

LM-79-08 TEST REPORT

for

ESPEN TECHNOLOGY, INC.

12257 Florence Ave, Santa Fe Springs CA 90670, USA

LED Tube

Model: L48T8/835/10G-ID DE

Laboratory: Leading Testing Laboratories

NVLAP CODE: 200960-0

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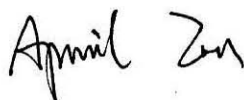
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www.ledtestlab.com

Report No.: HZ19030041e

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

Review by:



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Apr. 17, 2019

Approved by:



Manager: Jim Zhang
Apr. 17, 2019

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: **L48T8/835/10G-ID DE**

Luminous Efficacy (Lumens /Watt)	Total Luminous Flux (Lumens)	Power (Watts)	Power Factor
153.4	1727.0	11.26	0.9704
CCT (K)	CRI	Stabilization Time (Light & Power)	
3524	82.5	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	: Mar. 04, 2019
Date of Test	: Mar. 29, 2019
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 ANSI/IES TM-30-18 IES Method for Evaluating Light Source Color Rendition

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SAMPLE PHOTO



Figure 1- Overview of the sample

Equipment Under Test(EUT)

Name	: LED Tube
Model	: L48T8/835/10G-ID DE
Electrical Ratings	: 120-277V, 50/60Hz, 10.5W
Product Description	: G13 Base, 3500K

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 65 minutes.

Sphere-Spectroradiometer Method

Parameter	Result	
Test Voltage (V)	120.0	277.0
Voltage frequency (Hz)	60	60
Test Current (A)	0.097	0.044
Power Factor	0.9704	0.9179
Test Power (W)	11.26	11.28
THD A%	19.40	19.83
Luminous Efficacy (lm/W)	153.4	152.4
Total Luminous Flux (lm)	1727.0	1719.0
Color Rendering Index (CRI)	82.5	
R9	2.7	
Correlated Color Temperature (CCT)(K)	3524	
Chromaticity Chroma x	0.4040	
Chromaticity Chroma y	0.3905	
Chromaticity Chroma u	0.2350	
Chromaticity Chroma v	0.3406	
Duv	0	
Chromaticity Chroma u'	0.2350	
Chromaticity Chroma v'	0.5110	

Special Color Rendering Indices	
R1	80.9
R2	91.1
R3	95.8
R4	80.2
R5	81.3
R6	88.3
R7	83.1
R8	59.4
R9	2.7
R10	79.4
R11	79.6
R12	66.8
R13	83.6
R14	98.3
Rf	84
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°C.

The photometric distance is 30 m.

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)	0.096
Power Factor	0.9717
Power (W)	11.19
Luminous Efficacy (lm/W)	152.7
Total Luminous Flux (lm)	1708.3
Beam Angle (°)	104.4 (0°-180°) / 146.5 (90°-270°)
Center Beam Candle Power (cd)	399
Maximum Beam Candle Power (cd)	401.8 (At: C=290.0, Gamma=3.5)
Spacing Criteria	1.22 (0°-180°) / 1.36 (90°-270°)
Zonal Lumens in the 0°-60° Zone	54.69%
Zonal Lumens in the 60°-90° Zone	26.03%
Zonal Lumens in the 90°-120° Zone	12.40%
Zonal Lumens in the 120°-180° Zone	6.89%

