Description:

◆ 143.8×12×1.7 for all of LED tube,T5/T8/T10

◆ Low thermal resistance

◆ Easy Install for LED tube

RF-MT14H03 SERIES

Package Outline
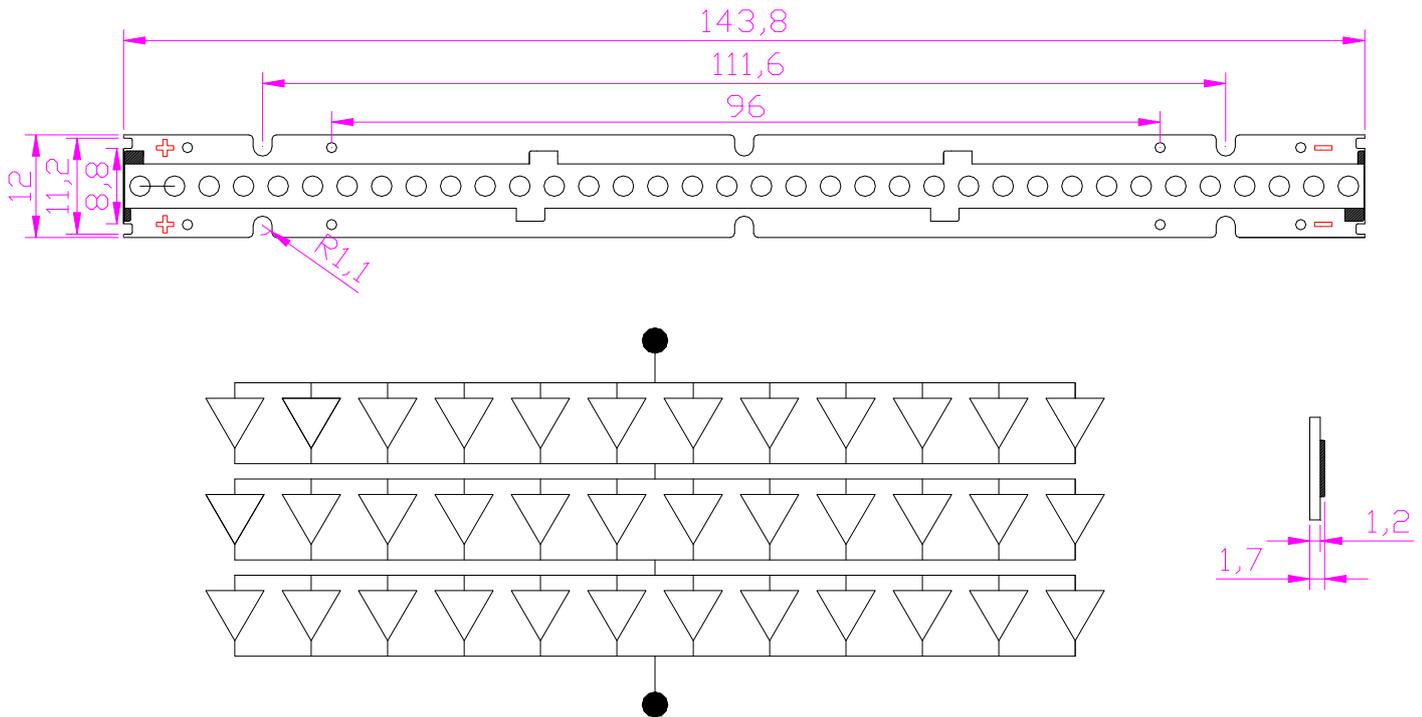
ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

Absolute maximum ratings at Ta=25℃

Parameter	Symbol	Value	Unit
Power dissipation	Pd	5	W
Forward current	If	500	mA
Reverse voltage	Vr	12	V
Operating temperature range	Top	-20 ~+100	℃
Storage temperature range	Tstg	-20~+100	℃
Pulse Forward Current	Ifp	500	mA
Electrostatic Discharge	ESD	1000(HBM)	V

Electro-optical characteristics at Ta=25℃

Parameter	Test Condition	Symbol	Value			Unit
			Min.	Typ.	Max.	
Forward voltage	If=240mA	Vf	9	9.6	11	V
Luminous intensity	If=240mA	Φ	220	280	340	Lm
Correlated Color Temperature	If=240mA	CCT	2950	--	6650	K
Color render index	If=240mA	CRI	60	--	90	--

NOTE:　(Tolerance: lm ±10%, Vf ±0.05V)

　　　　IFP Conditions: Pulse Width ≦ 10msec. and Duty ≦ 1/10.

