



Photometric Test Report

Relevant Standards

IES LM-79-2008

Prepared For

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Catalog Number

L36T8/850/11G-XT 2C N

Project Number

4788554269

Report Number

4788554269_4R02

Test Date

07/28/2018 - 08/06/2018

Issue Date

08/15/2018

Revision Date

10/09/2018

Prepared By

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Approved By

Duff Yang

The results contained in this report pertain only to the tested sample.

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Test List

Test Item	Test	Test Date	Model Number	Tests Conducted By
1	Integrating Sphere Test for the Lower CCT	08/06/2018	L36T8/850/11G-XT 2C N	Elvis Wu
2	Goniophotometer Test for the Lower CCT	07/28/2018	L36T8/850/11G-XT 2C N	Elvis Wu

Remark (if any)

1. UL test equipment information is recorded on Meter Use in UL's Aurora database.
This report replace 4788554269_4R01 (original report number), the report 4788554269_4R01 is terminated.



Production Description

Luminaire Description: T8 Three-Foot Linear Replacement Lamps

Model Number: L36T8/850/11G-XT 2C N

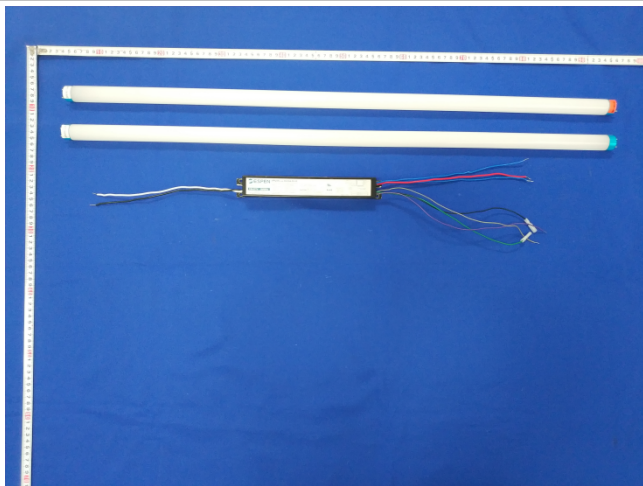
Rated Voltage: 120-277V

Frequency: 50/60Hz

LED Package: L128-5080RA3500xxx

Remark: Housing Model: C 2 25 MVOLT GEB10IS

Photos of Luminaire Characteristics





LM-79 Measurement and Test Results

Integrating Sphere Test for the Lower CCT

Model No.	L36T8/850/11G-XT 2C N	Sample ID.	1679360-016, 1679360-017, 1722774-001
Operate time (Min.)	90	Stabilization time (Min.)	45

Test Method

- 1.The sample was tested according to the IES LM-79-2008, and the product is assume to be brand new without seasoning.
- 2.Photometric paramters 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 reference standard lamp is rated current 2.679A omni-directional Incandescent lamp and was calibrated by Labsphere, Inc., Optical Calibration Laboratory.
- 3.The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. Coating reflectance of the integrating sphere was 90% to 98%. Photometric measurement conditions was using 4π geometry. The self-absorption factor is applied in the final test result.The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm. Testing Orientation of this product is horizontal.

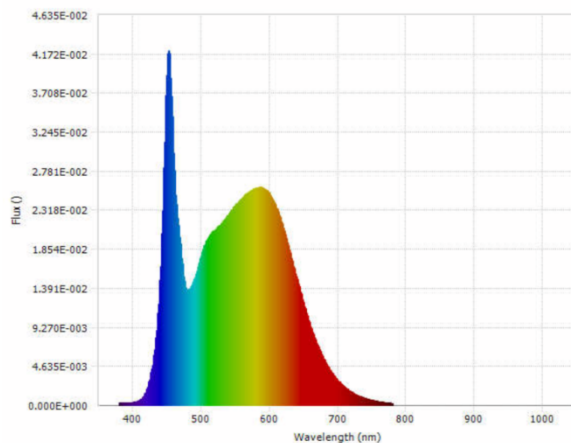
Integrating Sphere Test Conditions

Temperature ($^{\circ}\text{C}$)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Current THD
25.1	120	60	0.2169	25.917	0.9957	N/A

