LM-79-08 Test Report

for

GREEN CREATIVE LTD

756 North Zhongshan Rd., Unit B301 Zhabei District, Shanghai

LED Tube System

Model: 13.5T5HE/4F/830/EXT/A2

(LED tube model: 13.5T5HE/4F/830/EXT 2pcs and LED driver model: 15T8T5HEDRIVER/2CH 1pcs)

Laboratory: Leading Testing Laboratories

NVLAP CODE: 200960-0

3rd Floor, Bld. 2, NO. 96 Longchuanwu Rd Qianjiang Economy Dev. Zone, Yuhang Dist,
Hangzhou, Zhejiang Province, China 311100
Tel: +86 571 86376106
www.ledtestlab.com

Report No.: HZ18070047e/R1

This report is replaced the old report No. HZ18070047e dated Aug. 09, 2018

The laboratory that conducted the testing detailed in this report has been accredited for SSL by NVLAP.

Review by: April Zou

Engineer: April Zou
Aug. 28, 2018

Approved by: Jim Zhang

Manager: Jim Zhang
Aug. 28, 2018

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Test Summary

Sample Tested: **13.5T5HE/4F/830/EXT/A2**

Luminous Efficacy (Lumens /Watt)	Luminous Flux per lamp (Lumens)	Power (Watts)/2	Power Factor
128.2	2008.0	15.67	0.9960

CCT (K)	CRI	Stabilization Time (Light & Power)
2925	82.8	60

Table 1: Executive Data Summary

Note: The above results are recorded/ derived from measurements made using an Integrating Sphere.

Test specifications:	
Date of Receipt	: Jul. 30, 2018
Date of Test	: Aug. 02, 2018
Test item	: Total Luminous Flux, Luminous Distribution Intensity, Luminous Efficacy, Correlated Color Temperature, Color Rendering Index, Chromaticity Coordinate, Electrical parameters
Reference Standard	: IESNA LM-79-2008 Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products

TABLE OF CONTENT

Sample Photos

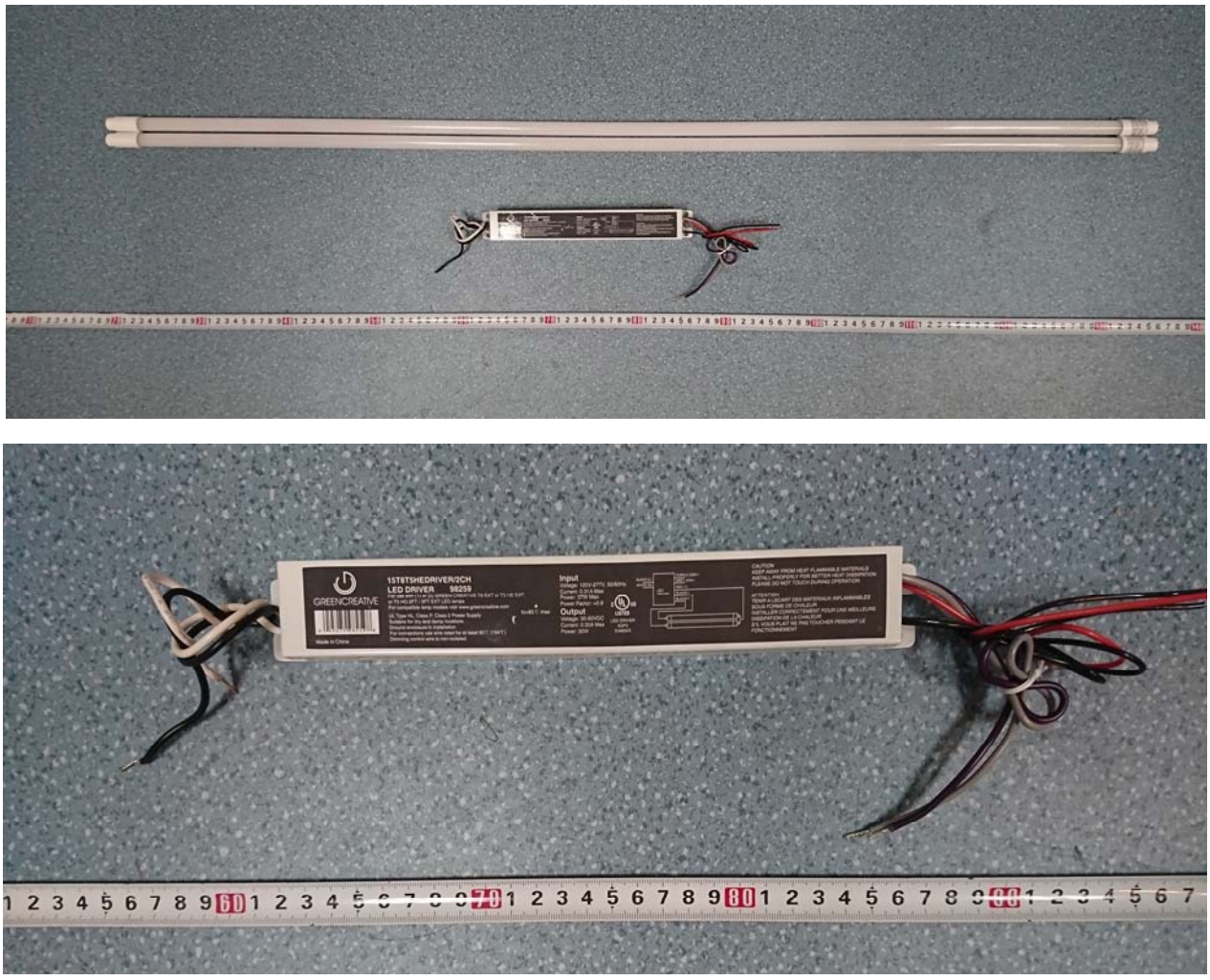


Figure 1- Overview of the sample

Equipment Under Test (EUT)	
Name	: LED Tube System
Model	: 13.5T5HE/4F/830/EXT/A2
Electrical Ratings	: 120-277V, 50/60Hz
Product Description	: 3000K LED tube model: 13.5T5HE/4F/830/EXT 2 LED tubes supplied by a LED driver: 15T8T5HEDRIVER/2CH
Manufacturer	: GREEN CREATIVE LTD
Address	: 756 North Zhongshan Rd., Unit B301 Zhabei District, Shanghai

TEST RESULTS

Test ambient temperature was 25.0℃.

