830	13577
40	12860	12850	13072	13388	13433	13912	14454	14953	15252	15363	15257	14704	14684	14114	13518	13115	12860
41	12193	12250	12465	12788	12773	13131	13642	14040	14314	14387	14151	13767	13728	13197	12741	12318	12193
42	11604	11681	11901	12168	12198	12522	12896	13220	13473	13520	13250	12951	12967	12479	12081	11794	11604
43	11150	11208	11444	11638	11631	11943	12244	12567	12647	12660	12531	12215	12213	11870	11502	11203	11150
44	10735	10771	10992	11197	11188	11442	11681	11883	12034	12021	11889	11584	11596	11338	10966	10752	10735
45	10340	10403	10578	10813	10791	10984	11160	11316	11468	11402	11294	11007	11087	10794	10527	10375	10340
46	10045	10105	10230	10461	10384	10631	10741	10845	10937	10883	10745	10546	10601	10367	10131	10025	10045
47	9720	9818	9944	10132	10092	10285	10364	10445	10514	10438	10312	10144	10201	9975	9835	9695	9720
48	9417	9493	9678	9842	9809	10014	9968	10080	10084	10012	9933	9760	9785	9676	9490	9377	9417
49	9204	9253	9403	9602	9591	9668	9719	9746	9727	9691	9577	9393	9498	9322	9233	9174	9204
50	8940	9071	9202	9381	9335	9458	9439	9431	9425	9365	9198	9114	9183	9051	8958	8926	8940
51	8723	8847	8943	9110	9148	9237	9187	9194	9138	9044	8920	8854	8915	8853	8697	8732	8723
52	8568	8684	8773	8936	8935	9031	8942	8972	8874	8789	8692	8587	8694	8608	8491	8502	8568
53	8398	8514	8637	8769	8760	8849	8779	8751	8611	8556	8433	8367	8457	8418	8262	8296	8398
54	8239	8367	8463	8657	8581	8678	8565	8506	8398	8324	8220	8127	8239	8177	8084	8160	8239
55	8056	8169	8274	8463	8430	8499	8422	8308	8192	8134	8011	7972	8002	7952	7909	7947	8056
56	7832	8041	8096	8339	8220	8402	8200	8160	8045	7914	7787	7794	7800	7800	7707	7814	7832
57	7622	7809	7938	8188	8049	8208	7979	7985	7804	7724	7539	7581	7598	7575	7505	7593	7622
58	7382	7612	7690	7983	7866	8030	7870	7768	7599	7565	7373	7356	7385	7401	7283	7371	7382
59	7153	7364	7508	7797	7657	7769	7660	7593	7409	7302	7145	7135	7148	7152	7058	7185	7153
60	6986	7085	7284	7523	7404	7583	7431	7410	7196	7108	6921	6888	6903	6942	6860	6925	6986
61	6676	6857	6956	7298	7124	7327	7206	7134	6928	6899	6716	6698	6728	6737	6623	6707	6676

62	6436	6586	6681	6942	6907	7148	6922	6862	6711	6620	6503	6427	6491	6484	6316	6431	6436
63	6192	6291	6399	6667	6631	6841	6681	6676	6521	6415	6236	6226	6266	6220	6064	6167	6192
64	5897	6016	6182	6415	6417	6570	6464	6431	6250	6183	5970	5939	5994	5956	5842	5930	5897
65	5653	5730	5881	6152	6068	6294	6192	6163	6013	5912	5742	5707	5734	5712	5524	5634	5653
66	5377	5451	5575	5858	5796	6061	5924	5875	5773	5672	5452	5482	5489	5506	5294	5370	5377
67	5013	5207	5309	5536	5520	5743	5652	5627	5482	5420	5223	5231	5233	5222	5065	5094	5013
68	4811	4898	5003	5234	5221	5459	5361	5397	5195	5169	4968	4963	4992	4985	4809	4815	4811
69	4540	4599	4736	4952	4914	5191	5085	5087	4947	4863	4729	4708	4708	4690	4525	4562	4540
70	4292	4375	4477	4685	4677	4900	4856	4873	4718	4627	4524	4499	4483	4450	4327	4348	4292
71	4040	4181	4276	4429	4425	4620	4576	4589	4466	4464	4315	4232	4258	4217	4184	4100	4040
72	3842	3903	4048	4189	4157	4384	4320	4348	4249	4177	4064	4026	4009	3995	3865	3855	3842
73	3590	3601	3727	3930	3912	4147	4118	4107	4024	3984	3820	3755	3803	3751	3636	3598	3590
74	3330	3422	3503	3690	3659	3894	3904	3882	3772	3709	3600	3546	3558	3506	3399	3353	3330
75	3055	3186	3217	3407	3418	3568	3550	3583	3528	3469	3402	3322	3267	3277	3119	3101	3055
76	2853	2884	3000	3140	3197	3316	3360	3334	3299	3268	3182	3055	3088	3063	2906	2837	2853
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78	2303	2408	2459	2613	2665	2850	2832	2848	2830	2737	2656	2567	2556	2489	2370	2328	2303
79	2043	2118	2219	2280	2401	2601	2572	2600	2570	2486	2447	2296	2272	2248	2090	2032	2043
80	1752	1839	1949	2064	2121	2291	2272	2300	2272	2207	2119	2033	1997	1949	1818	1737	1752
81	1489	1533	1659	1762	1802	1949	1950	2025	2047	1901	1786	1734	1694	1639	1496	1446	1489
82	1202	1274	1369	1487	1523	1689	1729	1745	1710	1634	1516	1460	1364	1305	1196	1150	1202
83	985	1010	1059	1227	1243	1417	1391	1481	1469	1382	1264	1165	1092	986	917	925	985
84	729	774	812	898	1006	1118	1154	1166	1144	1131	1001	910	932	811	695	734	729
85	461	530	646	701	769	932	897	921	977	856	750	647	633	544	412	439	461
86	174	302	371	499	447	629	707	692	651	457	514	310	311	299	260	229	174
87	225	174	220	232	144	342	435	350	283	279	271	190	202	233	218	175	225
88	167	155	147	166	136	217	210	152	147	186	213	201	97	210	179	183	167
89	124	151	205	166	117	198	155	152	155	159	174	143	140	241	190	163	124
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
141	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
143	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
161	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
163	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
166	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
169	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
171	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
173	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BUG Rating

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	20845.8	25.2	25.2
FM (30-60)	13675.1	16.6	16.6
FH (60-80)	4546.1	5.5	5.5
FVH (80-90)	385.7	0.5	0.5
BL (0-30)	23120.4	28.0	28.0
BM (30-60)	14764.1	17.9	17.9
BH (60-80)	4790.2	5.8	5.8
BVH (80-90)	490.8	0.6	0.6
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	82618.2	100.1	100.0
BUG Rating	B5-U0-G3		

2.4 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2026-02-08	Test Ambient:	25.2 ° C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-SP17-500BA1A1-acdWA40(Setting at 50°)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTU260105	120.0	60	4.217	505.52	0.999	1.83
6E-A1	277.0	60	1.809	484.96	0.968	7.54
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