Table 3: Test data per Goniophotometer Method

Spectral Power Distribution - Sphere Spectroradiometer Method

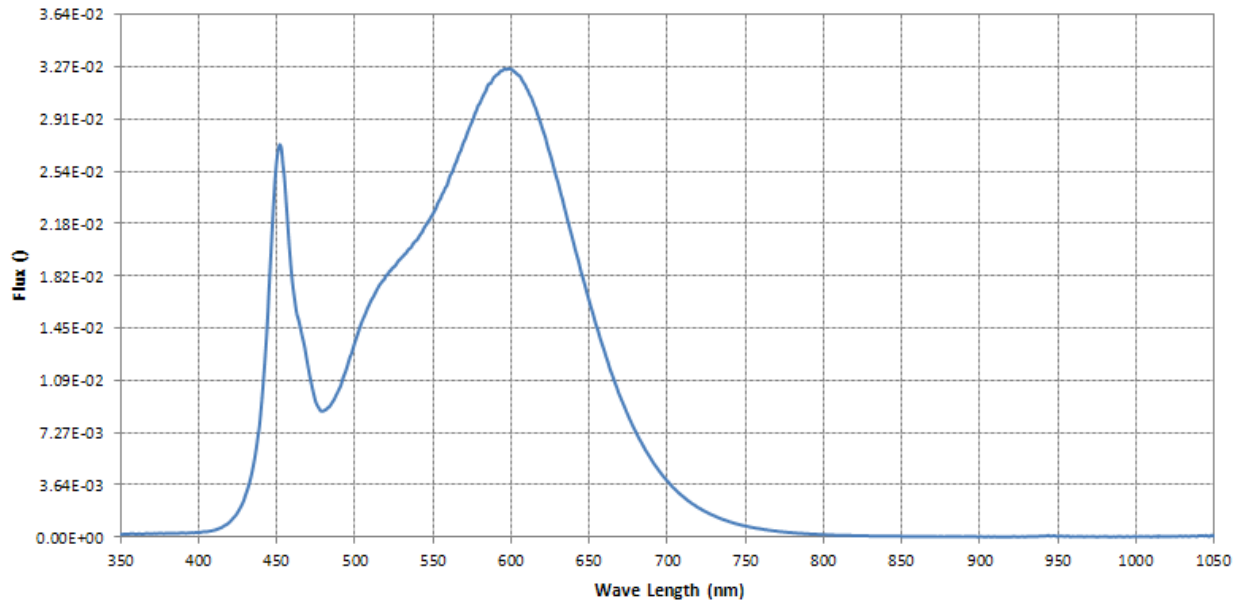
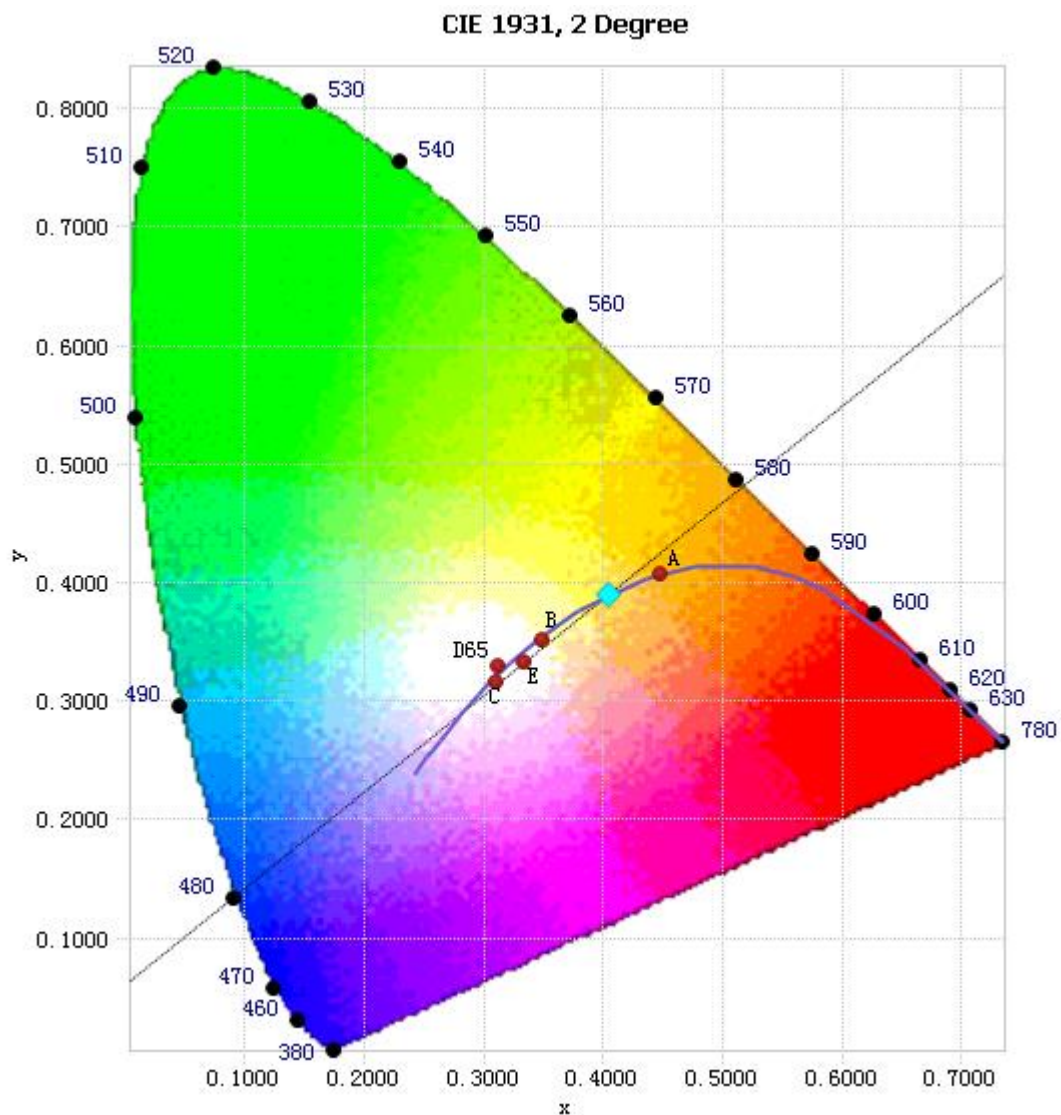