Base orientation was light down. Test was conducted without a dimmer in the circuit.

The stabilization time of the sample was 60 minutes, and the total operating time including stabilization was 70 minutes.

Sphere-Spectroradiometer Method

Parameter	Result	
Test Voltage (V)	120.0	277.0
Voltage frequency (Hz)	60	60
Test Current (A)	0.262	0.120
Power Factor	0.9960	0.9507
Test Power (W)/2	15.67	15.85
THD A%	4.69	9.92
Luminous Efficacy (lm/W)	128.2	126.7
Luminous Flux per lamp (lm)	2008.0	2008.0
Color Rendering Index (CRI)	82.8	
R9	7.8	
Correlated Color Temperature (CCT)(K)	2925	
Chromaticity Chroma x	0.4408	
Chromaticity Chroma y	0.4030	
Chromaticity Chroma u	0.2535	
Chromaticity Chroma v	0.3477	
Duv	0.0013	
Chromaticity Chroma u ’	0.2535	
Chromaticity Chroma v’	0.5215	

Special Color Rendering Indices	
R1	82.1
R2	93.6
R3	93.2
R4	79.7
R5	82.6
R6	92.7
R7	80.6
R8	57.5
R9	7.8
R10	85.6
R11	79.5
R12	75
R13	85.2
R14	96.9
Rf	83
Rg	94

Table 2: Test data per Sphere-Spectroradiometer Method

Note: According to CIE 1976 (u’,v’) diagram, u’ = u = 4x/(-2x+12y+3), v’ = 3v/2 = 9y/(-2x+12y+3).

Goniophotometer Method

Test ambient temperature was 24.9℃.

The photometric distance is 30m.

Luminous data was taken at 0.5°vertical intervals and 10°horizontal intervals.

Parameter	Result
Test Voltage (V)	120.0
Voltage frequency (Hz)	60
Test Current (A)	0.263
Power Factor	0.9951
Test Power (W)/2	15.71
Luminous Efficacy (lm/W)	125.9
Luminous Flux per lamp (lm)	1978.1
Beam Angle (°)	127.5
Center Beam Candle Power (cd)	495
Spacing Criteria	1.26(0°-180°)/ 1.32(90°-270°)
Zonal Lumens in the 0°-60°Zone	59.93%
Zonal Lumens in the 60°-90°Zone	27.55%
Zonal Lumens in the 90°-120°Zone	9.66%
Zonal Lumens in the 120°-180°Zone	2.85%