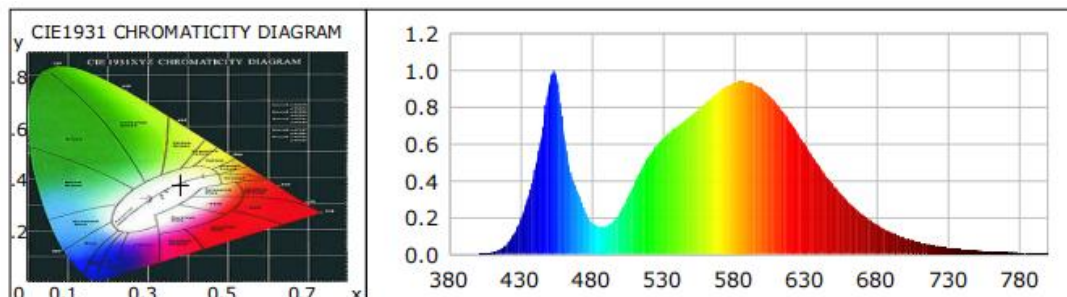
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	70	R9	-30
Frequency (Hz)	60	R2	81	R10	54
CCT (K)	3936	R3	89	R11	64
Duv	-0.0001	R4	70	R12	43
Chromaticity (x, y)	x=0.3832 y=0.3782	R5	69	R13	72
Chromaticity (u', v')	u'=0.2264 v'=0.5026	R6	72	R14	94
Color Rendering Index (CRI)	73	R7	81	R15	64
R9	-30	R8	51	--	--
Rf	75	--	--	--	--
Rg	93	--	--	--	--
Rcs,h1(%)	-17				

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)	82758.6	82016.4	>=1000(-10%)
Luminous Efficacy (lm/W)	163.71	169.12	Premium: >= 120(-3%)
Most worst Luminous/Highest	162.24		
Zonal lumens in the 0-90° zone (%)	100	--	>=85(-3)
Beam Angle (°)	50.5	--	--
Center Beam Candle Power (cd)	84522	--	--

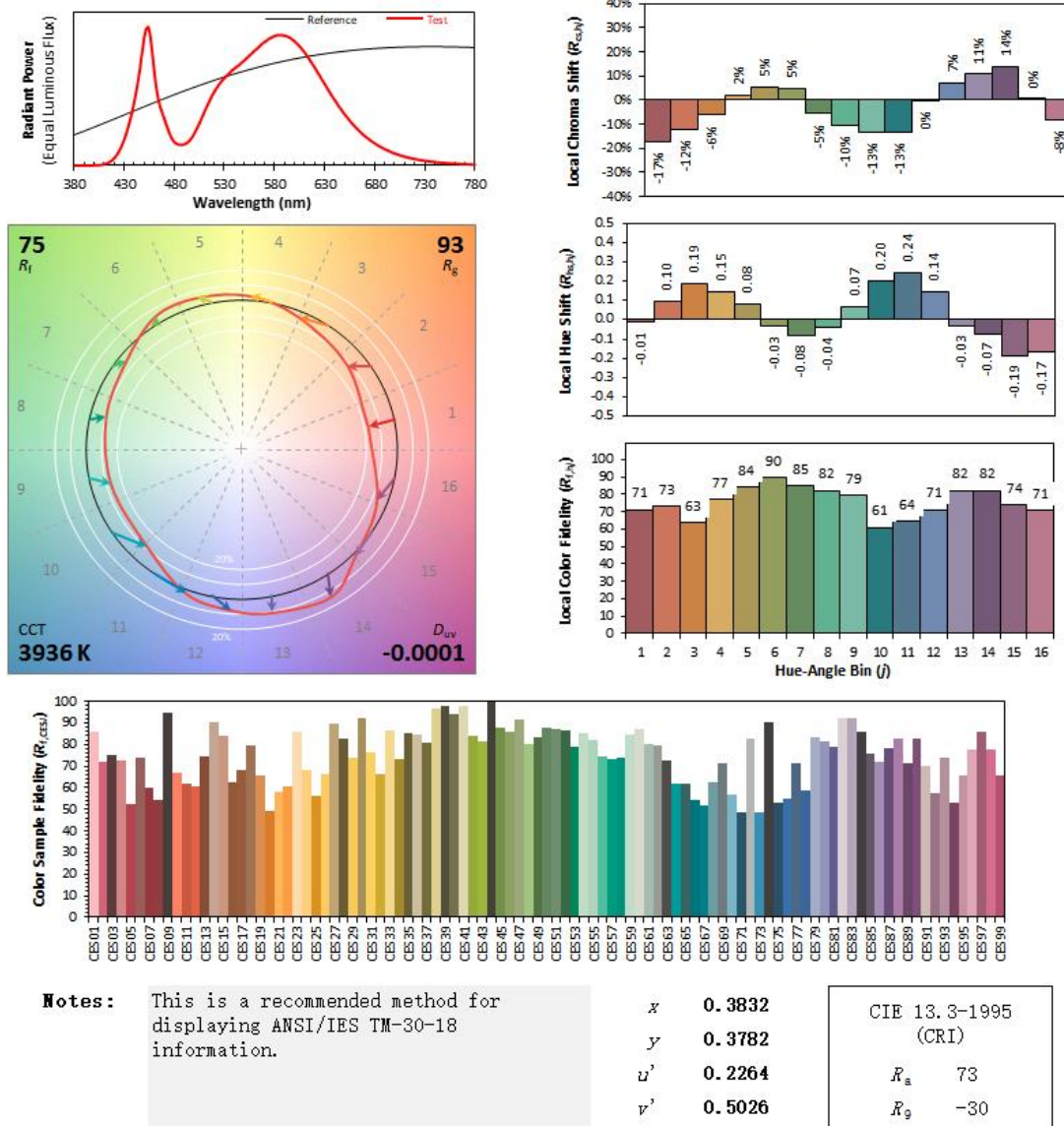
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0004	0.5908	535	0.5866	916.1154	690	0.2143	334.7401
385	0.0003	0.4653	540	0.6276	980.0922	695	0.1861	290.6762
390	0.0008	1.2129	545	0.6650	1038.4570	700	0.1605	250.6906
395	0.0008	1.3263	550	0.6993	1092.0071	705	0.1384	216.1102
400	0.0013	1.9804	555	0.7255	1132.9051	710	0.1195	186.6943
405	0.0032	5.0318	560	0.7569	1182.0589	715	0.1024	159.8833
410	0.0097	15.0880	565	0.7912	1235.6266	720	0.0871	135.9422
415	0.0233	36.4529	570	0.8257	1289.4254	725	0.0751	117.2371
420	0.0510	79.6348	575	0.8584	1340.5707	730	0.0642	100.2656
425	0.1023	159.6836	580	0.8895	1389.1539	735	0.0549	85.7444
430	0.1850	288.8825	585	0.9157	1429.9854	740	0.0475	74.1461
435	0.3034	473.8052	590	0.9337	1458.1870	745	0.0411	64.1431
440	0.4567	713.2114	595	0.9390	1466.3915	750	0.0346	54.0632
445	0.6581	1027.6679	600	0.9368	1463.0100	755	0.0296	46.3007
450	0.9178	1433.2785	605	0.9228	1441.0433	760	0.0266	41.5388
455	0.9761	1524.3265	610	0.8966	1400.1073	765	0.0213	33.3351
460	0.6859	1071.0902	615	0.8594	1342.0672	770	0.0196	30.6546
465	0.4516	705.2024	620	0.8166	1275.2757	775	0.0169	26.3334
470	0.3391	529.6290	625	0.7650	1194.6023	780	0.0150	23.3960
475	0.2388	372.9019	630	0.7094	1107.7633	785	0.0123	19.2050
480	0.1716	267.9181	635	0.6501	1015.2567	790	0.0102	15.8904
485	0.1513	236.2380	640	0.5894	920.3948	795	0.0090	14.0260
490	0.1531	239.1646	645	0.5297	827.2050	800	0.0079	12.3290
495	0.1775	277.2459	650	0.4744	740.8485			
500	0.2298	358.8663	655	0.4190	654.3005			
505	0.3022	471.8886	660	0.3697	577.3705			
510	0.3848	600.9742	665	0.3257	508.5684			
515	0.4614	720.5951	670	0.2844	444.0971			
520	0.5305	828.4575	675	0.2480	387.2943			
525	0.5866	916.1154	680	0.2143	334.7401			
530	0.6276	980.0922	685	0.1861	290.6762			