Chart 1: Spectral Power Distribution

Spectral Distribution over Visible Wavelength							
WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)	WL(nm)	Radiant(Watts)
380	2.83E-04	485	9.27E-03	590	3.21E-02	695	4.58E-03
385	2.70E-04	490	1.03E-02	595	3.25E-02	700	3.92E-03
390	2.93E-04	495	1.18E-02	600	3.25E-02	705	3.34E-03
395	3.06E-04	500	1.35E-02	605	3.21E-02	710	2.85E-03
400	3.28E-04	505	1.51E-02	610	3.12E-02	715	2.41E-03
405	3.80E-04	510	1.64E-02	615	3.00E-02	720	2.05E-03
410	4.83E-04	515	1.74E-02	620	2.85E-02	725	1.75E-03
415	6.79E-04	520	1.82E-02	625	2.67E-02	730	1.49E-03
420	1.06E-03	525	1.88E-02	630	2.47E-02	735	1.26E-03
425	1.71E-03	530	1.94E-02	635	2.26E-02	740	1.07E-03
430	2.89E-03	535	2.01E-02	640	2.05E-02	745	9.13E-04
435	4.92E-03	540	2.07E-02	645	1.84E-02	750	7.76E-04
440	8.87E-03	545	2.16E-02	650	1.65E-02	755	6.67E-04
445	1.68E-02	550	2.25E-02	655	1.46E-02	760	5.75E-04
450	2.61E-02	555	2.36E-02	660	1.29E-02	765	4.87E-04
455	2.50E-02	560	2.48E-02	665	1.12E-02	770	4.17E-04
460	1.78E-02	565	2.61E-02	670	9.76E-03	775	3.58E-04
465	1.47E-02	570	2.75E-02	675	8.46E-03	780	3.07E-04
470	1.20E-02	575	2.89E-02	680	7.29E-03		
475	9.43E-03	580	3.01E-02	685	6.28E-03		
480	8.78E-03	585	3.14E-02	690	5.38E-03		

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

Chromaticity Diagram - Sphere Spectroradiometer Method



Tristimulus values(x, y): (0.4040, 0.3905)