Table 3: Test data per Goniophotometer Method

Spectral Power Distribution - Sphere Spectroradiometer Method

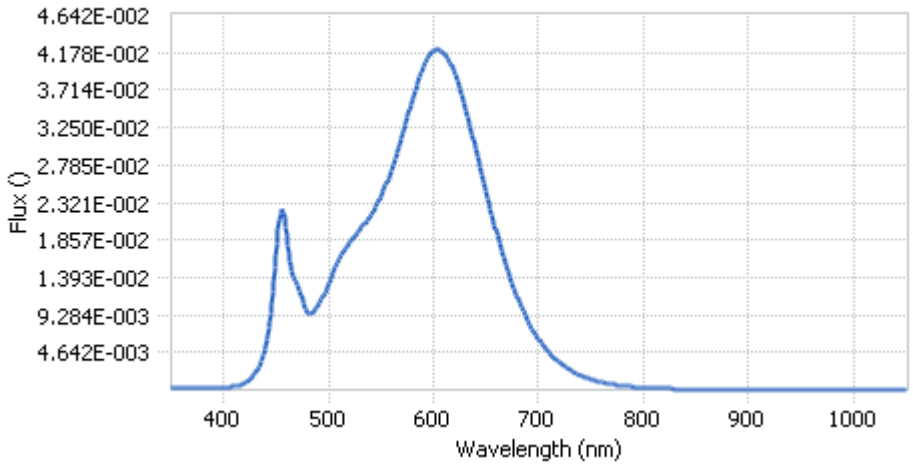
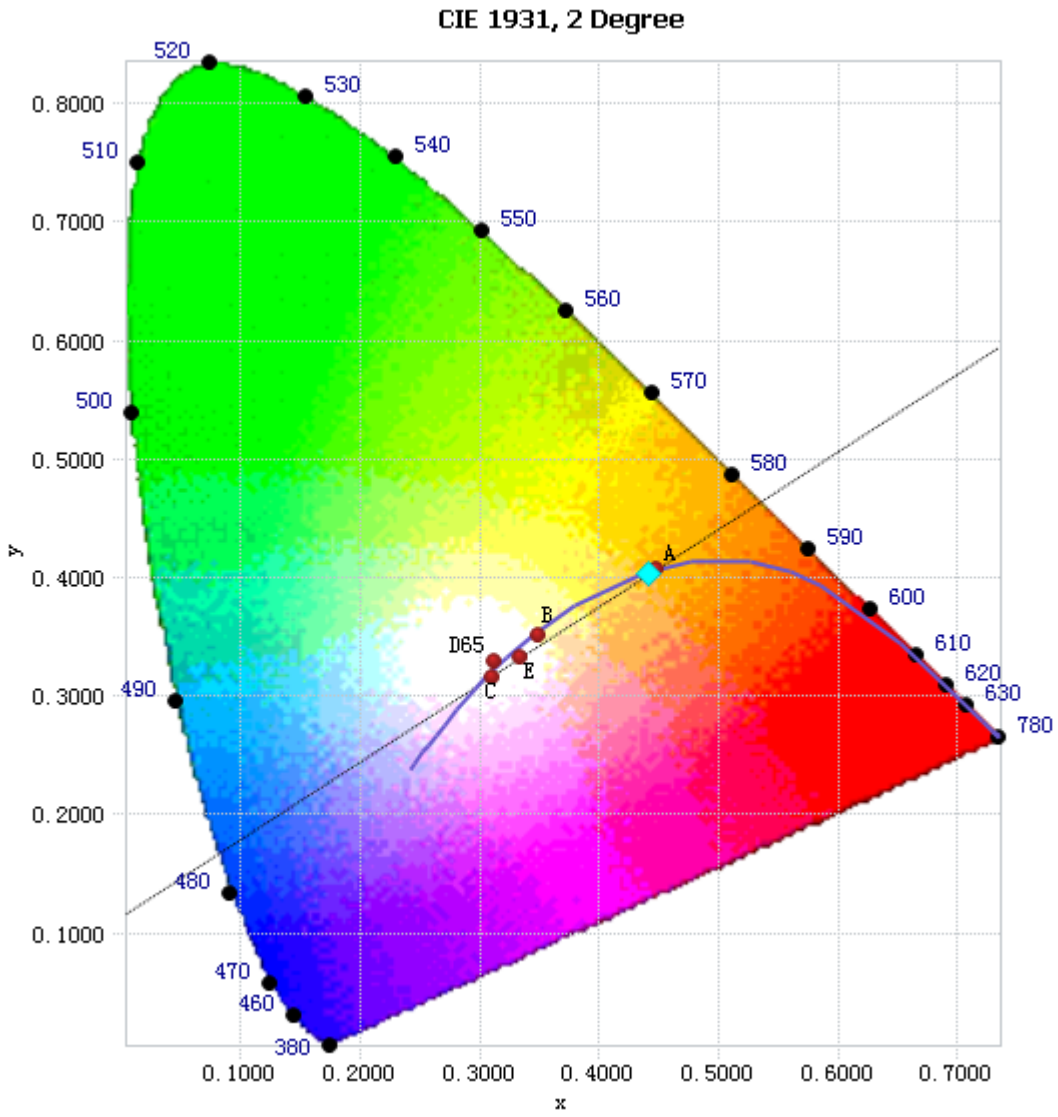


Chart 1: Spectral Power Distribution

Spectral Distribution over Visible Wavelength							
WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)
380	3.10E-04	485	9.59E-03	590	3.99E-02	695	7.32E-03
385	2.76E-04	490	1.04E-02	595	4.12E-02	700	6.31E-03
390	2.80E-04	495	1.16E-02	600	4.20E-02	705	5.38E-03
395	3.12E-04	500	1.32E-02	605	4.22E-02	710	4.61E-03
400	3.41E-04	505	1.48E-02	610	4.17E-02	715	3.94E-03
405	3.75E-04	510	1.61E-02	615	4.08E-02	720	3.38E-03
410	4.43E-04	515	1.73E-02	620	3.92E-02	725	2.89E-03
415	5.83E-04	520	1.83E-02	625	3.73E-02	730	2.45E-03
420	8.58E-04	525	1.92E-02	630	3.51E-02	735	2.08E-03
425	1.34E-03	530	2.00E-02	635	3.26E-02	740	1.78E-03
430	2.11E-03	535	2.07E-02	640	2.99E-02	745	1.52E-03
435	3.37E-03	540	2.16E-02	645	2.71E-02	750	1.30E-03
440	5.48E-03	545	2.27E-02	650	2.45E-02	755	1.11E-03
445	9.48E-03	550	2.40E-02	655	2.19E-02	760	9.50E-04
450	1.65E-02	555	2.55E-02	660	1.95E-02	765	8.12E-04
455	2.22E-02	560	2.72E-02	665	1.72E-02	770	6.92E-04
460	1.92E-02	565	2.93E-02	670	1.50E-02	775	5.94E-04
465	1.47E-02	570	3.15E-02	675	1.32E-02	780	5.17E-04
470	1.31E-02	575	3.37E-02	680	1.14E-02		
475	1.11E-02	580	3.61E-02	685	9.89E-03		
480	9.44E-03	585	3.82E-02	690	8.54E-03		

Table 4: Spectral Power Distribution Numerical Data per Sphere - Spectroradiometer Method

Chromaticity Diagram - Sphere Spectroradiometer Method



Tristimulus values(x, y): (0.4408, 0.4030)

Chart 2: Chromaticity Diagram per Sphere - Spectroradiometer Method

Note: The location on the diagram of the tristimulus coordinates are indicated by the blue diamond.

