



LM-79-08 Test Report

for

GREEN CREATIVE LTD

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

LED Tube System

Model: 9.5T5HE/2F/830/EXT/A4

(LED tube model: 9.5T5HE/2F/830/EXT 4pcs and LED driver model: 15T8T5HEDRIVER/4CH 1pcs)

Laboratory: Leading Testing Laboratories

NVLAP CODE: 200960-0

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Report No.: HZ18080024p

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

Review by:

Engineer: April Zou
Aug. 28, 2018

Approved by:



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: **9.5T5HE/2F/830/EXT/A4**

Luminous Efficacy (Lumens /Watt)	Luminous Flux per lamp (Lumens)	Power (Watts)/4	Power Factor
118.4	1320.0	11.15	0.9962
CCT (K)	CRI	Stabilization Time (Light & Power)	
2920	82.2	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

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Sample Photos

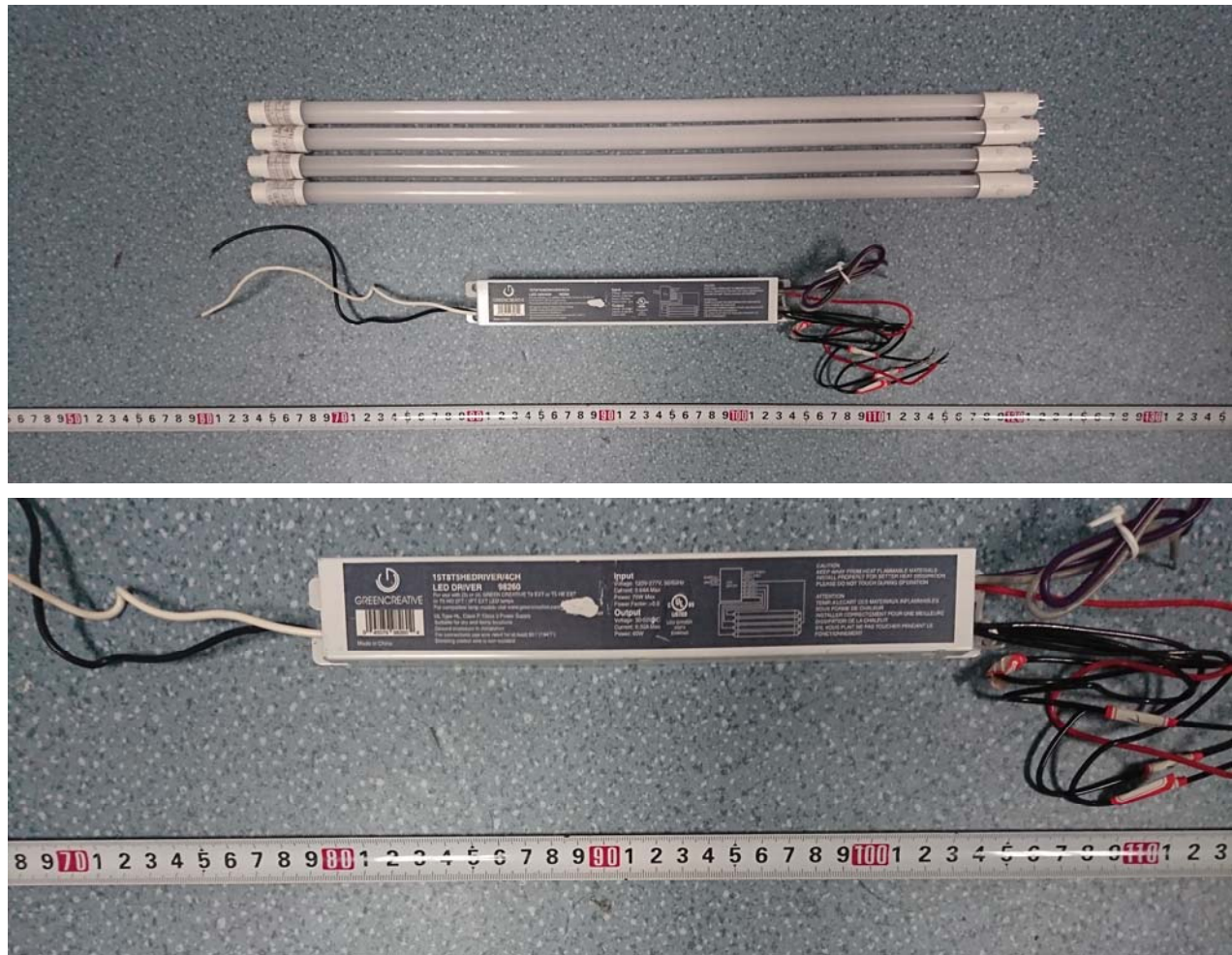


Figure 1- Overview of the sample

Equipment Under Test (EUT)

Name	: LED Tube System
Model	: 9.5T5HE/2F/830/EXT/A4
Electrical Ratings	: 120-277V, 50/60Hz
Product Description	: 3000K LED tube model: 9.5T5HE/2F/830/EXT 4 LED tubes supplied by a LED driver: 15T8T5HEDRIVER/4CH
Manufacturer	: GREEN CREATIVE LTD
Address	: 756 North Zhongshan Rd., Unit B301 Zhabei District, Shanghai

TEST RESULTS

Test ambient temperature was 25.0°C.