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

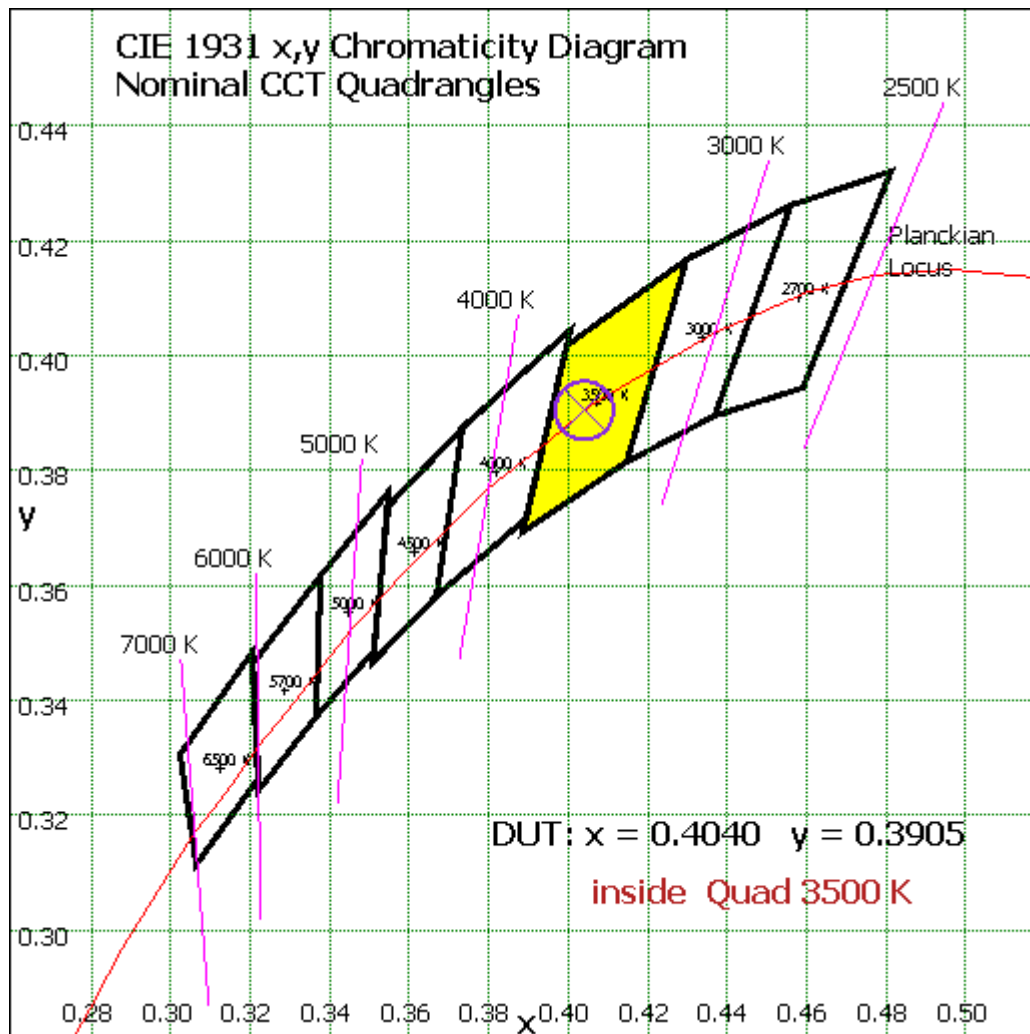
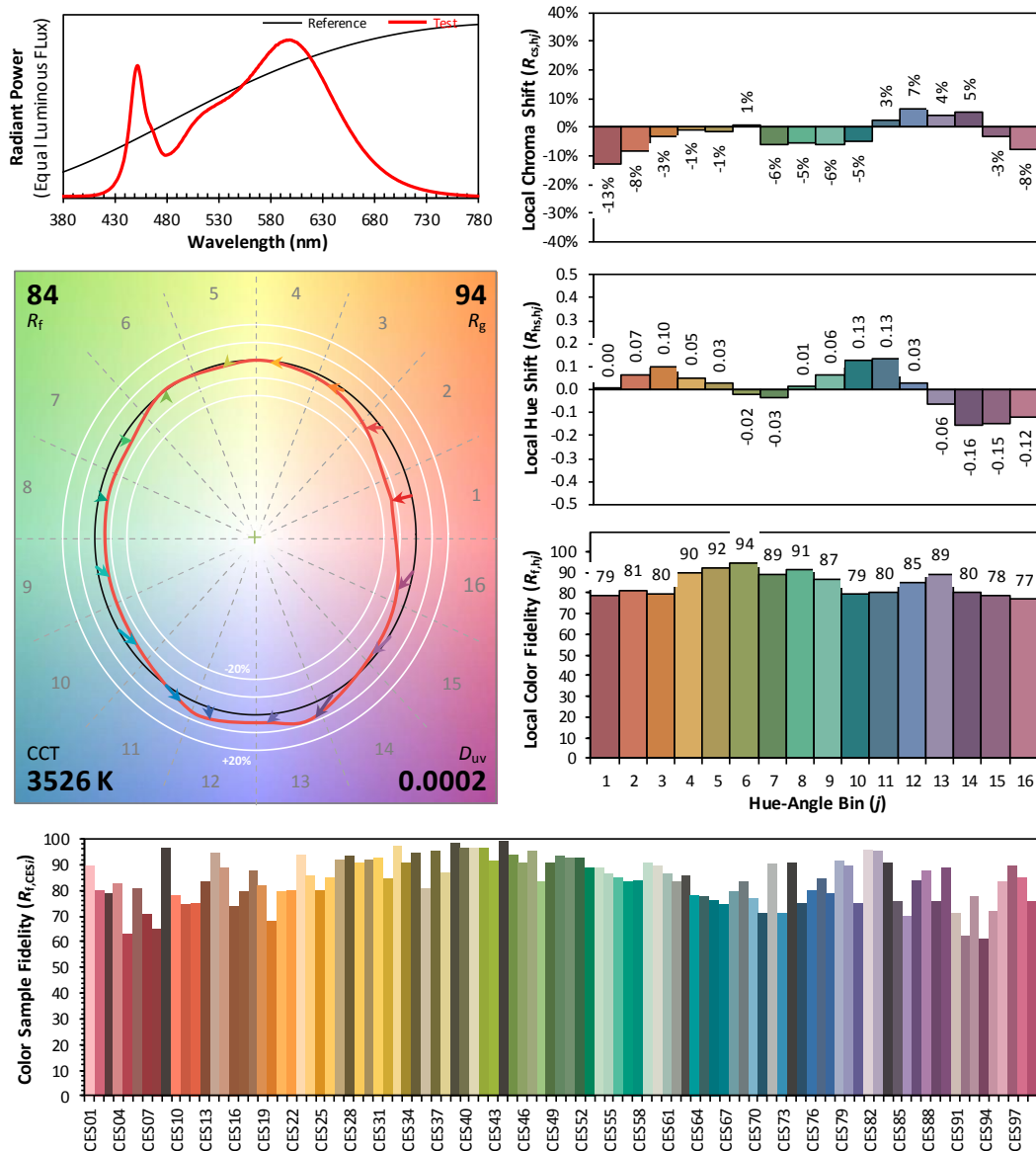


Chart 3: Plot of Lamp x/y coordinates on CIE 1931 Chromaticity Diagram

Color Rendition Report – Sphere Spectroradiometer Method



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

x 0.4040

y 0.3905

u' 0.2350

v' 0.5110

Chart 4: Full Report Created with the IES TM-30 Calculator

Note: The values in this diagram might be a little different from the values in Table 2 due to rounding.