Nominal CCT Quadrangles – Sphere Spectroradiometer Method

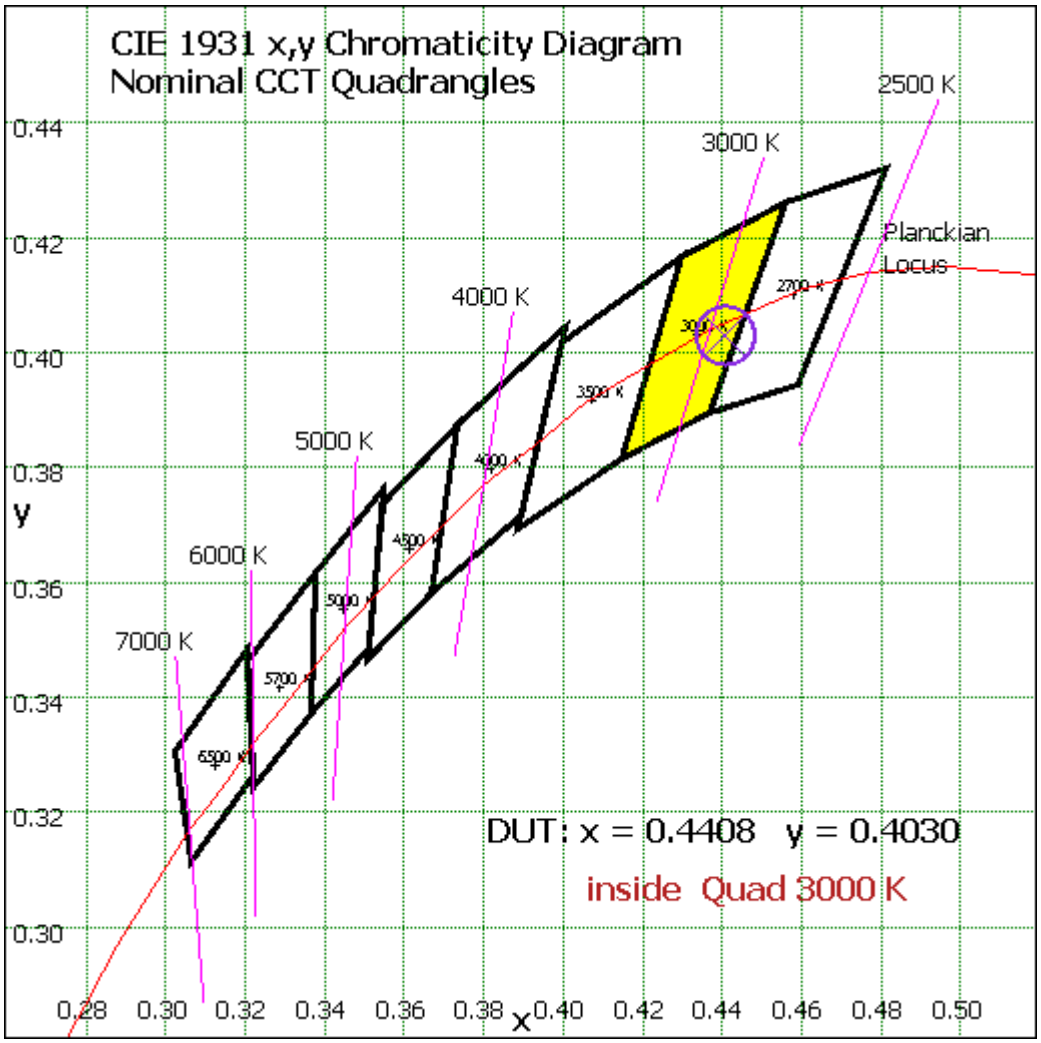


Chart 3: Plot of Lamp x/y coordinates on CIE 1931 Chromaticity Diagram

Zonal Lumen Tabulation- Goniophotometer Method

γ(°)	Lumens	% Total
0- 10	46.934	2.37%
10- 20	135.169	6.83%
20- 30	207.351	10.48%
30- 40	255.441	12.91%
40- 50	274.966	13.90%
50- 60	265.705	13.43%
60- 70	231.929	11.72%
70- 80	182.436	9.22%
80- 90	130.676	6.61%
90-100	90.567	4.58%
100-110	61.098	3.09%
110-120	39.436	1.99%
120-130	24.979	1.26%
130-140	15.206	0.77%
140-150	8.731	0.44%
150-160	4.745	0.24%
160-170	2.182	0.11%
170-180	0.587	0.03%
Total	1978.1	100%

γ(°)	Lumens	% Total
0- 60	1185.566	59.93%
60- 90	545.041	27.55%
0-90	1730.607	87.49%
90- 180	247.531	12.51%
0- 180	1978.1	100%