# Module series products for general lighting bin information
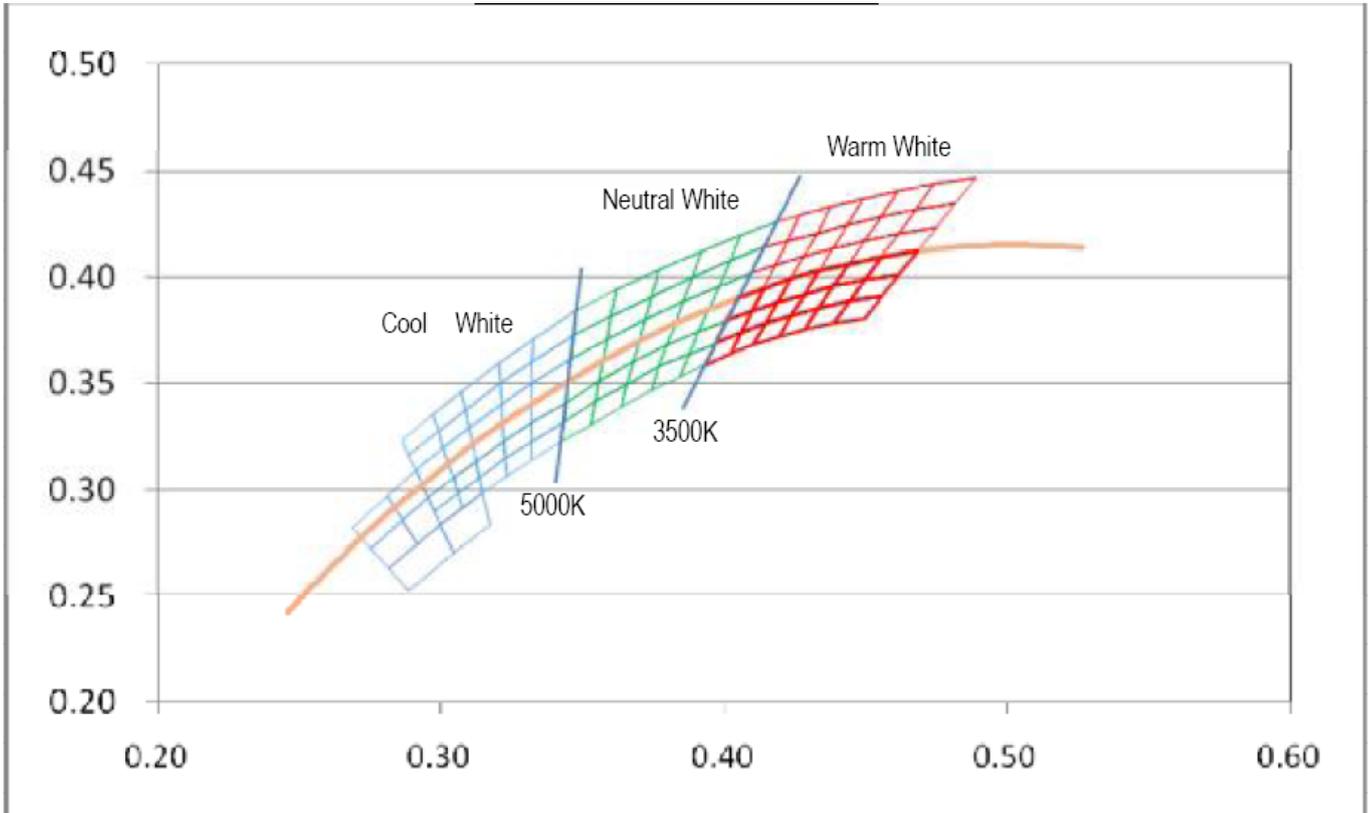

Detail Information