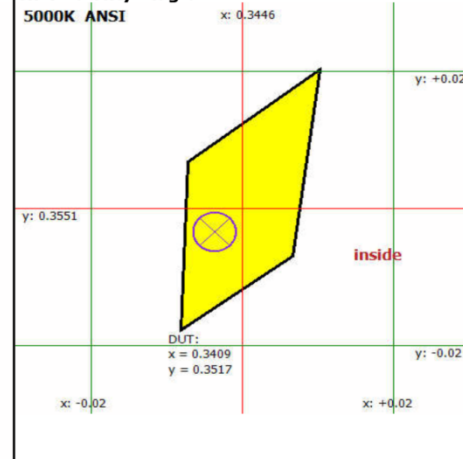
Test Results

CCT (K)	CRI (Ra)	Duv	Luminous Flux (lm)	Luminous Efficacy (lm/W)	Luminous Efficacy (lm/ft)
5162	85.43	0.0018	1648.15	127.18	N/A

Spectral Flux Graph



Chromaticity Diagram



Luminous Flux	1648.15	Chrom x	0.3409
Chrom y	0.3517	Chrom u	0.2085
Chrom v	0.3227	Duv	0.0018
Chrom u'	0.2085	Chrom v'	0.4841
CCT	5162	Luminous Efficacy	63.59
Ra	85.43	R1	84.0
R2	91.9	R3	95.3
R4	84.1	R5	84.8
R6	87.7	R7	87.0
R8	68.7	R9	14.3
R10	80.3	R11	83.8
R12	67.9	R13	86.4
R14	98.0	R15	78.8
Rf	83.7	Rg	94.6



Goniophotometer Test

Model No.	L36T8/850/11G-XT 2C N		Sample ID.	1679360-016, 1679360-017, 1722774-001
Operate time (Min.)	90		Stabilization time (Min.)	45

Test Method

- 1.The sample was tested according to the IES LM-79-2008, and the product is assume to be brand new without seasoning.
- 2.Photometric paramters were measured using a type C goniophotometer and software.
- 3.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 reference standard lamp is rated current 3.875A omni-directional Incandescent lamp and was calibrated by National Institute of Metrology, China.
- 4.The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, luminaire efficacy, zonal lumen were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. Photometric distance was more than five times of the largest dimension of the test SSL product. Testing Orientation of this product is horizontal.

Goniophotometer Test Conditions

Temperature($^{\circ}\text{C}$)	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	Orientation
25.6	119.88	60	0.2174	25.950	0.9959	Horizontal

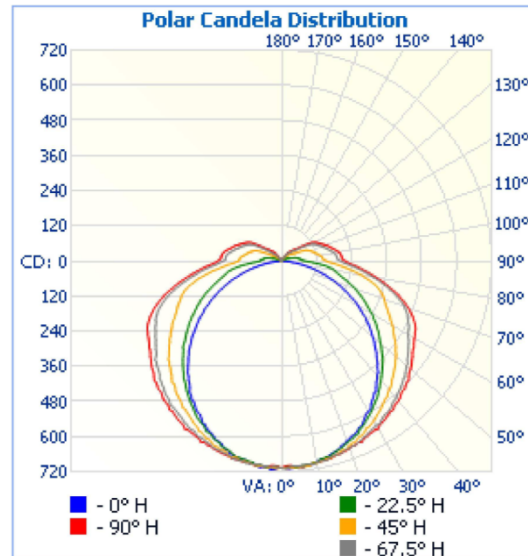
Test Results

Flux (lm)	Zonal Lumen Requirement	Zonal Lumen Requirement	Field Angle (10%)		Beam Angle (50%)		Luminous Efficacy (lm/W)
	$0^{\circ}\sim 60^{\circ}$	N/A	Horizontal Spread	Vertical Spread	Horizontal Spread	Vertical Spread	
3031.4	58%	N/A	160.9	158.6	156.2	108.4	116.82
SC	SC						
$0\sim 180^{\circ}$	$90^{\circ}\sim 270^{\circ}$						
1.26	1.40						