Table 5: Zonal Lumen Data

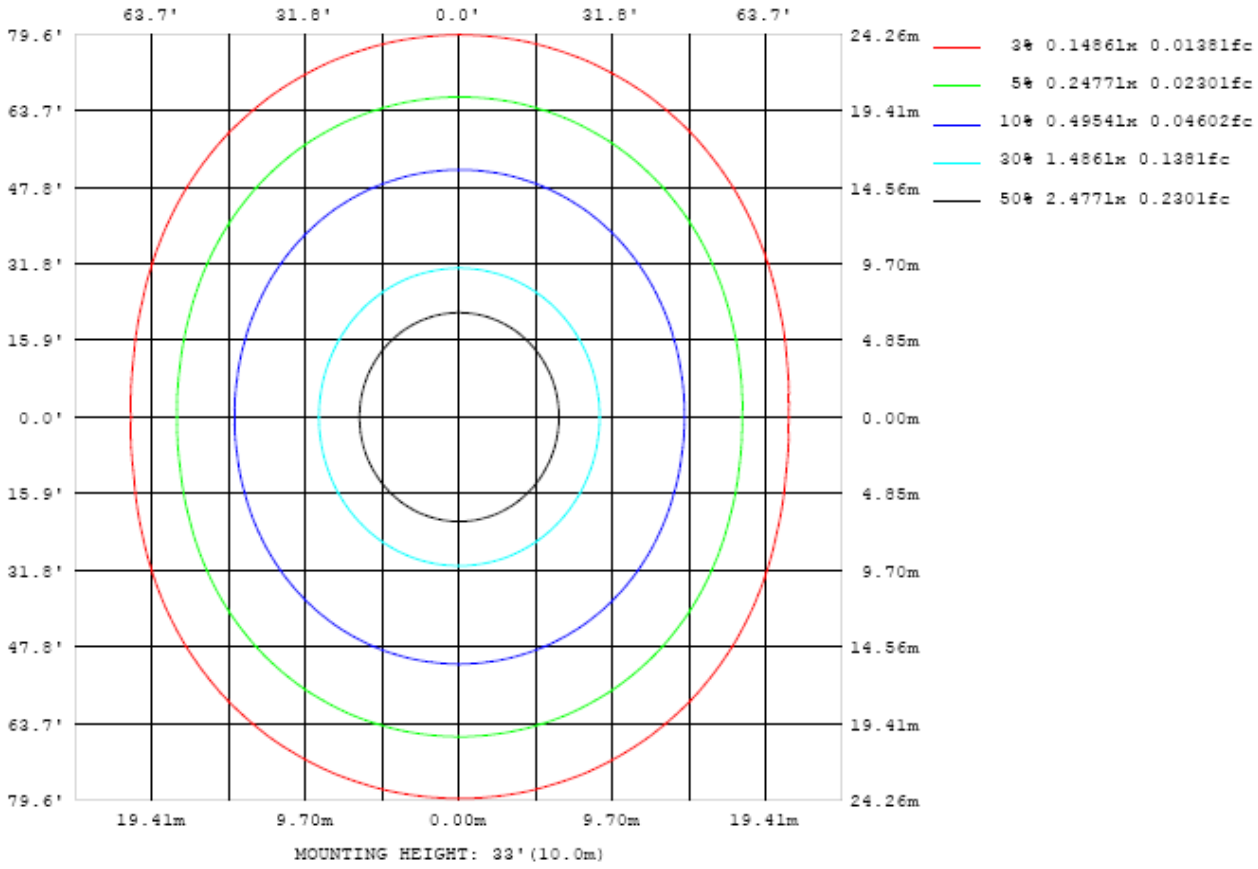


Chart 4: Illuminance Plot (Footcandles)