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)	0.373	0.169
Power Factor	0.9962	0.9471
Test Power (W)/4	11.15	11.10
THD A%	3.77	7.27
Luminous Efficacy (lm/W)	118.4	118.9
Luminous Flux per lamp (lm)	1320.0	1320.0
Color Rendering Index (CRI)	82.2	
R9	5.3	
Correlated Color Temperature (CCT)(K)	2920	
Chromaticity Chroma x	0.4423	
Chromaticity Chroma y	0.4053	
Chromaticity Chroma u	0.2535	
Chromaticity Chroma v	0.3485	
Duv	0.0005	
Chromaticity Chroma u'	0.2535	
Chromaticity Chroma v'	0.5227	

Special Color Rendering Indices	
R1	81
R2	92.3
R3	94.5
R4	79.5
R5	81.4
R6	91.2
R7	81.1
R8	57
R9	5.3
R10	82.6
R11	79
R12	73.4
R13	83.9
R14	97.6
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 25.0°C.

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)	0.373
Power Factor	0.9963
Test Power (W)/4	11.16
Luminous Efficacy (lm/W)	116.8
Luminous Flux per lamp (lm)	1303.2
Beam Angle (°)	116.5
Center Beam Candle Power (cd)	367
Spacing Criteria	1.19 (0°-180°)/ 1.30 (90°-270°)
Zonal Lumens in the 0°-60°Zone	63.75%
Zonal Lumens in the 60°-90°Zone	25.78%
Zonal Lumens in the 90°-120°Zone	7.88%
Zonal Lumens in the 120°-180°Zone	2.59%

Table 3: Test data per Goniophotometer Method

Spectral Power Distribution - Sphere Spectroradiometer Method

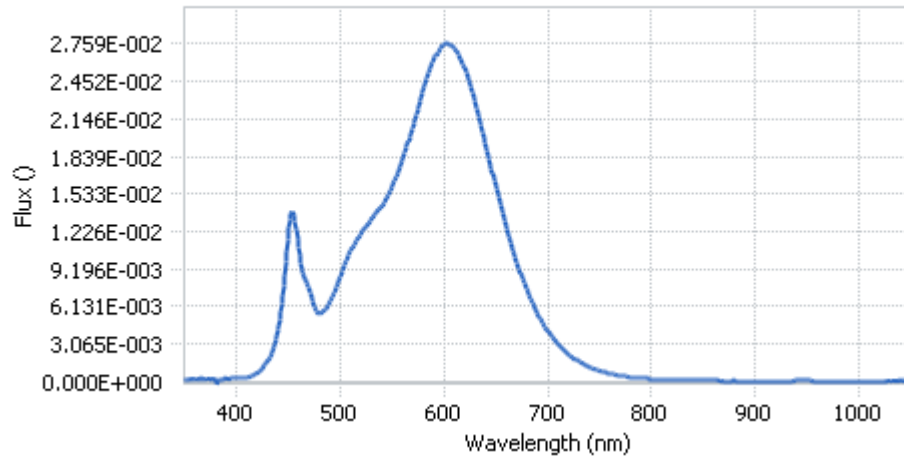


Chart 1: Spectral Power Distribution

Spectral Distribution over Visible Wavelength							
WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)
380	1.62E-04	485	5.82E-03	590	2.62E-02	695	4.83E-03
385	1.81E-04	490	6.47E-03	595	2.71E-02	700	4.13E-03
390	2.11E-04	495	7.37E-03	600	2.75E-02	705	3.55E-03
395	2.18E-04	500	8.49E-03	605	2.76E-02	710	3.02E-03
400	2.29E-04	505	9.63E-03	610	2.73E-02	715	2.59E-03
405	2.51E-04	510	1.06E-02	615	2.66E-02	720	2.22E-03
410	3.17E-04	515	1.14E-02	620	2.56E-02	725	1.90E-03
415	4.27E-04	520	1.21E-02	625	2.43E-02	730	1.63E-03
420	6.40E-04	525	1.27E-02	630	2.28E-02	735	1.39E-03
425	1.02E-03	530	1.32E-02	635	2.13E-02	740	1.18E-03
430	1.61E-03	535	1.37E-02	640	1.95E-02	745	1.01E-03
435	2.57E-03	540	1.43E-02	645	1.77E-02	750	8.60E-04
440	4.17E-03	545	1.51E-02	650	1.60E-02	755	7.43E-04
445	7.01E-03	550	1.59E-02	655	1.43E-02	760	6.38E-04
450	1.16E-02	555	1.69E-02	660	1.28E-02	765	5.48E-04
455	1.39E-02	560	1.80E-02	665	1.13E-02	770	4.68E-04
460	1.10E-02	565	1.94E-02	670	9.84E-03	775	3.99E-04
465	8.60E-03	570	2.08E-02	675	8.60E-03	780	3.48E-04
470	7.67E-03	575	2.23E-02	680	7.49E-03		
475	6.26E-03	580	2.38E-02	685	6.50E-03		
480	5.54E-03	585	2.52E-02	690	5.60E-03		