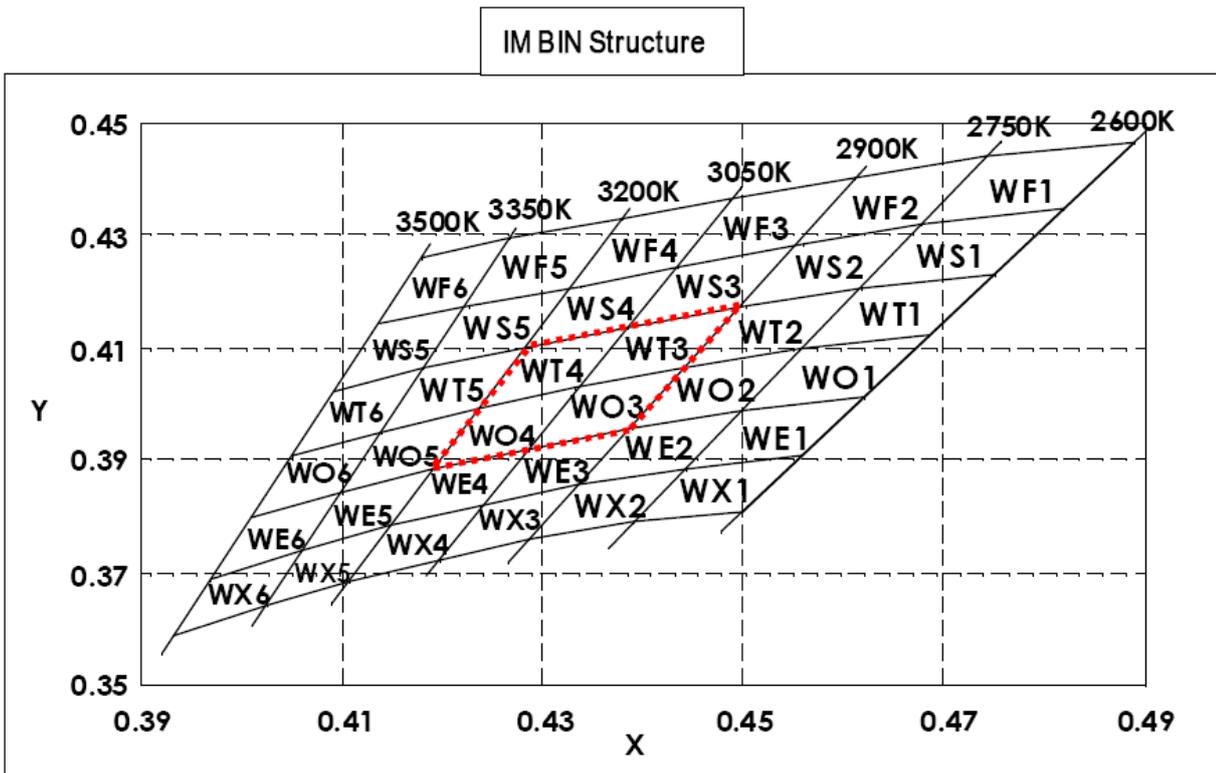
IM BIN Structure
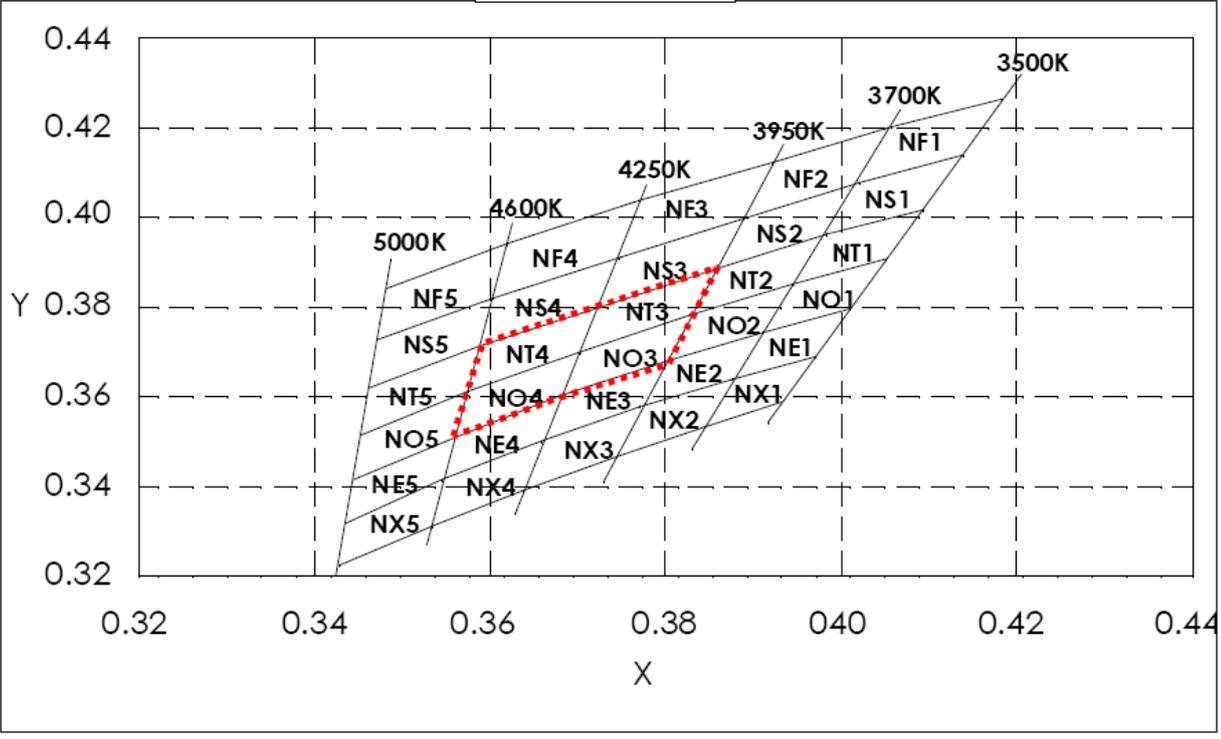
WN BIN Structure