Luminous Intensity Distribution Plots- Goniophotometer Method

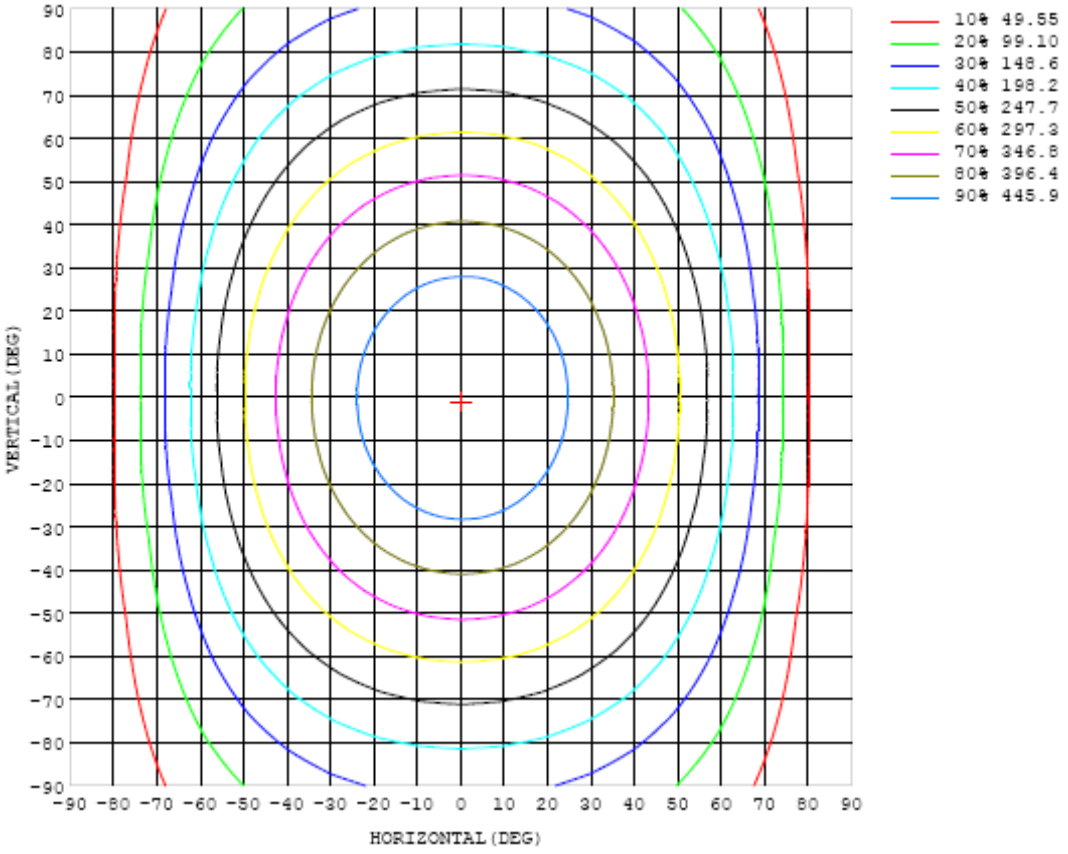


Chart 5: Isocandela Plot

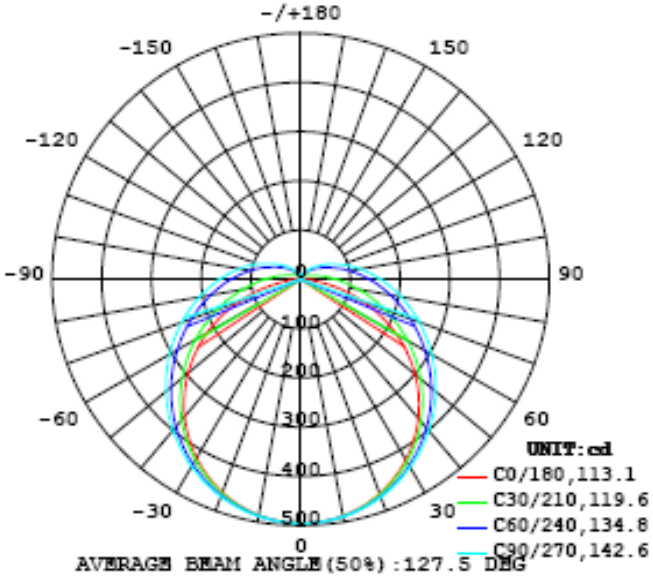


Chart 6: Polar Candela Distribution

Luminous Intensity Data- Goniophotometer Method

Table--1 UNIT: cd

γ (DEG) \ C (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495
5	494	494	494	494	494	494	494	494	494	494	494	494	494	494	493	493	493	493	493
10	488	488	488	488	489	489	489	489	489	489	489	489	488	488	487	487	487	486	486
15	477	477	478	479	479	480	481	481	481	481	481	480	480	479	478	477	476	476	475
20	463	463	464	465	466	468	469	470	470	470	470	469	468	466	464	463	462	461	460
25	445	445	446	448	450	452	454	456	456	457	456	455	453	450	448	445	443	442	441
30	423	423	425	427	430	433	436	438	440	440	439	437	435	431	428	424	422	420	419
35	397	398	400	403	408	412	416	419	421	421	420	418	414	410	405	400	396	394	393
40	368	369	372	376	382	388	393	397	400	400	399	396	392	386	379	373	368	365	363
45	335	337	341	347	354	362	369	374	377	378	377	373	367	360	352	344	337	332	331
50	300	302	307	315	325	334	343	349	353	354	352	348	341	332	322	312	304	297	296
55	262	265	271	282	294	306	316	324	328	330	328	323	315	304	292	280	268	260	258
60	222	225	234	248	263	277	289	297	303	304	302	297	288	275	261	246	231	221	218
65	179	184	196	214	232	248	261	271	277	279	276	270	260	247	230	212	194	180	175
70	135	141	158	180	201	220	234	245	251	253	251	245	234	219	200	179	157	138	132
75	91.3	100	122	148	172	192	208	220	227	229	226	219	208	192	171	148	122	98.1	88.7
80	50.2	62.9	89.7	118	144	166	183	195	203	205	202	195	183	166	145	119	89.9	62.1	47.7
85	16.3	32.6	62.9	92.8	120	142	160	172	180	182	180	172	160	143	120	93.7	64.0	33.4	15.3
90	0.28	14.3	42.2	71.8	98.3	121	138	151	158	161	158	151	139	121	99.3	73.1	44.0	15.8	0.19
95	0.38	6.38	27.9	54.8	79.8	101	119	131	138	141	138	131	119	102	81.1	56.5	29.8	7.69	0.35
100	0.58	4.20	18.9	40.8	64.2	84.2	101	113	120	122	120	113	102	85.5	65.8	42.8	20.8	5.17	0.54
105	0.84	3.42	14.1	31.2	50.4	68.7	83.9	95.2	102	105	102	95.9	84.9	70.0	51.9	33.3	15.8	4.01	0.94
110	1.30	3.40	11.4	24.8	40.6	56.0	69.2	78.8	85.2	87.6	85.6	79.5	70.0	57.3	42.5	26.6	12.7	3.81	1.38
115	1.79	3.64	9.65	20.2	33.1	46.2	57.5	66.2	71.5	74.1	71.8	66.9	58.6	47.5	34.8	21.7	10.7	3.98	1.89
120	2.30	3.92	8.47	16.9	27.3	38.0	47.6	55.1	59.9	61.5	60.2	55.8	48.7	39.3	28.7	18.0	8.91	4.18	2.40
125	2.74	4.05	7.97	14.3	22.7	31.4	39.4	45.6	49.7	51.1	49.9	46.3	40.3	32.6	23.9	15.3	8.39	4.25	2.85
130	3.23	4.42	7.72	12.3	18.9	26.0	32.5	37.6	41.0	42.2	41.3	38.2	33.3	27.0	19.7	12.6	7.97	4.25	3.26
135	3.76	4.68	7.44	11.1	15.8	21.5	26.7	30.9	33.6	34.6	33.9	31.4	27.4	22.1	16.2	11.5	7.58	4.44	3.74
140	4.19	4.81	7.25	10.2	13.7	17.6	21.7	25.1	27.3	28.1	27.5	25.5	22.1	17.8	14.0	10.5	7.22	4.62	4.20
145	4.33	4.89	7.10	9.26	12.1	15.0	17.5	19.8	21.5	22.2	21.6	19.8	17.6	15.2	12.4	9.56	7.19	4.79	4.54
150	4.78	4.72	7.03	8.54	10.5	12.7	14.8	16.4	17.4	17.7	17.4	16.5	15.0	13.1	10.8	8.52	7.04	4.86	4.77
155	4.87	4.34	6.42	8.09	9.31	10.7	12.3	13.5	14.3	14.5	14.3	13.6	12.5	10.9	9.34	7.48	6.45	4.59	4.74
160	4.83	4.06	5.27	7.50	8.57	9.38	10.2	11.1	11.8	12.0	11.8	11.5	10.4	8.72	7.02	6.27	5.67	4.43	4.68
165	5.34	4.05	4.40	5.06	6.80	7.99	8.73	9.34	9.61	9.84	9.81	8.48	7.16	6.11	5.90	5.29	4.84	4.43	4.49
170	5.65	4.46	4.40	4.84	5.09	5.88	6.50	7.22	7.68	8.15	5.93	5.20	5.93	5.65	5.65	5.07	4.80	4.61	4.45
175	5.92	5.51	5.45	5.35	5.68	6.09	6.33	6.39	6.11	2.55	6.42	6.57	6.49	6.21	6.03	5.80	5.52	5.37	5.37
180	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93