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

Chromaticity Diagram - Sphere Spectroradiometer Method

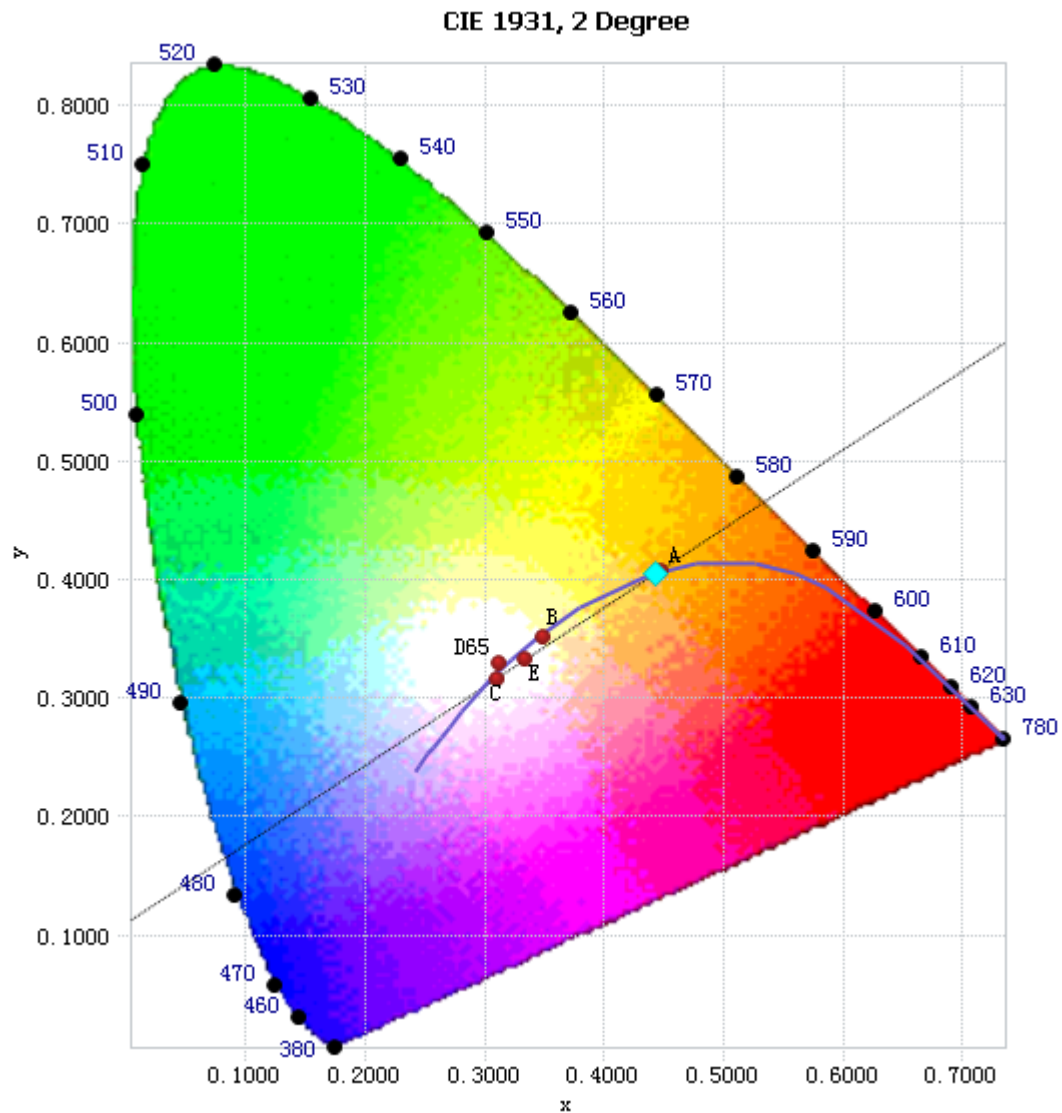


Chart 2: Chromaticity Diagram per Sphere - Spectroradiometer Method

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

Nominal CCT Quadrangles – Sphere Spectroradiometer Method

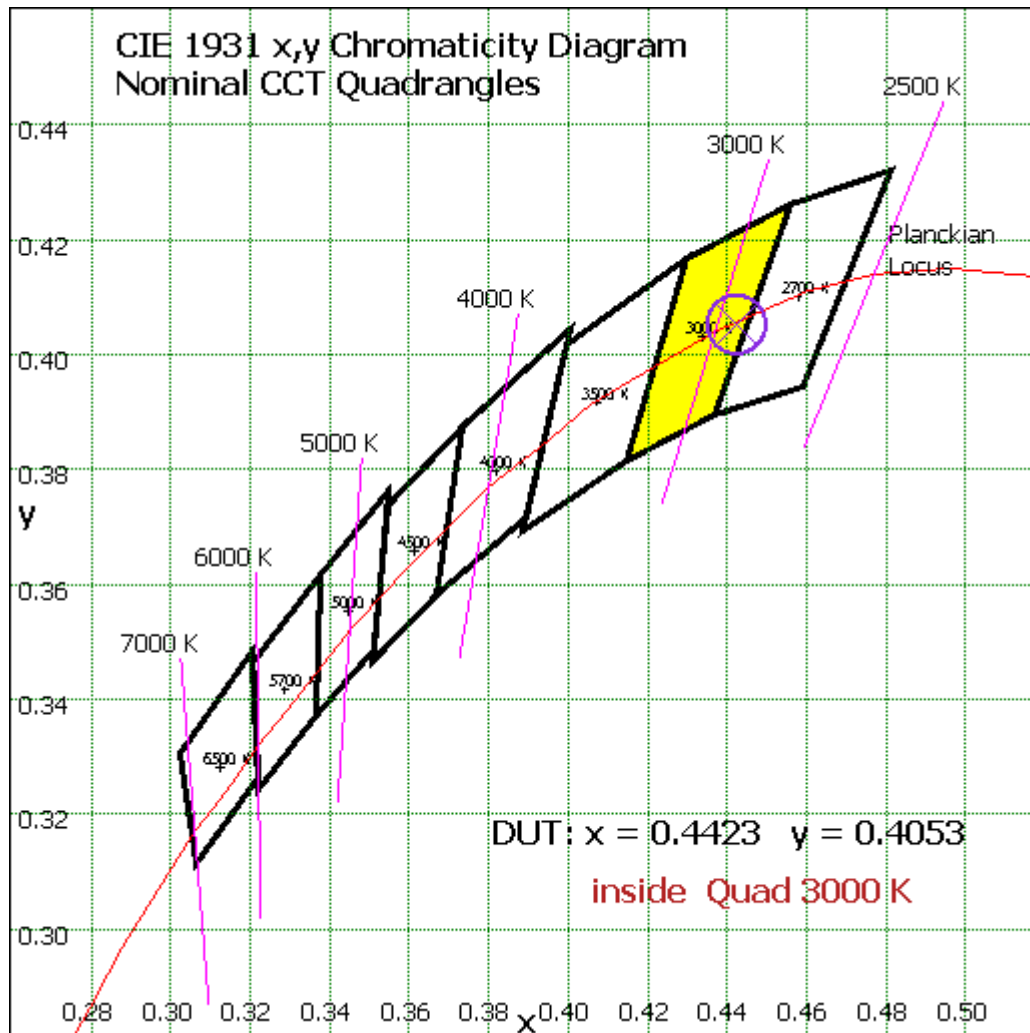


Chart 3: Plot of Lamp x/y coordinates on CIE 1931 Chromaticity Diagram

Zonal Lumen Tabulation- Goniophotometer Method

$\gamma(^{\circ})$	Lumens	% Total
0- 10	34.644	2.66%
10- 20	99.099	7.60%
20- 30	149.932	11.51%
30- 40	180.872	13.88%
40- 50	189.33	14.53%
50- 60	176.843	13.57%
60- 70	148.432	11.39%
70- 80	111.61	8.56%
80- 90	75.95	5.83%
90-100	50.082	3.84%
100-110	32.391	2.49%
110-120	20.231	1.55%
120-130	13.362	1.03%
130-140	8.908	0.68%
140-150	5.755	0.44%
150-160	3.46	0.27%
160-170	1.801	0.14%
170-180	0.462	0.04%
Total	1303.2	100%

$\gamma(^{\circ})$	Lumens	% Total
0- 60	830.72	63.75%
60- 90	335.992	25.78%
0-90	1166.712	89.53%
90- 180	136.452	10.47%
0- 180	1303.2	100%