Zonal Lumen Tabulation- Goniophotometer Method

$\gamma(^{\circ})$	Lumens	% Total
0- 10	37.868	2.22%
10- 20	108.773	6.37%
20- 30	165.606	9.69%
30- 40	201.636	11.80%
40- 50	214.377	12.55%
50- 60	205.91	12.05%
60- 70	181.33	10.61%
70- 80	148.166	8.67%
80- 90	115.083	6.74%
90-100	89.007	5.21%
100-110	69.154	4.05%
110-120	53.619	3.14%
120-130	41.315	2.42%
130-140	31.084	1.82%
140-150	22.088	1.29%
150-160	14.129	0.83%
160-170	7.115	0.42%
170-180	2	0.12%
Total	1708.3	100%

$\gamma(^{\circ})$	Lumens	% Total
0- 60	934.17	54.69%
60- 90	444.579	26.03%
0-90	1378.749	80.71%
90- 180	329.511	19.29%
0- 180	1708.3	100%

Table 5: Zonal Lumen

Illuminance Plots- Goniophotometer Method

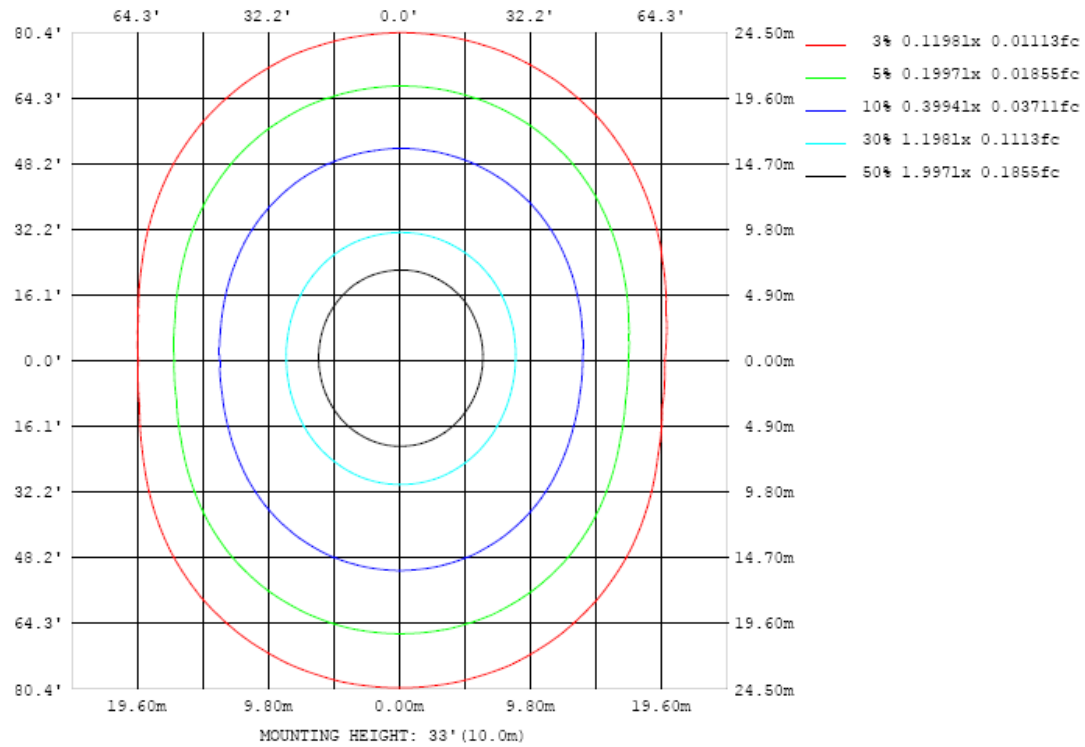


Chart 5: Illuminance Plot (Footcandles)