Table 6: Luminous Intensity Data

Table--2 UNIT: cd

γ (DEG) \ C (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495	495		
5	493	493	493	493	493	493	493	493	494	494	494	494	494	494	494	494	494		
10	486	486	487	487	487	488	488	488	489	489	489	488	488	488	488	488	488		
15	475	476	477	477	478	479	480	480	480	480	480	480	479	479	478	478	478		
20	461	461	462	464	465	467	468	469	469	469	469	468	467	466	465	464	463		
25	442	443	445	447	449	452	453	455	455	456	455	453	451	450	448	446	445		
30	420	421	424	427	430	434	436	438	439	439	438	435	433	430	427	425	423		
35	394	396	399	404	409	413	417	419	420	420	418	415	411	407	403	400	398		
40	365	368	373	378	385	391	395	398	400	399	397	393	388	382	377	372	369		
45	333	337	343	351	359	366	372	376	378	377	374	369	362	355	347	341	337		
50	298	303	311	321	331	341	347	352	354	353	349	343	335	325	316	308	303		
55	261	268	279	291	303	314	322	327	330	328	324	316	306	295	283	273	266		
60	221	231	245	260	274	287	296	302	305	303	298	289	278	264	249	236	226		
65	180	193	211	229	246	260	271	277	280	278	272	262	249	233	215	198	185		
70	139	157	178	199	218	234	245	252	255	253	246	236	221	203	182	161	144		
75	98.6	121	147	171	191	208	220	228	230	228	221	210	194	174	151	126	103		
80	61.7	89.4	119	145	167	184	196	204	207	205	198	186	169	148	122	93.2	65.7		
85	32.6	63.2	93.7	121	144	162	174	181	184	182	175	163	146	123	96.4	66.1	35.7		
90	15.5	43.5	73.2	100	123	141	153	161	164	161	154	142	124	102	75.2	45.5	17.1		
95	7.39	29.9	56.7	82.1	104	121	134	141	144	142	134	122	105	83.5	58.2	31.1	7.89		
100	4.88	20.7	43.3	66.9	87.4	104	116	123	125	123	116	105	88.3	67.9	44.4	21.1	4.86		
105	4.25	15.5	33.4	53.0	72.1	87.8	99.1	106	108	106	99.6	88.4	72.9	53.8	33.7	15.4	3.73		
110	4.14	12.5	26.7	42.9	58.5	71.8	82.5	89.2	91.6	89.5	83.0	72.2	58.6	42.8	26.5	12.0	3.75		
115	4.31	10.8	21.9	35.1	48.2	59.6	68.2	73.6	75.4	73.6	68.2	59.5	48.1	34.9	21.4	9.96	3.95		
120	4.57	9.52	18.4	29.1	40.0	49.6	56.9	61.4	63.0	61.4	56.8	49.4	39.6	28.6	17.6	8.29	4.09		
125	4.86	8.78	15.6	24.3	33.1	41.1	47.2	51.1	52.5	51.1	47.1	40.8	32.7	23.6	14.6	7.89	4.51		
130	5.19	8.29	13.3	20.3	27.4	34.0	39.0	42.3	43.4	42.2	38.8	33.6	27.0	19.7	12.0	7.60	5.01		
135	5.50	7.94	11.7	17.1	22.8	28.0	32.1	34.7	35.6	34.6	31.8	27.6	22.3	16.0	10.7	7.51	5.39		
140	5.89	7.99	10.7	14.2	18.9	23.0	26.2	28.2	28.9	28.1	25.9	22.5	18.1	13.1	9.96	7.66	5.66		
145	6.08	7.70	9.99	12.4	15.2	18.5	21.1	22.7	23.2	22.5	20.7	17.8	14.2	11.6	9.60	7.60	5.81		
150	6.24	7.55	9.32	11.3	12.9	14.6	16.4	17.5	17.9	17.3	15.9	14.0	12.4	11.0	9.24	7.62	6.25		
155	6.28	7.29	8.38	10.1	11.6	12.6	13.4	13.9	14.0	13.8	13.2	12.5	11.5	10.2	8.79	7.62	6.63		
160	5.83	6.84	7.50	8.94	10.1	11.0	11.7	12.1	12.2	12.1	11.8	11.1	10.3	9.34	8.43	7.62	6.88		
165	5.04	5.95	6.68	7.28	8.64	9.42	9.83	10.1	10.3	10.2	10.0	9.69	9.23	8.66	8.11	7.72	6.99		
170	4.70	5.26	5.59	6.02	6.57	7.49	8.22	8.56	8.65	8.69	8.63	8.48	8.28	8.06	7.77	7.31	6.60		
175	5.28	5.31	5.24	5.10	5.17	5.60	6.11	6.83	7.52	7.70	7.72	7.71	7.60	7.34	6.99	6.64	6.38		
180	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93		