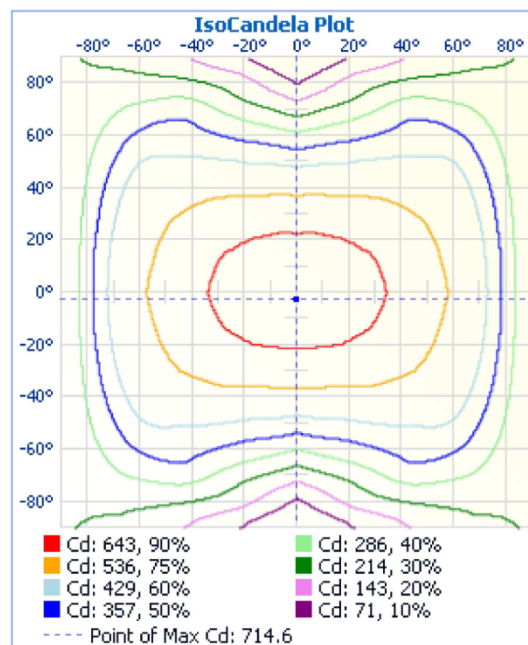


Goniophotometer Test (Cont'd)

Light Distribution Curve



IsoCandela Plot





Zonal Lumen Summary

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	559.8	18.5%
0-40	933.5	30.8%
0-60	1,757.9	58%
60-90	894.1	29.5%
70-100	647.2	21.4%
90-120	316.6	10.4%
0-90	2,652.1	87.5%
90-180	379.4	12.5%
0-180	3,031.4	100%

Lumens Per Zone

Lumens Per Zone

Zone	Lumens	% Total	Zone	Lumens	% Total
0-5	16.9	0.6%	90-95	70.4	2.3%
5-10	50.2	1.7%	95-100	65.4	2.2%
10-15	82.1	2.7%	100-105	57.8	1.9%
15-20	111.5	3.7%	105-110	49.1	1.6%
20-25	138.1	4.6%	110-115	41.6	1.4%
25-30	161.0	5.3%	115-120	32.4	1.1%
30-35	179.7	5.9%	120-125	22.7	0.8%
35-40	194.0	6.4%	125-130	14.6	0.5%
40-45	203.7	6.7%	130-135	10.0	0.3%
45-50	208.5	6.9%	135-140	6.8	0.2%
50-55	208.3	6.9%	140-145	4.1	0.1%
55-60	203.9	6.7%	145-150	2.0	0.1%
60-65	196.8	6.5%	150-155	0.9	0%
65-70	185.9	6.1%	155-160	0.5	0%
70-75	168.5	5.6%	160-165	0.4	0%
75-80	143.7	4.7%	165-170	0.3	0%
80-85	114.4	3.8%	170-175	0.2	0%
85-90	84.8	2.8%	175-180	0.1	0%



Intensity Data(cd)