Table 5: Zonal Lumen Data

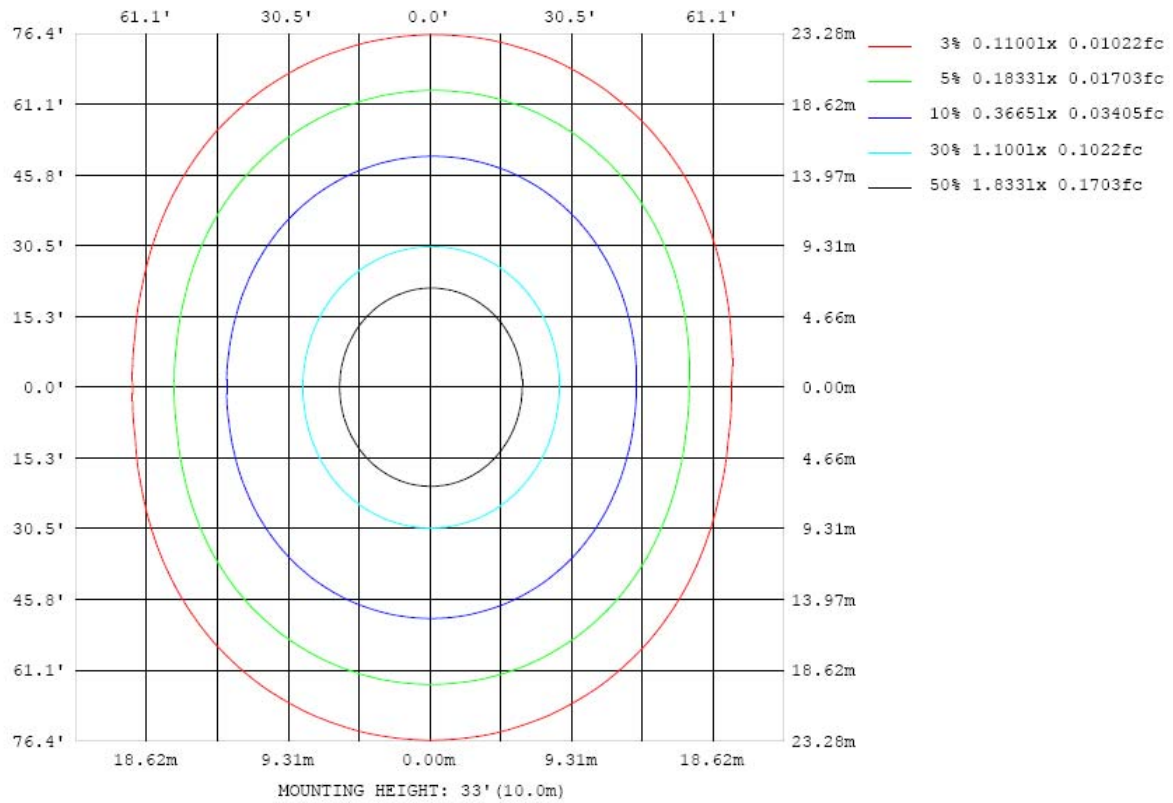


Chart 4: Illuminance Plot (Footcandles)