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

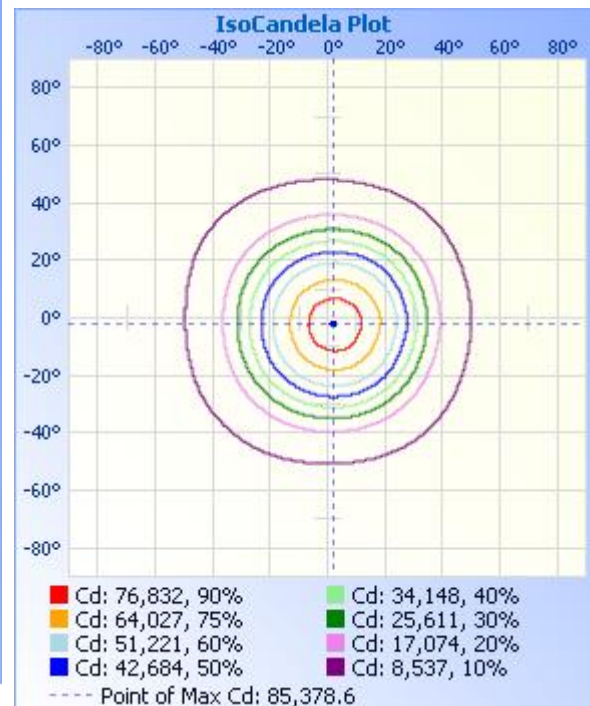
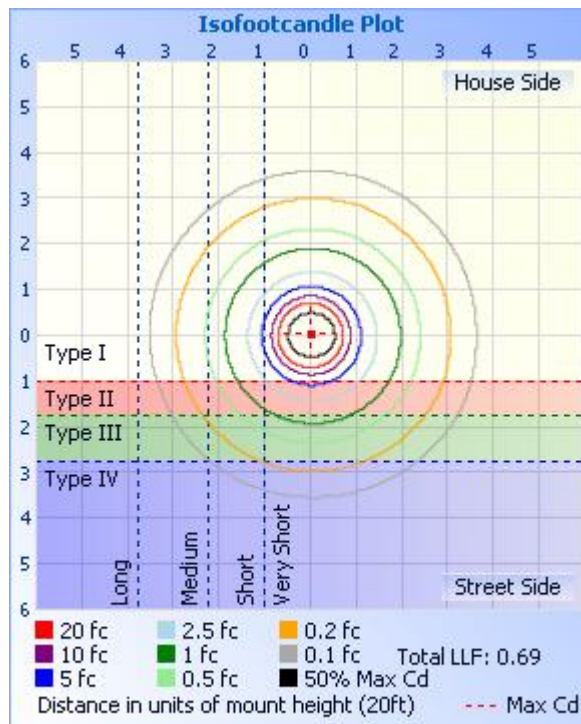
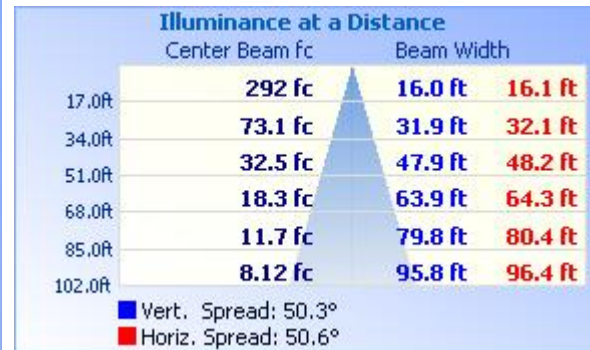
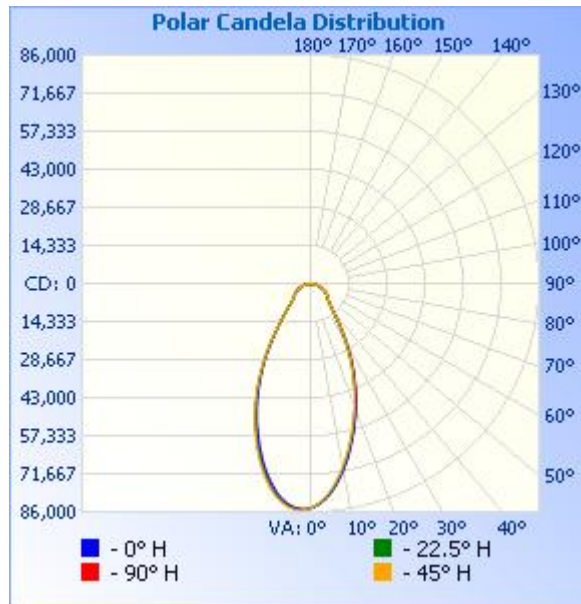
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	45,334.0	54.8%	54.8%
0-40	59,042.3	71.3%	71.4%
0-60	73,834.7	89.2%	89.2%
60-90	8,904.7	10.8%	10.8%
70-100	3,697.8	4.5%	4.5%
90-120	0	0%	0%
0-90	82,739.4	100%	100%
90-180	0	0%	0%
0-180	82,739.4	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	7,589.9	9.2%	90-100	0	0%
10-20	18,069.7	21.8%	100-110	0	0%
20-30	19,674.4	23.8%	110-120	0	0%
30-40	13,708.3	16.6%	120-130	0	0%
40-50	8,164.1	9.9%	130-140	0	0%
50-60	6,628.4	8.0%	140-150	0	0%
60-70	5,206.9	6.3%	150-160	0	0%
70-80	2,995.7	3.6%	160-170	0	0%
80-90	702.0	0.8%	170-180	0	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	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522	84522
1	83993	83898	83838	83882	83844	84077	84335	84613	84877	85035	85000	84905	84891	84669	84411	84169	83993
2	83257	83010	82956	83048	83052	83483	83955	84534	84945	85227	85322	85177	85092	84650	84180	83607	83257
3	82326	81959	81746	81953	82066	82678	83405	84241	84849	85233	85379	85169	85074	84406	83628	82881	82326
4	81181	80698	80483	80685	80882	81702	82643	83676	84463	85070	85206	84948	84839	83928	82933	81987	81181
5	79903	79346	79036	79307	79532	80558	81662	82883	83928	84672	84841	84547	84425	83243	82035	80829	79903
6	78480	77623	77515	77817	78026	79106	80533	81937	83205	84075	84256	83941	83751	82357	80961	79588	78480
7	76727	75975	75800	76131	76290	77622	79088	80853	82297	83199	83483	83106	82913	81317	79737	78011	76727
8	74963	74164	73937	74360	74575	75993	77611	79580	81058	82233	82550	82060	81898	80080	78338	76421	74963
9	73094	72250	72039	72441	72694	74285	76010	78139	79911	81048	81396	80884	80706	78672	76752	74602	73094
10	71152	70276	69867	70485	70788	72424	74299	76384	78288	79744	80122	79558	79352	77187	75054	72788	71152
11	69162	68223	67839	68305	68799	70488	72443	74621	76686	78196	78578	78023	77703	75507	73127	70878	69162
12	67164	65916	65734	66232	66744	68296	70496	72785	74986	76566	76975	76334	76067	73600	71243	68879	67164
13	64843	63795	63651	64134	64479	66298	68387	70954	73161	74675	75307	74603	74310	71728	69296	66677	64843
14	62698	61642	61487	61975	62405	64264	66331	69022	71275	72862	73319	72554	72458	69752	67264	64569	62698
15	60528	59421	59296	59796	60253	62136	64277	66972	69266	70892	71355	70595	70417	67712	65119	62436	60528
16	58387	57226	57089	57612	58166	60067	62206	64963	67082	68887	69347	68612	68418	65661	63046	60299	58387
17	56234	55108	54729	55238	56007	57739	60106	62678	65003	66841	67235	66494	66338	63628	60728	58198	56234
18	54029	52770	52612	53159	53863	55623	57992	60535	62829	64663	65075	64315	64096	61510	58641	56123	54029
19	51896	50625	50485	51047	51583	53542	55719	58485	60741	62316	62903	62187	62022	59109	56547	53933	51896
20	49478	48480	48360	48928	49487	51466	53629	56389	58387	60136	60456	59761	59798	56962	54346	51511	49478
21	47295	46293	46246	46837	47396	49321	51474	54215	56434	57913	58183	57482	57575	54832	52144	49327	47295
22	45191	44210	43962	44749	45359	47268	49411	51881	54031	55665	55959	55240	55323	52648	49933	47176	45191
23	43032	41948	41932	42509	43230	44939	47246	49680	51768	53410	53653	52933	53066	50389	47561	44985	43032
24	40878	39819	39867	40481	41216	42864	45123	47485	49551	50909	51345	50596	50623	48133	45401	42756	40878
25	38682	37905	37782	38416	38974	40836	42887	45365	47349	48644	49111	48313	48315	45655	43176	40588	38682
26	36530	35752	35671	36308	36977	38850	40810	43011	44914	46388	46604	45739	45936	43367	40868	38158	36530
27	34320	33623	33571	34179	34954	36557	38673	40821	42636	44091	44249	43347	43476	41022	38566	35912	34320
28	32144	31485	31479	32141	32934	34526	36634	38645	40339	41740	41875	40946	41044	38687	36234	33728	32144
29	30023	29408	29463	30276	30890	32470	34511	36407	38027	39139	39484	38486	38569	36368	33932	31560	30023