WM BIN Structure

Note: ⬚ is high bin

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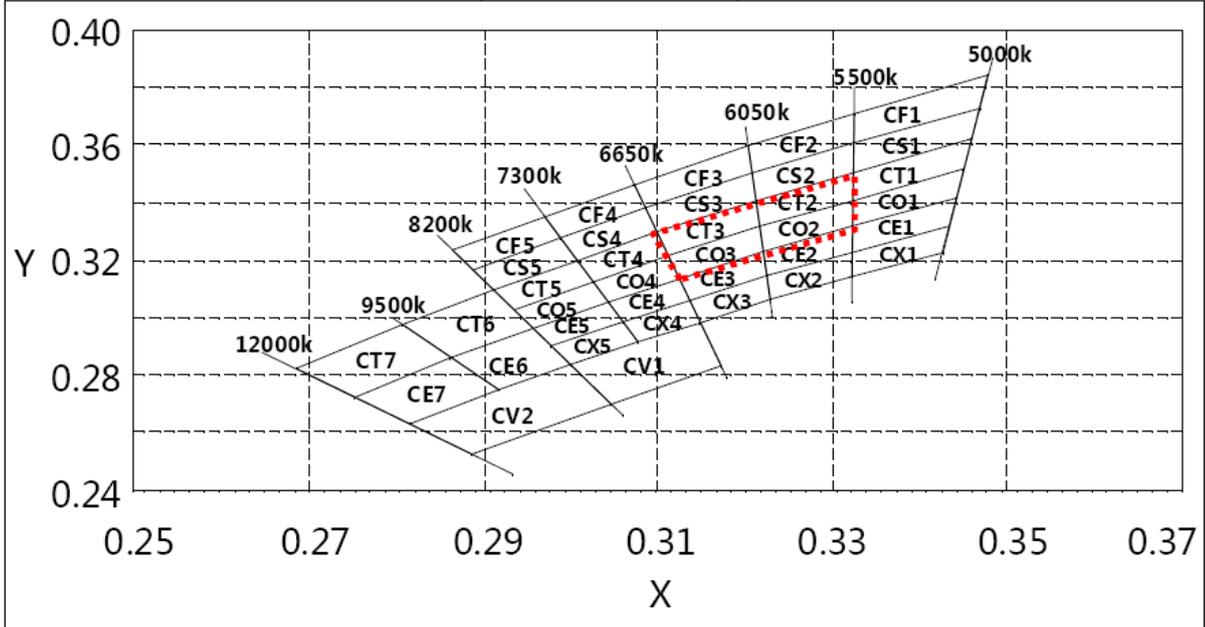
Bin data:

BIN CODE	CIE-X1	CIE-Y1	CIE-X2	CIE-Y2	CIE-X3	CIE-Y3	CIE-X4	CIE-Y4
WF1	0.4889	0.4466	0.4742	0.4436	0.4677	0.4319	0.4817	0.4347
WF2	0.4742	0.4436	0.4613	0.4400	0.4553	0.4284	0.4677	0.4319
WF3	0.4613	0.4400	0.4489	0.4367	0.4435	0.4246	0.4553	0.4284
WF4	0.4489	0.4367	0.4380	0.4330	0.4330	0.4206	0.4435	0.4246
WF5	0.4380	0.4330	0.4267	0.4293	0.4223	0.4171	0.4330	0.4206
WF6	0.4267	0.4293	0.4184	0.4261	0.4137	0.4138	0.4223	0.4171
WS1	0.4817	0.4347	0.4677	0.4319	0.4615	0.4205	0.4749	0.4232
WS2	0.4677	0.4319	0.4553	0.4284	0.4496	0.4171	0.4615	0.4205
WS3	0.4553	0.4284	0.4435	0.4246	0.4383	0.4136	0.4496	0.4171
WS4	0.4435	0.4246	0.4330	0.4206	0.4282	0.4097	0.4383	0.4136
WS5	0.4330	0.4206	0.4223	0.4171	0.4180	0.4059	0.4282	0.4097
WS6	0.4223	0.4171	0.4137	0.4138	0.4093	0.4020	0.4180	0.4059
WT1	0.4749	0.4232	0.4615	0.4205	0.4556	0.4095	0.4682	0.4120
WT2	0.4615	0.4205	0.4496	0.4171	0.4440	0.4063	0.4556	0.4095
WT3	0.4496	0.4171	0.4383	0.4136	0.4334	0.4030	0.4440	0.4063
WT4	0.4383	0.4136	0.4282	0.4097	0.4235	0.3993	0.4334	0.4030
WT5	0.4282	0.4097	0.4180	0.4059	0.4139	0.3950	0.4235	0.3993
WT6	0.4180	0.4059	0.4093	0.4020	0.4051	0.3906	0.4139	0.3950
WO1	0.4682	0.4120	0.4556	0.4095	0.4498	0.3989	0.4618	0.4013
WO2	0.4556	0.4095	0.4440	0.4063	0.4387	0.3958	0.4498	0.3989
WO3	0.4440	0.4063	0.4334	0.4030	0.4285	0.3921	0.4387	0.3958
WO4	0.4334	0.4030	0.4235	0.3993	0.4190	0.3886	0.4285	0.3921
WO5	0.4235	0.3993	0.4139	0.3950	0.4099	0.3843	0.4190	0.3886
WO6	0.4139	0.3950	0.4051	0.3906	0.4009	0.3796	0.4099	0.3843
WE1	0.4618	0.4013	0.4498	0.3989	0.4442	0.3886	0.4555	0.3909
WE2	0.4498	0.3989	0.4387	0.3958	0.4335	0.3857	0.4442	0.3886
WE3	0.4387	0.3958	0.4285	0.3921	0.4238	0.3822	0.4335	0.3857
WE4	0.4285	0.3921	0.4190	0.3886	0.4146	0.3785	0.4238	0.3822
WE5	0.4190	0.3886	0.4099	0.3843	0.4060	0.3739	0.4146	0.3785
WE6	0.4099	0.3843	0.4009	0.3796	0.3970	0.3689	0.4060	0.3739
WX1	0.4555	0.3909	0.4442	0.3886	0.4388	0.3787	0.4495	0.3808

WX2	0.4335	0.3857	0.4285	0.3758	0.4388	0.3787	0.4442	0.3886
WX3	0.4335	0.3857	0.4238	0.3822	0.4193	0.3721	0.4285	0.3758
WX4	0.4238	0.3822	0.4146	0.3785	0.4103	0.3682	0.4193	0.3721
WX5	0.4146	0.3785	0.4060	0.3739	0.4023	0.3642	0.4103	0.3682
WX6	0.4060	0.3739	0.3970	0.3689	0.3931	0.3587	0.4023	0.3642
NF1	0.4184	0.4261	0.4058	0.4200	0.4019	0.4074	0.4137	0.4138
NF2	0.4058	0.4200	0.3920	0.4121	0.3888	0.3996	0.4019	0.4074
NF3	0.3920	0.4121	0.3770	0.4035	0.3745	0.3909	0.3888	0.3996
NF4	0.3770	0.4035	0.3618	0.3945	0.3601	0.3818	0.3745	0.3909
NF5	0.3618	0.3945	0.3479	0.3841	0.3469	0.3728	0.3601	0.3818
NS1	0.4137	0.4138	0.4019	0.4074	0.3981	0.3960	0.4093	0.4020
NS2	0.4019	0.4074	0.3888	0.3996	0.3857	0.3887	0.3981	0.3960
NS3	0.3888	0.3996	0.3745	0.3909	0.3722	0.3799	0.3857	0.3887
NS4	0.3745	0.3909	0.3601	0.3818	0.3586	0.3710	0.3722	0.3799
NS5	0.3601	0.3818	0.3469	0.3728	0.3460	0.3620	0.3586	0.3710
NT1	0.4093	0.4020	0.3981	0.3960	0.3944	0.3850	0.4051	0.3906
NT2	0.3981	0.3960	0.3857	0.3887	0.3826	0.3781	0.3944	0.3850
NT3	0.3857	0.3887	0.3722	0.3799	0.3699	0.3699	0.3826	0.3781
NT4	0.3722	0.3799	0.3586	0.3710	0.3572	0.3609	0.3699	0.3699
NT5	0.3586	0.3710	0.3460	0.3620	0.3450	0.3516	0.3572	0.3609
NO1	0.4051	0.3906	0.3944	0.3850	0.3909	0.3743	0.4009	0.3796
NO2	0.3944	0.3850	0.3826	0.3781	0.3797	0.3679	0.3909	0.3743
NO3	0.3826	0.3781	0.3699	0.3699	0.3677	0.3603	0.3797	0.3679
NO4	0.3699	0.3699	0.3572	0.3609	0.3558	0.3510	0.3677	0.3603
NO5	0.3572	0.3609	0.3450	0.3516	0.3442	0.3415	0.3558	0.3510
NE1	0.4009	0.3796	0.3909	0.3743	0.3875	0.3641	0.3970	0.3689
NE2	0.3909	0.3743	0.3797	0.3679	0.3769	0.3579	0.3875	0.3641
NE3	0.3797	0.3679	0.3677	0.3603	0.3656	0.3500	0.3769	0.3579
NE4	0.3677	0.3603	0.3558	0.3510	0.3544	0.3416	0.3656	0.3500
NE5	0.3558	0.3510	0.3442	0.3415	0.3433	0.3318	0.3544	0.3416
NX1	0.3970	0.3689	0.3875	0.3641	0.3843	0.3531	0.3931	0.3587
NX2	0.3875	0.3641	0.3769	0.3579	0.3742	0.3468	0.3843	0.3531
NX3	0.3769	0.3579	0.3656	0.3500	0.3636	0.3388	0.3742	0.3468
NX4	0.3656	0.3500	0.3544	0.3416	0.3531	0.3308	0.3636	0.3388