Luminous Intensity Distribution Plots- Goniophotometer Method

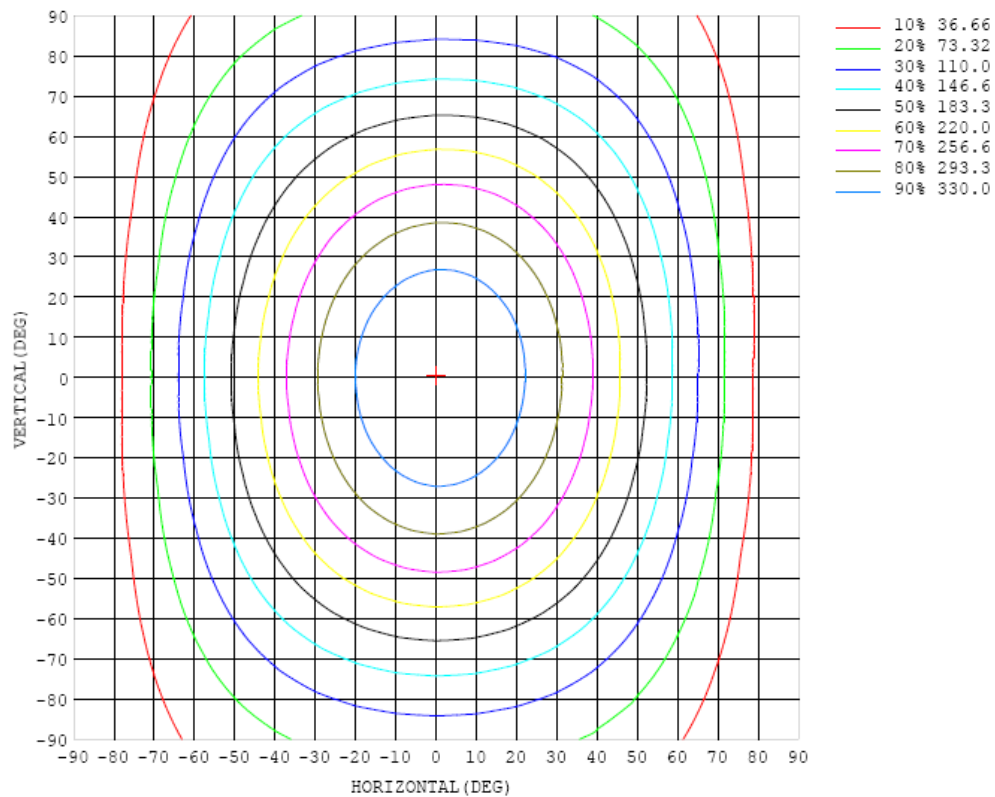


Chart 5: Isocandela Plot

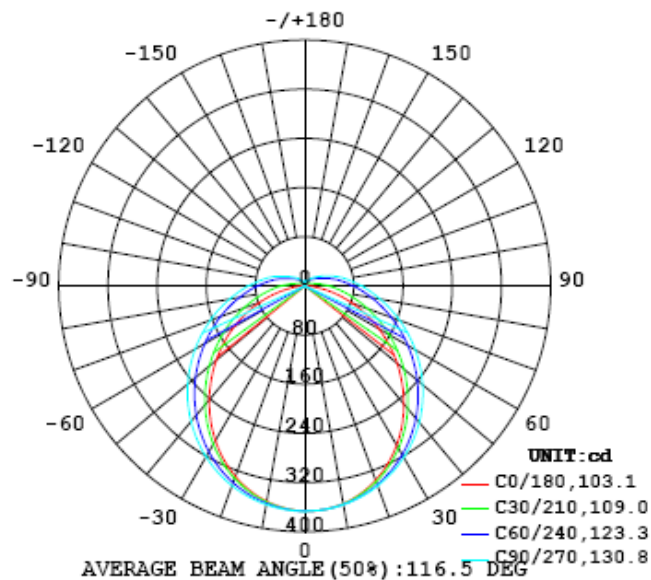


Chart 6: Polar Candela Distribution

Luminous Intensity Data- Goniophotometer Method

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367
5	365	365	365	365	365	365	365	365	365	365	365	365	364	364	364	363	363	363	363
10	360	360	360	360	361	361	361	361	361	361	361	360	359	359	358	357	357	356	356
15	350	350	351	351	352	353	354	355	355	355	354	353	352	350	349	347	346	345	345
20	337	337	338	339	341	343	344	346	346	346	345	344	341	339	336	334	332	330	330
25	320	320	321	323	326	329	332	334	335	335	334	332	329	325	321	317	314	312	312
30	299	300	302	305	309	313	317	320	322	322	321	318	313	308	303	298	294	291	291
35	276	277	279	284	289	295	300	304	306	307	305	302	296	290	283	277	272	268	267
40	251	252	255	261	267	275	281	286	289	290	288	283	277	270	262	254	247	243	242
45	224	225	229	236	244	253	260	266	270	271	269	264	257	248	239	230	222	216	215
50	196	197	202	210	220	230	239	246	249	250	248	243	235	226	215	205	196	189	188
55	167	169	175	184	195	207	216	224	228	229	227	221	213	203	191	179	169	162	160
60	139	141	148	158	171	183	194	201	206	207	205	200	191	180	167	154	143	134	133
65	110	112	121	133	147	160	171	179	184	186	183	178	169	158	144	131	117	107	105
70	81.9	84.6	94.9	109	124	138	150	158	163	164	162	157	148	137	123	108	93.2	81.2	77.1
75	55.3	58.9	72.2	87.3	103	118	129	138	142	144	142	137	128	117	103	87.1	71.4	57.3	50.9
80	30.4	35.5	50.8	68.2	84.5	98.9	110	119	123	125	123	118	110	98.8	84.9	69.3	52.3	36.0	27.3
85	10.8	17.4	34.0	52.0	68.9	82.5	93.6	101	106	107	106	101	93.5	82.8	69.8	54.1	36.8	19.8	8.90
90	0.98	7.06	22.0	39.0	55.0	69.0	78.9	86.3	90.7	92.2	90.6	86.3	79.2	69.5	56.8	41.7	25.4	10.0	0.37