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	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707	707
1	708	706	707	710	702	705	708	705	708	705	708	705	702	710	707	706	708
2	710	706	708	706	699	702	708	706	714	706	708	702	699	706	708	706	710
3	709	706	708	703	701	706	707	708	715	708	707	706	701	703	708	706	709
4	706	707	705	702	703	702	705	706	705	706	705	702	703	702	705	707	706
5	704	704	705	703	704	703	703	704	704	704	703	703	704	703	705	704	704
6	710	703	708	701	706	700	705	699	708	699	705	700	706	701	708	703	710
7	701	702	706	701	705	701	702	704	705	704	702	701	705	701	706	702	701
8	704	702	706	702	702	701	702	695	696	695	702	701	702	702	706	702	704
9	703	696	699	702	698	699	699	694	702	694	699	699	698	702	699	696	703
10	697	698	701	700	698	701	697	691	691	691	697	701	698	700	701	698	697
11	691	691	697	697	698	696	696	690	692	690	696	696	698	697	697	691	691
12	692	690	696	698	697	697	695	688	690	688	695	697	697	698	696	690	692
13	689	687	692	697	695	695	689	687	688	687	689	695	695	697	692	687	689
14	683	688	694	693	696	695	691	681	684	681	691	695	696	693	694	688	683
15	679	680	689	689	692	688	690	676	680	676	690	688	692	689	689	680	679
16	676	678	688	688	689	686	680	670	670	670	680	686	689	688	688	678	676
17	672	674	682	689	688	685	677	669	670	669	677	685	688	689	682	674	672
18	663	670	680	686	686	681	677	665	659	665	677	681	686	686	680	670	663
19	662	665	682	680	684	681	672	656	653	656	672	681	684	680	682	665	662
20	655	659	672	681	682	680	671	653	652	653	671	680	682	681	672	659	655
25	629	634	655	665	669	665	647	624	617	624	647	665	669	665	655	634	629
30	594	605	631	648	662	646	620	595	584	595	620	646	662	648	631	605	594
35	553	571	602	633	640	626	595	558	547	558	595	626	640	633	602	571	553
40	509	530	574	611	623	607	565	520	500	520	565	607	623	611	574	530	509
45	460	490	542	587	601	582	536	478	448	478	536	582	601	587	542	490	460
50	410	444	511	558	577	557	502	433	398	433	502	557	577	558	511	444	410
55	355	398	475	530	547	526	467	388	343	388	467	526	547	530	475	398	355
60	303	356	437	501	525	498	431	343	284	343	431	498	525	501	437	356	303
65	241	310	403	478	504	475	395	298	226	298	395	475	504	478	403	310	241
70	182	264	374	447	460	437	366	251	168	251	366	437	460	447	374	264	182
75	125	217	338	387	400	378	326	208	111	208	326	378	400	387	338	217	125
80	71	184	277	319	332	311	261	176	58	176	261	311	332	319	277	184	71
85	26	136	208	254	268	248	194	117	18	117	194	248	268	254	208	136	26
90	4	80	155	203	219	200	148	75	4	75	148	200	219	203	155	80	4
95	3	66	140	189	206	190	140	64	3	64	140	190	206	189	140	66	3
100	2	56	128	178	194	177	125	55	3	55	125	177	194	178	128	56	2
105	2	41	116	161	176	159	114	35	3	35	114	159	176	161	116	41	2
110	2	26	102	146	160	144	100	24	2	24	100	144	160	146	102	26	2
115	2	19	83	133	144	130	72	15	3	15	72	130	144	133	83	19	2
120	2	13	52	112	127	108	41	10	3	10	41	108	127	112	52	13	2
125	2	7	42	73	92	68	29	5	2	5	29	68	92	73	42	7	2
130	2	4	34	56	63	47	22	3	2	3	22	47	63	56	34	4	2
135	2	3	24	42	48	32	15	2	3	2	15	32	48	42	24	3	2
140	2	3	14	32	39	22	9	2	3	2	9	22	39	32	14	3	2
145	3	3	6	19	24	11	4	3	3	3	4	11	24	19	6	3	3
150	3	3	3	8	12	5	2	3	3	3	2	5	12	8	3	3	3
155	3	3	2	3	3	2	3	3	3	3	2	3	3	2	3	3	3
160	3	3	3	2	2	2	3	3	3	3	2	2	2	2	3	3	3
165	3	3	3	2	2	2	3	3	3	3	2	2	2	2	3	3	3
170	3	4	3	3	2	2	3	3	3	3	2	2	2	3	3	4	3
175	4	4	3	3	2	3	3	4	4	4	3	3	2	3	3	4	4
180	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3



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