NX5	0.3544	0.3416	0.3433	0.3318	0.3425	0.3225	0.3531	0.3308
CZ1	0.3491	0.3978	0.3326	0.3831	0.3325	0.3706	0.3479	0.3841
CN1	0.3502	0.4106	0.3326	0.3947	0.3326	0.3831	0.3491	0.3978
CZ2	0.3326	0.3831	0.3325	0.3706	0.3204	0.3597	0.3198	0.3714
CN2	0.3326	0.3947	0.3326	0.3831	0.3198	0.3714	0.3193	0.3823
CF1	0.3479	0.3841	0.3325	0.3706	0.3324	0.3604	0.3469	0.3728
CF2	0.3325	0.3706	0.3204	0.3597	0.3208	0.3501	0.3324	0.3604
CF3	0.3204	0.3597	0.3073	0.3463	0.3087	0.3377	0.3208	0.3501
CF4	0.3073	0.3463	0.2970	0.3354	0.2989	0.3276	0.3087	0.3377
CF5	0.2970	0.3354	0.2862	0.3235	0.2887	0.3165	0.2989	0.3276
CS1	0.3469	0.3728	0.3324	0.3604	0.3324	0.3505	0.3460	0.3620
CS2	0.3324	0.3604	0.3208	0.3501	0.3213	0.3408	0.3324	0.3505
CS3	0.3208	0.3501	0.3087	0.3377	0.3100	0.3294	0.3213	0.3408
CS4	0.3087	0.3377	0.2989	0.3276	0.3008	0.3200	0.3100	0.3294
CS5	0.2989	0.3276	0.2887	0.3165	0.2910	0.3096	0.3008	0.3200
CT1	0.3460	0.3620	0.3324	0.3505	0.3323	0.3409	0.3450	0.3516
CT2	0.3324	0.3505	0.3213	0.3408	0.3217	0.3318	0.3323	0.3409
CT3	0.3213	0.3408	0.3100	0.3294	0.3112	0.3214	0.3217	0.3318
CT4	0.3100	0.3294	0.3008	0.3200	0.3025	0.3126	0.3112	0.3214
CT5	0.3008	0.3200	0.2910	0.3096	0.2933	0.3029	0.3025	0.3126
CO1	0.3450	0.3516	0.3323	0.3409	0.3322	0.3317	0.3442	0.3415
CO2	0.3323	0.3409	0.3217	0.3318	0.3221	0.3231	0.3322	0.3317
CO3	0.3217	0.3318	0.3112	0.3214	0.3124	0.3136	0.3221	0.3231
CO4	0.3112	0.3214	0.3025	0.3126	0.3043	0.3054	0.3124	0.3136
CO5	0.3025	0.3126	0.2933	0.3029	0.2955	0.2965	0.3043	0.3054
CE1	0.3442	0.3415	0.3322	0.3317	0.3322	0.3228	0.3433	0.3318
CE2	0.3322	0.3317	0.3221	0.3231	0.3225	0.3147	0.3322	0.3228
CE3	0.3221	0.3231	0.3124	0.3136	0.3136	0.3061	0.3225	0.3147
CE4	0.3124	0.3136	0.3043	0.3054	0.3059	0.2985	0.3136	0.3061
CE5	0.3043	0.3054	0.2955	0.2965	0.2977	0.2901	0.3059	0.2985
CX1	0.3433	0.3318	0.3322	0.3228	0.3321	0.3141	0.3425	0.3225
CX2	0.3322	0.3228	0.3225	0.3147	0.3229	0.3066	0.3321	0.3141
CX3	0.3225	0.3147	0.3136	0.3061	0.3148	0.2987	0.3229	0.3066
CX4	0.3136	0.3061	0.3059	0.2985	0.3076	0.2917	0.3148	0.2987