95	0.36	2.53	14.1	29.1	43.8	56.6	66.6	73.2	77.4	78.9	77.5	73.5	67.3	57.9	46.0	32.0	17.4	5.03	0.41
100	0.46	1.90	8.79	21.0	34.5	46.4	55.7	62.4	66.4	67.8	66.5	62.8	56.6	47.9	36.8	23.9	11.9	3.50	0.57
105	0.71	1.69	6.80	15.2	25.9	36.7	45.7	52.2	56.0	57.4	56.2	52.7	46.8	38.5	28.2	18.2	9.13	3.00	0.86
110	1.10	2.13	5.62	12.4	20.4	28.6	36.0	41.9	45.6	47.0	46.0	42.7	37.3	30.7	22.9	14.8	7.75	3.13	1.24
115	1.48	2.47	5.00	10.4	17.0	23.6	29.5	34.1	37.0	38.1	37.5	35.0	30.9	25.4	19.0	12.5	6.93	3.22	1.65
120	1.88	2.69	4.78	9.03	14.4	19.9	24.8	28.6	31.0	32.0	31.4	29.4	26.0	21.5	16.2	11.0	6.30	3.50	2.08
125	2.29	3.21	4.73	8.06	12.5	16.9	21.0	24.2	26.2	27.0	26.5	24.8	22.0	18.3	14.1	9.86	6.14	3.57	2.46
130	2.70	3.78	4.93	7.38	10.9	14.6	17.9	20.5	22.3	23.0	22.6	21.1	18.8	15.7	12.3	8.82	5.86	3.96	2.81
135	3.12	4.30	5.12	6.72	9.61	12.7	15.4	17.5	19.0	19.6	19.2	18.1	16.2	13.7	10.9	8.08	5.39	4.27	3.27
140	3.54	4.69	4.63	6.26	8.62	10.8	13.2	15.0	16.2	16.6	16.4	15.5	14.0	11.9	9.71	7.49	5.32	4.61	3.68
145	3.91	4.87	4.49	5.97	8.03	9.70	11.2	12.3	13.5	14.0	13.8	13.0	11.8	10.4	8.62	6.60	5.33	4.53	3.94
150	4.30	4.81	5.38	5.26	6.63	8.50	9.75	10.7	11.5	11.8	11.6	11.1	10.1	8.99	7.12	6.08	5.48	4.63	4.19
155	4.67	4.66	5.46	5.32	5.96	7.11	7.87	8.94	9.73	9.95	9.83	9.25	7.83	7.38	6.38	5.45	5.39	4.36	4.40
160	5.05	4.38	5.11	5.84	6.12	6.37	7.10	7.56	8.08	8.28	8.10	7.60	6.90	5.95	5.65	5.71	4.77	4.00	4.40
165	5.25	3.95	4.61	5.35	6.11	6.84	7.07	6.76	6.56	6.32	5.95	5.78	6.04	6.35	6.04	4.85	3.94	3.77	3.97
170	4.44	3.86	3.98	4.06	4.21	5.39	6.57	7.04	7.23	7.28	7.19	6.79	5.49	4.39	4.19	3.78	3.68	3.81	3.79
175	3.80	3.82	3.81	3.82	3.83	3.82	3.96	4.03	4.79	3.41	3.15	3.47	3.52	3.53	3.59	3.64	3.64	3.67	3.70
180	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71