30	27947	27419	27503	28285	28702	30421	32395	34200	35702	36755	37044	36030	36066	33803	31593	29254	27947
31	25921	25495	25616	26360	26822	28429	30134	32024	33422	34380	34391	33341	33826	31441	29347	27171	25921
32	23951	23424	23804	24479	24950	26517	28134	29689	31019	32062	31996	30988	31364	29083	27109	25106	23951
33	22067	21602	21995	22615	23149	24362	26077	27571	28715	29686	29606	28573	28874	26726	24935	23116	22067
34	20267	19935	20315	20878	21430	22592	24165	25564	26564	27452	27291	26319	26447	24668	22862	21386	20267
35	18793	18371	18728	19422	19653	20857	22283	23570	24494	25017	25043	24030	24176	22589	20901	19590	18793
36	17107	16952	17349	17792	18180	19230	20348	21694	22485	22913	22693	21784	22094	20637	19127	17918	17107
37	15799	15695	15958	16491	16739	17727	18681	19924	20450	20976	20772	19865	20169	18799	17536	16464	15799
38	14627	14555	14791	15278	15495	16242	17247	18134	18742	19159	18990	18203	18381	17149	15961	15124	14627
39	13523	13492	13740	14191	14412	14992	15871	16714	17184	17405	17294	16573	16776	15632	14725	13972	13523
40	12610	12682	12908	13232	13300	13924	14676	15380	15845	15934	15828	15177	15345	14313	13565	13002	12610
41	11847	11869	12017	12400	12458	12988	13513	14197	14590	14673	14555	14008	13964	13156	12582	12073	11847
42	11132	11156	11385	11667	11724	12117	12582	13186	13506	13533	13367	12882	12993	12220	11799	11318	11132
43	10545	10610	10808	11060	11094	11436	11797	12218	12426	12584	12395	11972	12050	11450	11020	10626	10545
44	10102	10094	10301	10563	10503	10759	11094	11485	11675	11679	11614	11224	11259	10711	10466	10128	10102
45	9593	9705	9835	10129	10084	10226	10501	10828	10967	10989	10824	10487	10633	10125	9862	9654	9593
46	9300	9309	9450	9660	9660	9752	9971	10236	10365	10416	10226	9946	10030	9589	9444	9253	9300
47	8924	8980	9144	9312	9287	9396	9501	9713	9851	9849	9676	9487	9517	9146	9034	8892	8924
48	8650	8720	8825	9030	8986	9082	9159	9300	9381	9381	9241	9083	9092	8788	8671	8596	8650
49	8426	8510	8590	8795	8752	8767	8797	8978	9026	8994	8874	8692	8725	8415	8380	8322	8426
50	8238	8269	8376	8601	8509	8573	8498	8663	8661	8642	8503	8381	8410	8165	8063	8084	8238
51	8003	8104	8198	8424	8314	8355	8249	8341	8342	8324	8198	8091	8120	7883	7878	7853	8003
52	7848	7904	7988	8241	8142	8107	8055	8115	8128	8069	7918	7832	7823	7583	7653	7682	7848
53	7695	7818	7861	8013	7956	7945	7802	7872	7901	7797	7652	7640	7643	7395	7402	7455	7695
54	7540	7653	7704	7982	7800	7786	7632	7696	7671	7572	7475	7434	7398	7208	7247	7312	7540
55	7399	7562	7570	7885	7628	7612	7433	7465	7473	7391	7220	7243	7222	7059	7043	7151	7399
56	7211	7395	7461	7716	7506	7492	7260	7347	7273	7201	7055	7061	6987	6852	6862	7019	7211
57	7038	7202	7286	7603	7325	7314	7109	7125	7115	7014	6855	6899	6798	6676	6631	6856	7038
58	6781	7000	7086	7459	7153	7175	6969	6992	6862	6824	6657	6720	6620	6519	6516	6650	6781
59	6597	6777	6890	7218	6906	6993	6742	6798	6672	6610	6467	6510	6429	6314	6310	6441	6597
60	6362	6554	6694	7016	6730	6788	6610	6635	6473	6423	6307	6257	6207	6097	6134	6218	6362
61	6142	6276	6473	6709	6502	6602	6392	6390	6295	6266	6069	6010	5975	5908	5879	6032	6142