CX5	0.3059	0.2985	0.2977	0.2901	0.2998	0.2840	0.3076	0.2917
CV1	0.3148	0.2987	0.2998	0.2840	0.3045	0.2705	0.3172	0.2835
CV2	0.2998	0.2840	0.2814	0.2632	0.2886	0.2528	0.3045	0.2705
CT6	0.2910	0.3096	0.2807	0.2976	0.2863	0.2860	0.2955	0.2965
CT7	0.2807	0.2976	0.2685	0.2826	0.2751	0.2726	0.2863	0.2860
CE6	0.2955	0.2965	0.2863	0.2860	0.2916	0.2749	0.2998	0.2840
CE7	0.2863	0.2860	0.2751	0.2726	0.2814	0.2632	0.2916	0.2749
CX1	0.3433	0.3318	0.3322	0.3228	0.3321	0.3141	0.3425	0.3225
CX2	0.3322	0.3228	0.3225	0.3147	0.3229	0.3066	0.3321	0.3141
CX3	0.3225	0.3147	0.3136	0.3061	0.3148	0.2987	0.3229	0.3066
CX4	0.3136	0.3061	0.3059	0.2985	0.3076	0.2917	0.3148	0.2987
CX5	0.3059	0.2985	0.2977	0.2901	0.2998	0.2840	0.3076	0.2917
CV1	0.3148	0.2987	0.2998	0.2840	0.3045	0.2705	0.3172	0.2835
CV2	0.2998	0.2840	0.2814	0.2632	0.2886	0.2528	0.3045	0.2705
CT6	0.2910	0.3096	0.2807	0.2976	0.2863	0.2860	0.2955	0.2965
CT7	0.2807	0.2976	0.2685	0.2826	0.2751	0.2726	0.2863	0.2860
CE6	0.2955	0.2965	0.2863	0.2860	0.2916	0.2749	0.2998	0.2840
CE7	0.2863	0.2860	0.2751	0.2726	0.2814	0.2632	0.2916	0.2749

Luminous Bin Information:

BIN CODE	Range(lm)	
	MIN	MAX
QB1	200	225
QB2	225	250
QC1	250	280
QC2	280	310
QD1	310	350
QD2	350	390
QE1	390	440
QE2	440	490
QF1	490	550
QF2	550	610
QG1	610	680
QG2	680	760
QH1	760	850
QH2	850	950
QI1	950	1070

Forward Voltage Bin Information(1):

BIN CODE	Voltage(V)	
	MIN	MAX
FA1	8	9
FA2	9	10
FB1	10	11
FB2	11	12

Forward Voltage Bin Information(2):

BIN CODE	Voltage(V)	
	MIN	MAX
DC0	8.8	9.2
DD0	9.2	9.6
DE0	9.6	10
DF0	10	10.4
DG0	10.4	10.8
DH0	10.8	11.2
DI0	11.2	11.6
DJ0	11.6	12

Typical optical characteristics curves

Spectral Distribution

Relative Intensity vs. Wavelength (Ta=25℃)

Forward Voltage vs. Forward Current (Ta=25℃)

Relative Intensity vs. Forward Current (Ta=25℃)