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	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367		
5	363	363	364	364	364	364	364	365	365	365	365	365	365	365	365	365	365		
10	356	357	357	358	359	359	360	361	361	361	361	361	361	361	360	360	360		
15	345	346	347	348	350	351	353	354	355	355	355	355	354	353	352	351	351		
20	331	332	334	336	338	341	343	345	346	346	346	345	343	342	340	339	337		
25	312	314	317	320	324	327	331	333	335	335	334	333	330	328	325	322	321		
30	291	294	297	302	307	312	316	319	321	321	320	318	314	311	307	303	301		
35	268	271	276	282	288	294	299	303	305	306	304	301	296	291	286	281	278		
40	243	247	252	260	267	275	281	285	288	288	286	282	276	270	263	257	253		
45	217	221	228	236	245	254	261	266	269	269	266	262	255	247	239	232	227		
50	189	195	203	212	223	232	240	245	248	248	246	240	232	223	214	205	200		
55	162	168	177	188	200	210	218	224	227	227	224	218	209	199	188	179	172		
60	135	142	153	165	177	188	197	203	206	206	202	196	186	175	163	153	144		
65	108	116	129	142	155	166	175	181	184	184	181	174	164	153	139	126	116		
70	80.9	91.7	106	121	134	146	155	160	163	163	160	153	143	130	116	101	89.2		
75	55.9	68.9	84.8	100	114	126	135	141	143	143	140	133	123	110	94.3	78.1	63.6		
80	33.8	49.2	66.3	82.4	96.3	108	116	122	124	124	121	114	104	90.7	75.0	57.7	40.9		
85	16.8	33.2	50.7	66.7	80.4	91.3	99.4	105	107	107	103	96.8	87.0	74.1	58.4	40.7	23.0		
90	6.88	21.7	38.1	53.4	66.5	76.9	84.5	89.4	91.6	91.1	87.9	81.6	72.3	59.9	44.8	27.8	11.3		
95	2.81	13.7	28.4	42.5	54.8	64.5	71.6	76.1	78.2	77.6	74.5	68.6	59.8	48.1	34.1	18.7	5.17		
100	1.94	8.88	20.1	33.4	44.8	53.9	60.6	64.7	66.6	66.0	63.1	57.5	49.2	38.3	25.1	12.0	3.22		
105	2.09	6.77	15.1	24.8	35.1	44.1	50.7	54.6	56.4	55.8	52.9	47.4	39.1	28.8	18.1	8.64	2.70		
110	2.38	5.78	12.1	19.9	27.7	34.4	40.0	44.0	45.7	45.0	42.0	36.8	30.2	22.4	14.1	6.81	2.83		
115	2.71	5.45	10.3	16.5	22.8	28.3	32.7	35.5	36.6	36.1	33.9	30.0	24.6	18.3	11.6	6.03	3.04		
120	3.10	5.32	9.08	13.9	19.1	23.7	27.3	29.6	30.6	30.1	28.2	25.0	20.5	15.2	9.78	5.76	3.38		
125	3.48	5.30	8.27	12.1	16.3	20.0	23.0	25.0	25.8	25.4	23.8	21.0	17.3	12.9	8.75	5.74	3.78		
130	3.82	5.30	7.64	10.6	13.9	17.1	19.5	21.2	21.8	21.5	20.2	17.9	14.8	11.3	8.16	5.75	4.19		
135	4.27	5.48	7.31	9.65	12.2	14.7	16.7	18.0	18.6	18.3	17.2	15.3	12.8	10.2	7.80	5.87	4.62		
140	4.73	5.71	7.12	8.92	10.9	12.7	14.3	15.4	15.9	15.6	14.6	13.1	11.3	9.34	7.49	6.02	5.05		
145	5.16	5.95	7.00	8.34	9.80	11.2	12.3	13.1	13.4	13.2	12.6	11.5	10.1	8.65	7.29	6.20	5.46		
150	5.50	6.00	6.70	7.61	8.94	9.94	10.8	11.3	11.6	11.4	10.9	10.1	9.17	8.13	7.16	6.38	5.85		
155	5.76	6.10	6.69	7.21	7.90	8.91	9.49	9.88	10.1	9.96	9.63	9.11	8.46	7.75	7.10	6.58	6.14		
160	5.72	6.31	6.63	7.03	7.30	7.64	8.46	8.72	8.85	8.82	8.63	8.31	7.92	7.49	7.08	6.78	6.38		
165	5.36	6.44	6.65	6.86	7.02	7.05	7.11	7.87	7.96	7.95	7.88	7.72	7.52	7.29	7.08	6.89	6.46		
170	4.29	4.94	5.39	5.81	6.48	6.85	6.74	6.66	6.83	7.28	7.36	7.28	7.20	7.12	7.02	6.40	5.00		
175	3.80	3.79	3.78	3.93	4.13	4.41	5.17	6.13	6.65	6.32	6.33	6.65	6.90	6.19	4.99	4.09	3.78		
180	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71		

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 expanded 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 expanded uncertainty is 2.3% with a coverage factor $k=2$.

Color Characteristics Measurements

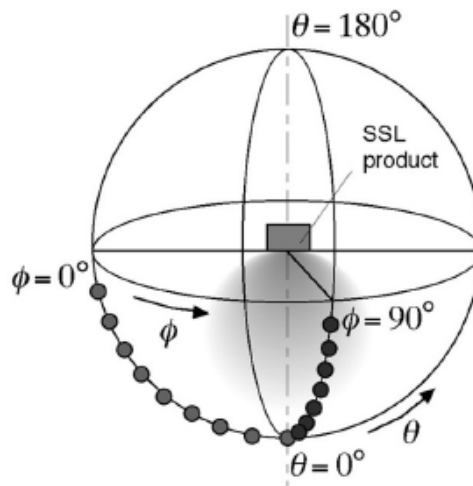
The color characteristics of SSL products include chromaticity coordinates, correlated color temperature, and color rendering index. These characteristics of SSL products may be spatially non-uniform, and thus, in order that they can be specified accurately, the color quantities shall be measured as 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 ($C=0^\circ/180^\circ$ and $C=90^\circ/270^\circ$) 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, $\Delta u'v'$, 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 ***

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