Luminous Intensity Distribution Plots- Goniophotometer Method

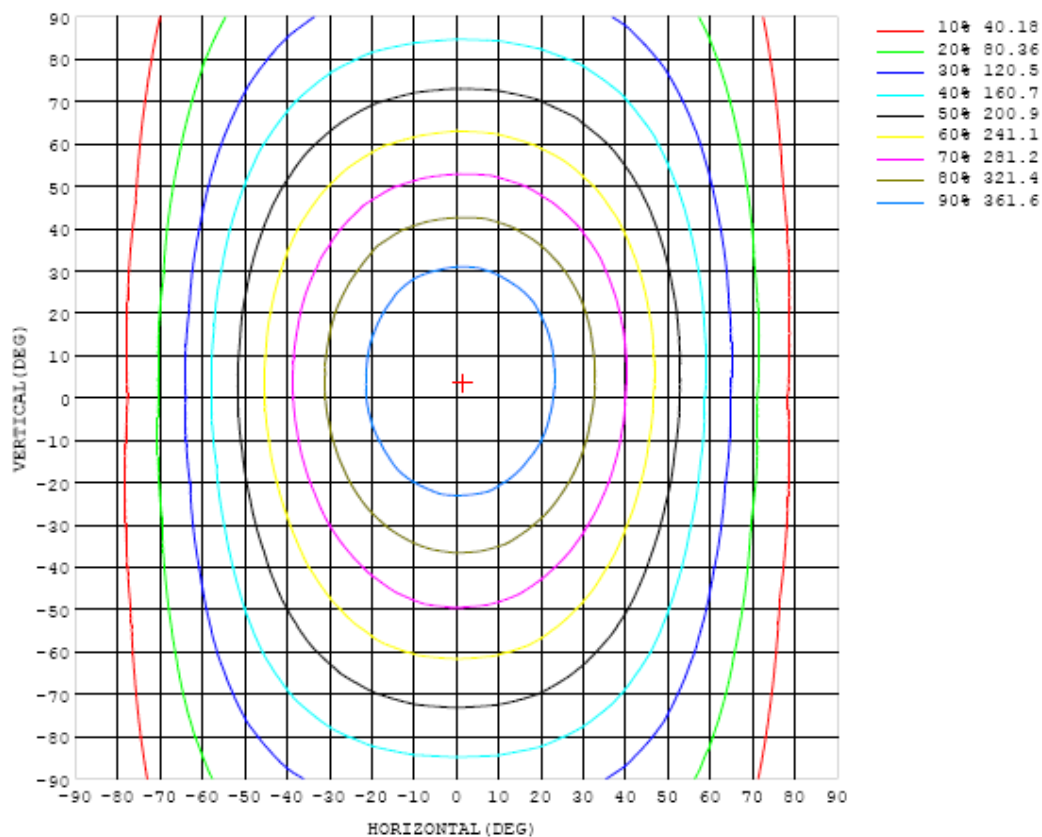


Chart 6: Isocandela Plot

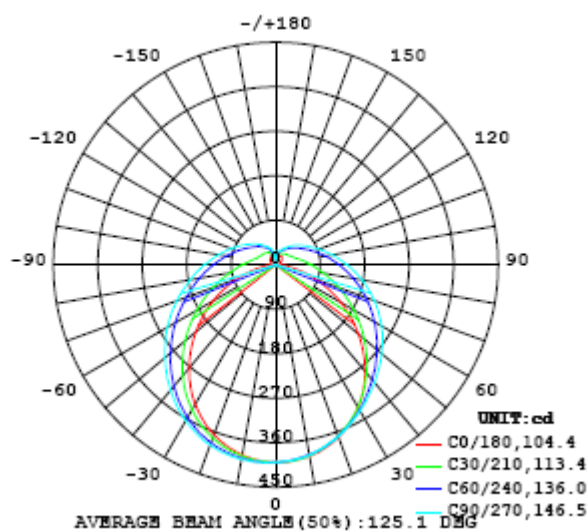


Chart 7: Polar Candela Distribution

Luminous Intensity Data- Goniophotometer Method

Table--1

UNIT: cd

C (DGG) y (DGG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399
5	398	398	398	398	398	397	396	396	397	397	397	396	396	396	396	396	397	397	397
10	394	393	392	392	391	390	390	391	391	391	390	389	390	390	389	389	389	390	391
15	384	383	382	382	381	382	382	382	382	381	381	380	380	379	378	378	378	379	380
20	372	370	369	369	369	370	370	370	370	370	370	368	367	367	365	364	364	365	366
25	354	352	352	352	352	354	355	356	357	356	356	354	353	351	349	347	346	346	347
30	333	331	332	333	334	337	339	341	342	341	341	339	336	333	329	327	325	325	326
35	309	307	307	310	313	318	322	325	326	326	325	322	319	315	309	304	301	299	301
40	281	280	282	286	291	298	303	309	311	311	311	306	301	294	287	279	274	272	273
45	250	249	253	260	269	277	286	292	295	296	294	290	283	274	264	254	247	242	243
50	218	218	224	234	246	257	267	275	279	280	279	273	265	254	242	229	218	212	211
55	185	186	194	208	223	237	249	258	263	264	262	256	247	235	220	204	190	180	179
60	152	154	165	182	201	217	230	241	246	247	245	240	229	216	199	180	162	149	147
65	119	122	138	158	179	197	212	223	229	230	228	222	212	197	179	157	136	119	114
70	86.9	93.2	112	136	159	179	194	206	211	212	211	205	193	179	159	136	112	91.4	83.1
75	57.8	66.7	89.6	116	141	161	176	188	193	195	193	187	177	161	141	118	91.4	67.1	54.3
80	31.6	43.6	70.7	98.5	124	144	159	171	176	177	176	170	160	145	125	101	73.9	46.1	29.2
85	10.7	25.9	55.3	83.6	109	128	143	154	160	160	159	154	144	130	110	87.2	59.7	30.5	9.29
90	0.60	15.7	43.9	71.8	95.0	114	128	138	143	144	143	138	129	115	97.4	75.3	48.8	21.0	0.45
95	1.33	11.0	36.0	61.9	83.8	101	115	124	128	129	128	124	115	103	86.5	65.5	40.8	15.9	1.29
100	3.18	10.2	30.0	53.4	74.1	90.0	102	111	115	116	115	111	103	91.5	76.4	57.0	34.7	14.2	3.04
105	5.41	10.9	26.7	46.4	65.1	79.7	90.9	98.6	103	104	103	98.9	91.6	81.2	67.6	50.0	30.7	14.0	5.31
110	7.76	12.2	25.0	41.4	57.5	71.3	80.9	87.7	91.6	92.7	91.7	88.1	81.8	72.8	60.0	44.5	28.6	14.5	7.59
115	9.91	12.8	23.9	37.9	51.4	63.4	72.7	78.5	81.9	83.0	82.0	78.9	73.5	64.9	53.8	40.7	27.4	16.1	10.1
120	12.0	13.9	23.8	35.1	46.9	56.9	64.8	70.7	73.8	75.0	74.1	71.2	65.8	58.4	48.8	37.8	26.2	17.3	12.3
125	14.0	15.5	24.1	32.8	43.0	51.8	58.7	63.6	66.4	67.3	66.7	64.1	59.5	53.1	44.8	35.5	25.7	17.9	14.0
130	16.1	17.2	23.6	31.3	39.6	47.2	53.3	57.7	60.2	60.9	60.4	58.2	54.1	48.5	41.6	33.2	25.8	18.1	14.9
135	17.9	18.5	23.0	30.3	36.6	43.2	48.5	52.4	54.6	55.3	54.8	52.8	49.3	44.4	38.2	31.3	25.7	18.8	15.8
140	19.4	19.8	23.0	29.1	34.2	39.3	44.0	47.5	49.4	50.1	49.7	47.9	44.6	40.3	35.1	30.2	25.1	19.5	16.6
145	20.4	20.7	23.1	27.7	32.4	36.1	39.5	42.6	44.3	44.8	44.6	42.9	40.1	36.5	32.9	29.2	24.2	20.5	17.7
150	20.9	21.4	23.2	26.0	30.2	33.6	35.9	38.1	39.2	39.6	39.4	38.1	36.1	33.8	31.1	27.8	23.3	21.2	18.7
155	19.6	21.1	23.6	25.1	27.7	30.6	32.9	34.7	35.5	35.6	35.4	34.7	33.3	31.5	29.4	25.2	22.2	21.4	18.8
160	17.6	21.2	24.3	24.8	26.1	27.9	29.8	31.3	32.0	32.2	32.1	31.5	30.5	29.2	27.2	24.3	21.2	19.1	17.6
165	16.1	18.4	23.8	25.2	25.4	26.3	27.4	28.3	28.8	28.9	28.9	28.6	28.0	26.8	23.3	19.5	18.0	17.5	15.8
170	15.4	16.4	20.9	24.3	24.8	25.4	25.9	26.2	26.4	26.3	26.4	26.4	24.7	20.9	17.5	16.7	18.1	17.2	14.8
175	18.6	18.8	19.5	20.1	22.0	23.8	24.8	25.7	26.0	25.8	26.0	23.0	17.8	15.6	16.5	18.2	18.4	18.8	18.7
180	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0