Table 7: Luminous Intensity Data

EQUIPMENT LIST

Test Equipment	Model	Equipment No.	Calibration Date	Calibration Due date
Goniophotometer system	GO-R5000	HZTE011-01	Aug. 23, 2017	Aug. 22, 2018
Digital Power Meter	PF2010A	HZTE028-01	Aug. 10, 2017	Aug. 09, 2018
AC Power Supply	DPS1060	HZTE001-06	Aug. 10, 2017	Aug. 09, 2018
DC Power Supply	WY12010	HZTE004-03	Aug. 10, 2017	Aug. 09, 2018
Temperature recorder	JM624U	HZTE018-08	Aug. 17, 2017	Aug. 16, 2018
Temperature and humidity recorder	JR900	HZTE018-01	Aug. 16, 2017	Aug. 15, 2018
Standard source	D908	HZTE012-01	Aug. 20, 2017	Aug. 19, 2018
Integrate Sphere system	2M	HZTE015-01	Aug. 23, 2017	Aug. 22, 2018
Digital Power Meter	WT210	HZTE008-01	Aug. 10, 2017	Aug. 09, 2018
AC Power Supply	PCR 500L	HZTE001-07	Aug. 10, 2017	Aug. 09, 2018
DC Power Supply	IT6154	HZTE004-04	Aug. 10, 2017	Aug. 09, 2018
Standard source	SCL-1400	HZTE012-02	Aug. 20, 2017	Aug. 19, 2018
Temperature and humidity recorder	JR900	HZTE018-02	Aug. 16, 2017	Aug. 15, 2018
Temperature Meter	TES1310	HZTE017-01	Aug. 17, 2017	Aug. 16, 2018

Table 8: Test Equipment List

TEST METHODS

Seasoning of SSL Product

For the purpose of rating new SSL products, SSL products shall be tested with no seasoning.
Therefore, no seasoning was performed.

Sphere-Spectroradiometer Method- Photometric and Electrical Measurements

A Labsphere Model CDS 2100 Spectroradiometer and Two Meter Sphere was used to measure correlated color temperature, chromaticity coordinates, and the color rendering index for each SSL unit. The coating reflectance of each sphere is 98%. The measure geometry is 4π. Self-absorption correction is conducted in testing. Bandwidth of spectroradiometer is 350nm-1050nm.

Ambient temperature was measured at a position inside the sphere. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation.

The stabilization time typically ranges from 30 min (small integrated LED lamps) to 2 or more hours for large SSL luminaires). It can be judged that stability is reached when the variation (maximum – minimum) of at least 3 readings of the light output and electrical power over a period of 30 min, taken 15 minutes apart, is less than 0.5 %.

Electrical measurements including voltage, current, and power were measured using the Yokogawa Power Analyzer.

The standard reference of the integrated sphere system is halogen incandescent lamp, the intensity distribution type is omni-directional, and is traceable to the National Institute of Standards and Technology.

The uncertainty of integrating sphere system reported in this document is expended uncertainty is 2.1% with a coverage factor k=2.

Goniophotometer Method

Photometric and Electrical Measurements

An EVERFINE Type C Model GO-R5000 Goniophotometer was used to measure the intensity at each angle of distribution for each sample. The photometric distance is 2.475m for near-field measurement or 30m for far-field measurement. Bandwidth of spectroradiometer is 380nm-780nm.
Ambient temperature was measured at the same height of the sample mounted on the Goniophotometer equipment. Each SSL unit was operated on the client provided driver at the rated input voltage in its designated orientation.
The stabilization time typically ranges from 30 min (small integrated LED lamps) to 2 or more hours for large SSL luminaires). It can be judged that stability is reached when the variation (maximum – minimum) of at least 3 readings of the light output and electrical power over a period of 30 min, taken 15 minutes apart, is less than 0.5 %.
Electrical measurements including voltage, current, and power were measured using the Everfine Digital Power Meter.
Some graphics were created with Photometric Plus software.
The standard reference of the Goniophotometer system is halogen incandescent lamp, the intensity distribution type is omni-directional, and is traceable to the National Institute of Metrology P.R. China.
The uncertainty of goniophotometer system reported in this document is expended uncertainty is 2.3% with a coverage factor k=2.

Color Characteristics Measurements

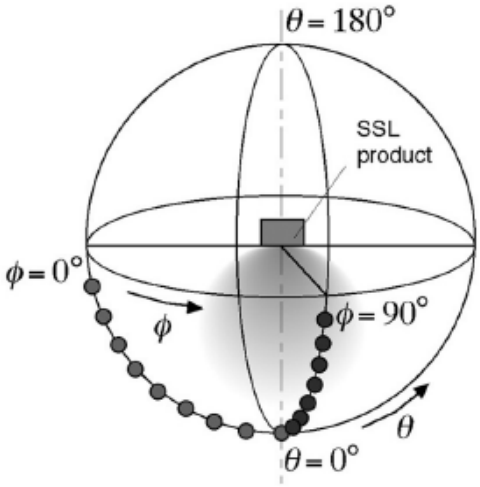
The color characteristics of SSL products include chromaticity coordinates, correlated color temperature, and color rendering index. These characteristics of SSL products may be spatially non-uniform, and thus, in order that they can be specified accurately, the color quantities shall be measured as values that are spatially average, weighted to intensity, over the angular range where light is intentionally emitted from the SSL product. The color characteristics measurements are using gonio-spectroradiometer.

Color Spatial Uniformity

The characteristics of SSL products may be spatially non-uniform, the chromaticity coordinate shall be measured at two vertical planes (C=0°/180° and C=90°/270°) and at 10° or less intervals for vertical angle until the light output dropped to below 10% of the peak intensity. The averaged weighted chromaticity coordinate

was calculated from these points. The data was then analyzed to check for delta color differences of the u', v' chromaticity coordinates. The spatial non-uniformity of chromaticity, Δu'v', is determined as the maximum deviation (distance on the CIE (u', v') diagram) among all measured points from the spatially averaged chromaticity coordinate.

The geometry for the chromaticity measurement using gonio-spectroradiometer is shown as following.



*** End of Report ***