62	5828	5986	6199	6469	6267	6382	6200	6175	6072	6004	5832	5812	5763	5596	5660	5762	5828
63	5603	5675	5915	6226	6031	6105	5988	5983	5828	5804	5565	5606	5533	5386	5413	5523	5603
64	5313	5477	5610	5948	5772	5916	5741	5774	5609	5572	5361	5369	5316	5196	5147	5299	5313
65	5056	5211	5344	5643	5486	5618	5512	5487	5350	5316	5183	5099	5058	4966	4968	5015	5056
66	4770	4900	5099	5363	5222	5337	5277	5262	5068	5112	4872	4859	4847	4710	4636	4777	4770
67	4566	4646	4839	5079	4936	5136	5014	5019	4829	4793	4614	4647	4561	4492	4463	4515	4566
68	4321	4393	4563	4797	4675	4807	4748	4748	4617	4570	4396	4424	4291	4258	4292	4300	4321
69	4107	4185	4336	4544	4422	4554	4494	4527	4342	4333	4215	4218	4119	4066	4047	4077	4107
70	3786	3882	4066	4282	4183	4316	4301	4288	4156	4133	4013	3947	3882	3819	3754	3821	3786
71	3550	3627	3800	4019	3934	4041	4084	4127	3907	3861	3757	3695	3648	3565	3530	3563	3550
72	3280	3373	3541	3765	3687	3840	3734	3825	3666	3616	3522	3416	3410	3354	3274	3342	3280
73	3019	3161	3304	3485	3383	3536	3553	3574	3388	3355	3267	3191	3223	3082	3064	3093	3019
74	2849	2946	3093	3255	3165	3277	3293	3299	3200	3124	3021	3049	2930	2813	2850	2870	2849
75	2604	2685	2865	3024	2914	2998	3083	3093	2990	2920	2830	2763	2763	2654	2623	2616	2604
76	2355	2501	2663	2757	2721	2826	2872	2837	2760	2675	2640	2584	2487	2443	2351	2372	2355
77	2133	2254	2376	2522	2485	2586	2607	2661	2535	2464	2397	2296	2259	2223	2139	2087	2133
78	1919	2026	2170	2267	2242	2304	2347	2378	2251	2225	2205	2090	2070	1992	1955	1930	1919
79	1631	1700	1904	2020	1958	2041	2127	2162	2021	2019	1950	1855	1808	1652	1661	1674	1631
80	1410	1516	1618	1764	1723	1811	1920	1924	1860	1760	1692	1616	1558	1462	1453	1379	1410
81	1170	1277	1366	1530	1493	1557	1626	1668	1539	1527	1469	1351	1321	1248	1150	1148	1170
82	996	1028	1158	1246	1209	1306	1333	1402	1302	1310	1181	1095	1112	961	952	985	996
83	763	814	915	1001	1037	1087	1119	1142	1137	1106	993	850	855	764	713	673	763
84	516	676	721	791	855	801	909	937	876	843	812	712	720	571	593	557	516
85	396	394	569	611	630	648	686	764	704	655	501	494	436	466	356	283	396
86	186	247	311	418	392	455	532	586	555	398	437	336	247	172	223	167	186
87	163	128	208	179	170	250	264	304	241	249	249	136	147	126	177	155	163
88	171	103	196	173	164	135	177	178	110	150	163	150	133	95	140	153	171
89	129	150	175	204	172	126	144	175	139	117	140	165	137	108	173	134	129
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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109	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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118	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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134	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
159	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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176	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
178	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BUG Rating

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	21664.5	26.2	26.2
FM (30-60)	13567.5	16.4	16.4
FH (60-80)	4005.9	4.8	4.8
FVH (80-90)	313.0	0.4	0.4
BL (0-30)	23680.4	28.6	28.6
BM (30-60)	14942.2	18.1	18.1
BH (60-80)	4196.3	5.1	5.1
BVH (80-90)	389.0	0.5	0.5
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	82758.8	100.1	100.0
BUG Rating	B5-U0-G3		

2.5 Electrical, Photometric and Chromaticity Measurements

(Refer to Work Instruction BL-QP-033)

Test date	2026-02-08	Test Ambient:	25.2 ° C
Test Orientation	Horizontal	Stabilization Time (min)	90
Model Number	AST-SP17-500BA1A1-acdWA40(Sett ing at 60°)	Operation time(min)	110

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
UTU260105	120.0	60	4.299	515.33	0.999	1.82
6E-A1	277.0	60	1.842	494.29	0.969	7.78
DLC Pass Criteria					>= 0.9(-3%)	<= 20(+5)

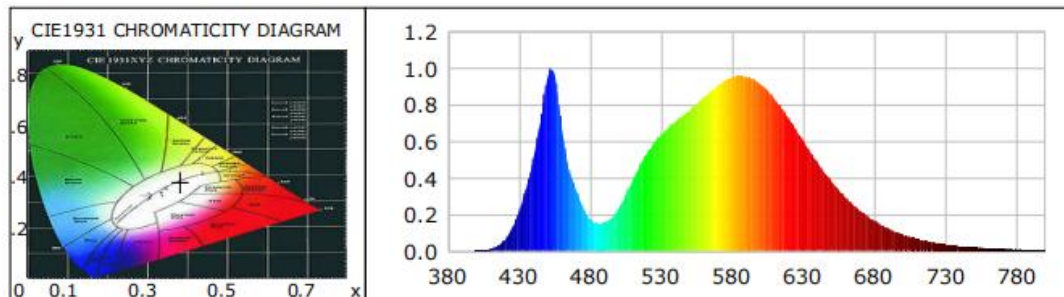
Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result	Special Color Rendering Indices			
Test Voltage (V)	120.0	R1	70	R9	-30
Frequency (Hz)	60	R2	81	R10	54
CCT (K)	3946	R3	88	R11	64
Duv	-0.0009	R4	70	R12	43
Chromaticity (x, y)	x=0.3822 y=0.376	R5	69	R13	72
Chromaticity (u', v')	u'=0.2266 v'=0.5015	R6	72	R14	93
Color Rendering Index (CRI)	73	R7	81	R15	64
R9	-30	R8	51	--	--
Rf	75	--	--	--	--
Rg	93	--	--	--	--
Rcs,h1(%)	-17				

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)	79376.2	78849.1	>=1000(-10%)
Luminous Efficacy (lm/W)	154.03	159.52	Premium: >= 120(-3%)
Most worst Luminous/Highest	153.01		
Zonal lumens in the 0-90° zone (%)	100	--	>=85(-3)
Beam Angle (°)	57.4	--	--
Center Beam Candle Power (cd)	71663	--	--

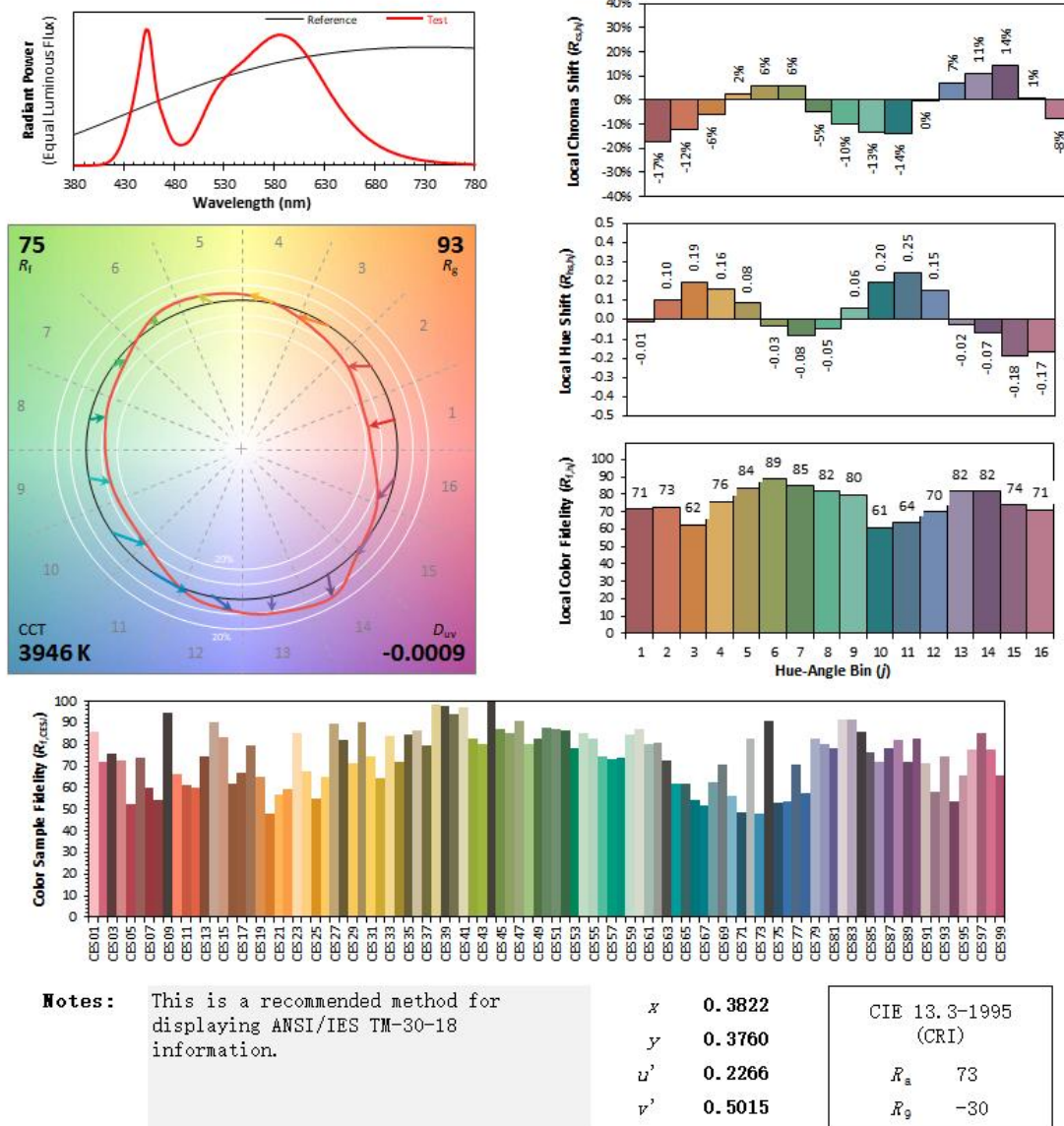
Spectral Power Distribution & Chromaticity Diagram



WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0003	0.3781	535	0.5944	877.6195	690	0.2193	323.8312
385	0.0004	0.5452	540	0.6374	941.0882	695	0.1897	280.1178
390	0.0005	0.7919	545	0.6747	996.1592	700	0.1651	243.8024
395	0.0005	0.7808	550	0.7120	1051.2155	705	0.1414	208.8309
400	0.0019	2.7373	555	0.7406	1093.4609	710	0.1227	181.0889
405	0.0043	6.3962	560	0.7713	1138.7805	715	0.1048	154.7888
410	0.0117	17.2274	565	0.8070	1191.4394	720	0.0903	133.3026
415	0.0290	42.8394	570	0.8440	1246.0051	725	0.0776	114.5250
420	0.0635	93.7758	575	0.8774	1295.3746	730	0.0670	98.9746
425	0.1228	181.3596	580	0.9080	1340.5159	735	0.0562	83.0297
430	0.2171	320.5900	585	0.9346	1379.9040	740	0.0499	73.5985
435	0.3471	512.4724	590	0.9531	1407.2177	745	0.0422	62.3232
440	0.5075	749.2052	595	0.9591	1415.9344	750	0.0362	53.4200
445	0.7131	1052.8027	600	0.9555	1410.6350	755	0.0310	45.7701
450	0.9488	1400.7691	605	0.9400	1387.7352	760	0.0265	39.0522
455	0.9658	1425.9080	610	0.9127	1347.4662	765	0.0229	33.7464
460	0.6797	1003.4433	615	0.8756	1292.7250	770	0.0201	29.6135
465	0.4534	669.3427	620	0.8300	1225.4273	775	0.0166	24.5408
470	0.3360	495.9947	625	0.7790	1150.1624	780	0.0144	21.2702
475	0.2380	351.4147	630	0.7210	1064.4979	785	0.0133	19.5716
480	0.1739	256.6977	635	0.6621	977.5086	790	0.0109	16.0904
485	0.1532	226.1982	640	0.5997	885.4488	795	0.0095	13.9737
490	0.1555	229.5448	645	0.5401	797.4430	800	0.0081	11.9947
495	0.1806	266.6263	650	0.4847	715.6733			
500	0.2339	345.3241	655	0.4275	631.2215			
505	0.3066	452.6403	660	0.3788	559.2213			
510	0.3882	573.1202	665	0.3318	489.8951			
515	0.4669	689.3102	670	0.2914	430.2088			
520	0.5354	790.4495	675	0.2538	374.7120			
525	0.5944	877.6195	680	0.2193	323.8312			
530	0.6374	941.0882	685	0.1897	280.1178			

TM30

ANSI/IES TM-30-18 Color Rendition Report



Zonal Lumen Tabulation

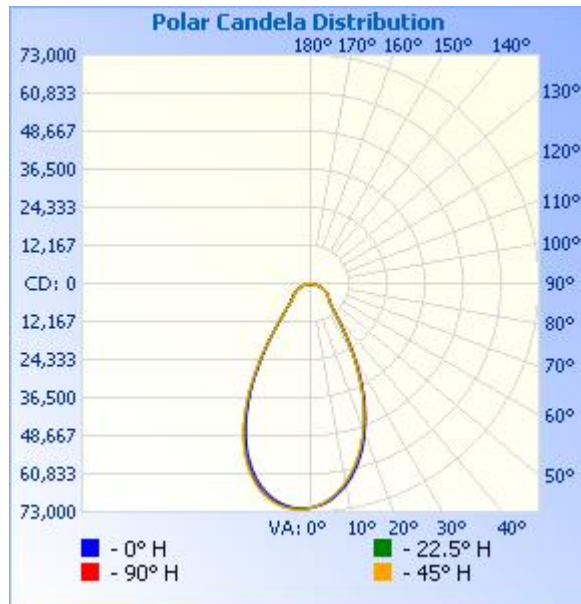
Zonal Lumen Summary

Zone	Lumens	% Lamp	% Luminaire
0-30	44,220.4	55.7%	55.7%
0-40	58,020.8	73.1%	73.1%
0-60	71,551.3	90.1%	90.2%
60-90	7,808.8	9.8%	9.8%
70-100	3,149.3	4%	4%
90-120	0	0%	0%
0-90	79,360.0	100%	100%
90-180	0	0%	0%
0-180	79,360.0	100%	100%

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	6,639.1	8.4%	90-100	0	0%
10-20	17,314.2	21.8%	100-110	0	0%
20-30	20,267.1	25.5%	110-120	0	0%
30-40	13,800.5	17.4%	120-130	0	0%
40-50	7,549.1	9.5%	130-140	0	0%
50-60	5,981.3	7.5%	140-150	0	0%
60-70	4,659.5	5.9%	150-160	0	0%
70-80	2,560.0	3.2%	160-170	0	0%
80-90	589.3	0.7%	170-180	0	0%