Table 6: Luminous Intensity Data

Table--2

UNIT: cd

C (DGG) y (DGG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399	399		
5	397	398	398	399	400	400	401	401	401	401	402	401	401	400	400	400	399		
10	392	392	393	394	396	398	399	399	400	401	400	399	398	398	397	395	394		
15	381	383	385	387	390	392	394	395	395	397	396	395	393	391	389	386	385		
20	368	370	373	376	380	383	386	387	388	389	389	387	384	382	379	375	373		
25	350	353	357	362	367	372	375	376	378	379	377	374	372	369	365	360	357		
30	329	333	339	345	351	357	361	363	365	365	363	360	357	353	347	341	337		
35	304	310	318	325	332	340	344	347	349	349	348	343	339	333	326	319	313		
40	277	284	293	303	311	321	326	330	331	332	329	325	318	311	302	293	286		
45	247	256	267	279	289	300	307	311	313	313	310	304	296	287	275	265	257		
50	216	226	239	254	267	278	286	291	293	293	289	283	273	262	249	236	226		
55	184	196	212	228	243	256	265	270	273	273	269	260	251	237	221	206	193		
60	153	167	184	203	220	234	245	251	253	252	248	240	228	212	193	176	161		
65	121	138	159	180	198	213	225	230	234	232	227	218	205	188	168	147	129		
70	90.6	111	135	158	177	192	204	210	213	212	207	198	184	166	143	120	98.7		
75	63.5	86.7	113	137	158	174	185	191	194	193	188	178	165	145	122	95.3	71.0		
80	40.6	66.7	94.6	120	140	157	168	174	176	175	170	161	147	127	103	74.8	47.5		
85	23.5	51.4	79.5	105	125	141	152	157	160	159	154	144	131	111	86.8	58.8	30.0		
90	14.1	40.4	67.5	91.3	111	126	136	142	144	144	139	130	116	97.6	74.0	47.0	19.5		
95	10.4	33.1	58.0	80.7	99.1	113	123	128	130	129	125	116	104	86.0	64.0	38.8	14.4		
100	9.94	28.5	50.7	71.5	88.3	102	111	116	118	117	113	105	92.9	76.4	55.7	33.2	12.8		
105	10.7	26.0	45.1	63.6	79.2	91.5	99.8	105	106	106	102	94.1	83.1	68.0	49.4	29.6	12.9		
110	12.4	24.9	40.8	57.2	71.2	82.5	90.2	94.6	96.1	95.5	91.6	84.9	74.8	61.1	44.5	27.7	13.9		
115	14.0	24.7	38.2	51.9	64.5	74.7	81.7	85.7	87.2	86.5	83.1	76.6	67.7	55.2	40.9	26.7	15.6		
120	16.0	24.8	36.2	48.1	58.6	67.7	74.0	77.7	79.0	78.4	75.1	69.4	61.2	50.5	38.3	26.3	16.9		
125	17.1	25.1	34.7	44.8	53.9	61.7	67.2	70.5	71.7	71.1	68.2	63.1	55.9	46.8	36.4	26.4	18.9		
130	18.4	25.6	33.6	42.0	49.9	56.4	61.4	64.3	65.3	64.8	62.1	57.7	51.6	43.6	34.8	26.7	20.2		
135	19.5	25.6	32.6	39.7	46.3	52.0	56.4	58.7	59.6	59.1	56.7	52.9	47.6	41.0	33.7	26.8	21.2		
140	20.0	25.8	31.7	37.6	43.1	47.8	51.5	53.5	54.2	53.9	51.8	48.6	44.1	38.6	32.7	27.1	22.6		
145	21.2	26.0	29.4	35.0	40.0	43.9	47.0	48.7	49.4	49.0	47.3	44.6	40.9	36.4	31.6	27.4	23.5		
150	21.4	26.2	28.9	33.0	37.0	40.1	42.6	44.1	44.7	44.5	43.1	40.9	37.9	34.5	30.7	27.6	24.2		
155	20.4	24.6	27.1	29.7	33.6	36.7	38.6	39.7	40.3	40.2	39.2	37.5	35.2	32.6	30.1	27.0	23.1		
160	18.1	20.2	22.5	25.5	28.1	32.3	35.0	35.7	36.2	36.3	35.6	34.4	33.1	31.2	29.7	25.4	20.7		
165	16.8	17.2	18.7	19.1	21.7	24.0	28.0	32.0	32.6	32.7	32.4	31.8	31.0	29.8	28.7	21.6	18.5		
170	15.6	16.6	16.7	18.9	18.8	20.3	18.8	19.3	28.7	30.0	29.7	28.5	27.8	25.3	20.6	17.8	17.1		
175	19.2	20.6	21.0	21.4	21.6	22.1	21.7	20.6	12.6	19.8	21.3	22.9	22.1	21.3	21.4	20.9	19.7		
180	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0		