Relative Intensity vs. Ambient Temperature
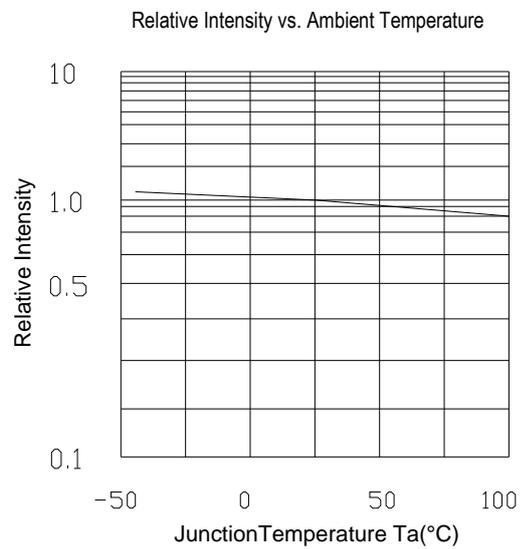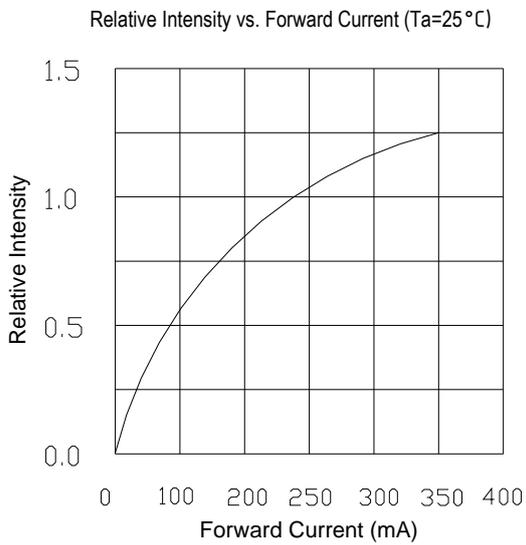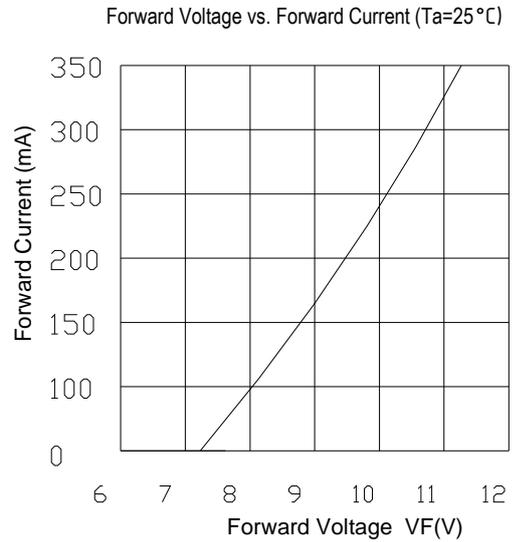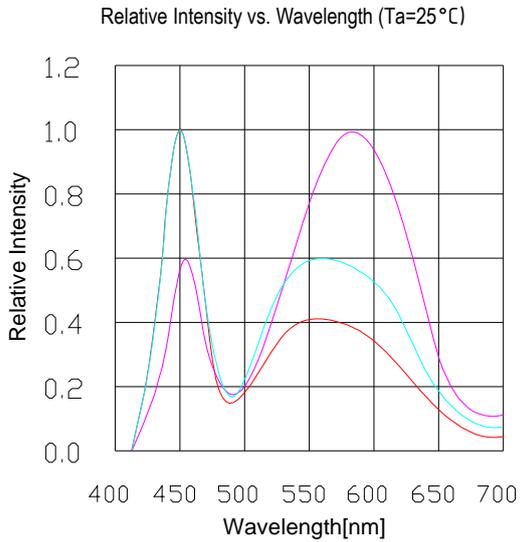
Type	Test Item	Test Conditions	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	-20℃ 25min ↑↓5min 100℃ 25min	500 cycle	0/22
	Thermal Shock	-40℃ 5min ↑↓1min 100℃ 5min	200 cycle	0/22
	High Temperature Storage	T_a=100℃	1000 hrs	0/22
	Low Temperature Storage	T_a=-20℃	1000 hrs	0/22
Operation Sequence	Life Test	T_a=25℃ I_F=0.3A	1000 hrs	0/22
	High Humidity Heat Life Test	60℃ RH=60% I_F=0.3A	1000 hrs	0/22

CAUTIONS

1. The encapsulated material of the LEDs is silicone . Therefore the LEDs have a soft surface on the top   of package.   The stress to the top surface will be influence to the reliability of the LEDs. So during processing, mechanical stress on the surface should be minimized as much as possible .

2. Sharp objects of all types should not be used to pierce the silicone sealing

3. To transfer the heat to air quickly, putting the product on metal plate with thermal conductive silicone is very necessary

Thermal   conductive silicone

Metal plate