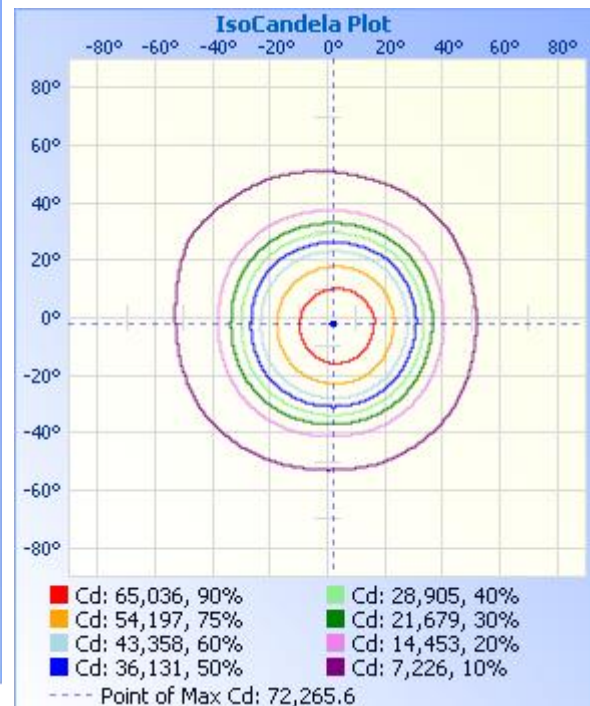
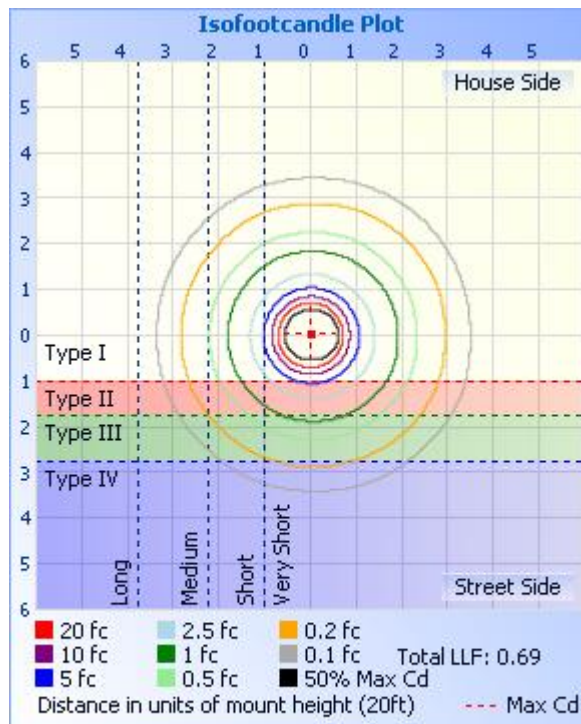
Photometric Data



Illuminance at a Distance

	Center Beam fc	Beam Width	
17.0ft	248 fc	18.6 ft	18.6 ft
34.0ft	62.0 fc	37.1 ft	37.3 ft
51.0ft	27.6 fc	55.7 ft	55.9 ft
68.0ft	15.5 fc	74.3 ft	74.5 ft
85.0ft	9.92 fc	92.8 ft	93.2 ft
102.0ft	6.89 fc	111.4 ft	111.8 ft

■ Vert. Spread: 57.3°
■ Horiz. Spread: 57.4°



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	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663	71663
1	71407	71341	71358	71335	71320	71479	71601	71702	71824	71910	71951	71914	71886	71801	71675	71498	71407
2	71077	70887	70908	70923	70907	71190	71421	71665	71910	72063	72174	72067	72018	71848	71537	71320	71077
3	70700	70410	70332	70368	70440	70798	71168	71553	71852	72102	72260	72129	72105	71803	71403	70996	70700
4	70205	69859	69722	69791	69857	70350	70829	71359	71819	72114	72266	72160	72070	71663	71139	70600	70205
5	69625	69150	69011	69135	69208	69807	70415	71071	71640	72032	72236	72059	71979	71467	70809	70140	69625
6	68945	68423	68262	68370	68483	69173	69915	70677	71397	71877	72077	71943	71813	71138	70375	69529	68945
7	68155	67518	67434	67478	67654	68453	69291	70231	71089	71626	71895	71687	71568	70752	69905	68900	68155
8	67289	66591	66492	66626	66754	67630	68641	69676	70687	71281	71547	71360	71198	70294	69264	68180	67289
9	66336	65617	65460	65620	65805	66792	67865	69069	70178	70891	71180	70929	70754	69706	68591	67345	66336
10	65334	64534	64378	64474	64780	65854	67046	68323	69518	70342	70715	70387	70216	69066	67824	66352	65334
11	64282	63405	63129	63346	63679	64827	66126	67553	68815	69731	70117	69756	69615	68333	66941	65389	64282
12	63095	62174	61920	62146	62514	63630	65151	66666	68023	69018	69429	69079	68824	67398	65945	64312	63095
13	61773	60766	60520	60773	61217	62480	63993	65645	67163	68268	68685	68282	68043	66534	64938	63198	61773
14	60463	59400	59138	59390	59869	61235	62873	64580	66245	67408	67747	67290	67156	65526	63806	61942	60463
15	58979	57907	57782	58083	58460	59939	61650	63478	65200	66412	66859	66406	66121	64422	62531	60619	58979
16	57467	56384	56185	56429	56997	58569	60357	62268	64099	65227	65701	65243	65022	63188	61204	59181	57467
17	55902	54791	54573	54844	55440	56940	58968	61015	62715	64037	64533	64049	63816	61933	59779	57590	55902
18	54244	53099	52739	53250	53758	55390	57461	59625	61369	62727	63199	62760	62524	60410	58306	56006	54244
19	52367	51323	51054	51502	51940	53751	55722	58179	59977	61367	61784	61365	61004	58866	56580	54283	52367
20	50479	49486	49121	49737	50152	52011	54098	56450	58438	59710	60137	59695	59539	57262	54830	52429	50479
21	48559	47408	47223	47661	48314	50216	52341	54721	56815	58237	58456	58031	57904	55504	53052	50522	48559
22	46505	45490	45249	45808	46432	48418	50548	52978	54896	56347	56743	56262	55967	53693	50979	48389	46505
23	44455	43422	43283	43853	44440	46250	48586	51055	53005	54496	54839	54324	54043	51561	48929	46308	44455
24	42331	41349	41298	41829	42446	44451	46662	49074	51031	52532	52892	52259	51969	49446	46775	44133	42331
25	40166	39221	39213	39728	40231	42261	44475	47056	48986	50512	50868	50143	49768	47429	44572	41930	40166
26	37879	36838	37055	37611	38169	40209	42437	44771	46664	48178	48538	47680	47436	45113	42279	39654	37879
27	35557	34602	34842	35454	36016	37860	40307	42563	44393	45898	46203	45313	45012	42678	39855	37327	35557
28	33217	32390	32600	33304	33898	35730	38136	40329	42049	43523	43821	42853	42737	40199	37643	34954	33217