Table 7: Luminous Intensity Data

EQUIPMENT LIST

Test Equipment	Model	Equipment No.	Calibration Date	Calibration Due date
Goniophotometer system	GO-R5000	HZTE011-01	Aug. 14, 2018	Aug. 13, 2019
Digital Power Meter	PF2010A	HZTE028-01	Sep. 12, 2018	Sep. 11, 2019
AC Power Supply	DPS1060	HZTE001-06	Aug. 09, 2018	Aug. 08, 2019
DC Power Supply	WY12010	HZTE004-03	Aug. 09, 2018	Aug. 08, 2019
Temperature recorder	JM624U	HZTE018-08	Aug. 09, 2018	Aug. 08, 2019
Temperature and humidity recorder	JR900	HZTE018-01	Aug. 09, 2018	Aug. 08, 2019
Standard source	D908	HZTE012-01	Aug. 14, 2018	Aug. 13, 2019
Integrate Sphere system	3M	HZTE015-04	Aug. 16, 2018	Aug. 15, 2019
Digital Power Meter	WT210	HZTE008-01	Aug. 02, 2018	Aug. 01, 2019
AC Power Supply	PCR 500L	HZTE001-07	Aug. 09, 2018	Aug. 08, 2019
DC Power Supply	IT6154	HZTE004-04	Aug. 09, 2018	Aug. 08, 2019
Standard source	SCL-1400	HZTE012-02	Aug. 16, 2018	Aug. 15, 2019
Temperature and humidity recorder	JR900	HZTE018-02	Aug. 09, 2018	Aug. 08, 2019
Temperature Meter	TES1310	HZTE017-01	Aug. 09, 2018	Aug. 08, 2019

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

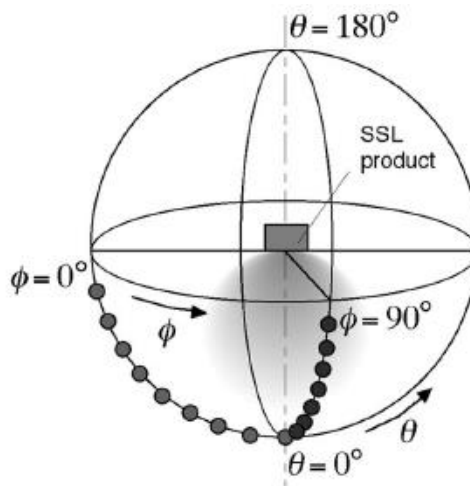
The color characteristics of SSL products include chromaticity coordinates, correlated color temperature, and color rendering index. These characteristics of SSL products may be spatially non-uniform, and thus, in order that they can be specified accurately, the color quantities shall be measured as 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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