29	30936	30238	30445	30978	31690	33528	35917	38031	39712	41068	41284	40307	40113	37654	35143	32456	30936
30	28659	28131	28304	28900	29537	31301	33679	35705	37232	38574	38749	37656	37473	35115	32685	30176	28659
31	26447	25810	26193	26874	27264	29154	31185	33114	34809	36029	36118	35033	34851	32547	30013	27903	26447
32	24269	23711	24129	24863	25268	27065	29042	30828	32155	33244	33301	32209	31899	29753	27614	25611	24269
33	22182	21741	22144	22730	23308	24754	26785	28479	29697	30700	30671	29549	29471	27245	25191	23387	22182
34	20231	20031	20238	20849	21409	22985	24669	26219	27313	28201	28118	27007	26866	24832	23120	21299	20231
35	18413	18279	18643	19126	19603	20838	22602	24049	25042	25781	25627	24577	24366	22595	20956	19362	18413
36	16804	16744	16986	17532	17787	19067	20459	21786	22772	23431	23228	22249	22099	20448	18965	17565	16804
37	15336	15295	15478	16054	16287	17420	18664	19836	20784	21068	20887	19913	19989	18475	17195	15941	15336
38	14037	13987	14157	14716	14940	15769	17010	18068	18683	19127	18845	17998	18041	16688	15578	14571	14037
39	12903	12859	13017	13522	13769	14498	15547	16453	16967	17293	16976	16295	16109	15041	14101	13298	12903
40	11917	11870	12057	12469	12663	13278	14169	15021	15482	15729	15404	14761	14580	13633	12791	12213	11917
41	11100	11109	11196	11634	11640	12217	12925	13606	14123	14311	14040	13479	13291	12425	11731	11248	11100
42	10339	10358	10538	10824	10845	11400	11962	12500	12898	13086	12714	12294	12207	11441	10854	10472	10339
43	9756	9807	9846	10164	10229	10494	11058	11549	11837	11978	11680	11308	11287	10597	10167	9839	9756
44	9247	9308	9370	9624	9692	9897	10318	10716	10962	11098	10829	10516	10421	9862	9505	9273	9247
45	8797	8864	8910	9195	9198	9389	9672	9985	10247	10306	10036	9846	9727	9276	8901	8772	8797
46	8416	8491	8539	8799	8769	8943	9130	9373	9583	9687	9389	9148	9157	8739	8447	8349	8416
47	8135	8165	8210	8475	8488	8578	8660	8917	9044	9120	8820	8669	8673	8302	8078	8067	8135
48	7855	7960	7901	8164	8169	8256	8288	8494	8616	8633	8418	8242	8256	7913	7740	7697	7855
49	7630	7706	7656	7878	7942	7940	7975	8135	8251	8261	8031	7944	7886	7602	7418	7462	7630
50	7442	7496	7486	7748	7696	7711	7680	7796	7900	7886	7631	7585	7589	7300	7164	7258	7442
51	7306	7350	7320	7537	7564	7513	7376	7501	7611	7550	7317	7331	7324	7061	6939	7047	7306
52	7145	7224	7155	7422	7390	7352	7199	7295	7358	7327	7043	7086	7099	6836	6747	6862	7145
53	7015	7106	7033	7337	7275	7133	6989	7017	7139	7096	6815	6894	6870	6665	6510	6682	7015
54	6850	6995	6910	7228	7165	7028	6803	6851	6943	6894	6656	6696	6698	6438	6403	6573	6850
55	6743	6896	6827	7197	7027	6879	6605	6655	6778	6753	6419	6502	6527	6322	6219	6439	6743
56	6601	6797	6718	7051	6864	6776	6506	6542	6611	6609	6281	6387	6343	6186	6077	6299	6601
57	6434	6609	6584	6958	6680	6615	6372	6433	6428	6396	6114	6195	6174	5998	5914	6164	6434
58	6203	6442	6419	6764	6531	6493	6215	6280	6269	6274	5941	6061	5950	5827	5710	6018	6203
59	6007	6248	6267	6599	6304	6345	6095	6123	6067	6085	5770	5824	5787	5606	5541	5781	6007

60	5749	5961	6073	6420	6161	6182	5883	5904	5914	5868	5562	5608	5580	5412	5371	5653	5749
61	5570	5740	5861	6183	5923	5992	5735	5762	5665	5653	5366	5406	5343	5261	5155	5385	5570
62	5308	5523	5626	5948	5696	5767	5559	5609	5465	5482	5224	5212	5149	5032	4881	5191	5308
63	5009	5231	5356	5665	5438	5567	5320	5308	5225	5195	4972	4983	4895	4852	4740	4962	5009
64	4799	4981	5042	5375	5161	5373	5103	5108	5073	5014	4748	4769	4702	4611	4472	4656	4799
65	4537	4698	4830	5119	4948	5049	4870	4898	4784	4742	4531	4564	4483	4413	4319	4524	4537
66	4269	4479	4552	4913	4645	4832	4664	4656	4549	4580	4321	4319	4248	4258	4099	4273	4269
67	4083	4246	4297	4587	4454	4588	4472	4475	4304	4347	4121	4109	4101	4060	3907	4015	4083
68	3809	3962	4099	4358	4200	4396	4264	4254	4147	4077	3909	3934	3829	3785	3682	3850	3809
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72	2838	2998	3215	3338	3171	3371	3329	3317	3118	3153	3005	2967	2913	2954	2774	2878	2838
73	2660	2802	2881	3082	2948	3131	3111	3070	2955	2957	2778	2744	2671	2691	2616	2651	2660
74	2409	2600	2658	2864	2713	2824	2908	2830	2712	2693	2590	2536	2438	2438	2360	2403	2409
75	2196	2369	2487	2629	2514	2673	2653	2676	2489	2482	2360	2323	2258	2272	2160	2199	2196
76	1957	2169	2244	2358	2308	2434	2405	2469	2287	2294	2137	2117	2033	2010	1982	1983	1957
77	1747	1954	1997	2171	2097	2165	2213	2210	2099	2016	1952	1901	1810	1845	1720	1749	1747
78	1555	1785	1828	1969	1878	1979	1964	1976	1864	1906	1727	1707	1605	1602	1514	1576	1555
79	1398	1510	1576	1732	1655	1763	1774	1815	1641	1663	1545	1509	1463	1368	1310	1341	1398
80	1134	1292	1409	1505	1459	1550	1564	1535	1483	1533	1335	1321	1188	1243	1126	1166	1134
81	990	1112	1119	1241	1221	1321	1326	1339	1258	1290	1129	1047	1006	972	871	904	990
82	782	990	919	1097	1050	1092	1128	1129	1095	1100	991	889	820	582	780	739	782
83	645	741	725	920	897	921	895	951	932	891	744	610	603	654	536	638	645
84	458	609	614	738	736	679	693	776	718	728	620	573	535	435	314	474	458
85	375	473	466	511	597	580	600	503	546	615	474	462	413	403	254	258	375
86	214	289	307	367	223	402	311	452	421	483	359	299	116	223	161	163	214
87	159	237	175	239	109	192	258	272	249	293	171	194	118	165	136	103	159
88	151	233	136	167	128	153	175	126	120	173	159	196	118	169	109	196	151
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BUG Rating

Lum. Classification System (LCS)

LCS Zone	Lumens	%Lamp	%Lum
FL (0-30)	21210.1	26.7	26.7
FM (30-60)	12891.5	16.2	16.2
FH (60-80)	3532.8	4.5	4.5
FVH (80-90)	266.2	0.3	0.3
BL (0-30)	23017.8	29.0	29.0
BM (30-60)	14448.5	18.2	18.2
BH (60-80)	3686.3	4.6	4.6
BVH (80-90)	323.0	0.4	0.4
UL (90-100)	0.0	0.0	0.0
UH (100-180)	0.0	0.0	0.0
Total	79376.2	99.9	100.0
BUG Rating	B5-U0-G3		

Calculated Efficacy Data for family models:

Model Number	Luminous Flux (lm)	Power (W)	Efficacy (lm/W)
AST-SP17-500BA1A1-acdWA40(Setting at 30°)	75369.4	517.15	145.74
AST-SP17-500BA1A1-acdWA50(Setting at 30°)	75857.5	517.69	146.53
AST-SP17-500BA1A1-acdWA57(Setting at 30°)	76345.6	518.23	147.32

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

$$75857.5 = (76345.6 + 75369.4) / 2$$

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

$$517.69 = (518.23 + 517.15) / 2$$

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

$$146.53 = 75857.5 / 517.69$$

3. Test Equipment

Equipment Name	Model No.	Serial No.	Calibration Date
Goniophotometric System	GPM-3000	DYHXF120001	2025-10-23
AC Power Source	CHP-500C	DYBWD010159	2025-10-13
Standard Lamp*	24V/150W	DYJYR040040	2025-12-30
Standard Lamp**	24V/100W	DYBWR030014	2025-12-30
Digital Power Meter	WT500	DYDWQ20010	2025-10-13
Integral Sphere (2M)	2M	DYJCE120067	2025-10-23
Digital Power Meter	WT500	DYDWQ200006	2025-10-13
Optical Color and Electrical Measurement System	CMS-3000S	DYJCE120067	2025-10-23

* 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 *****