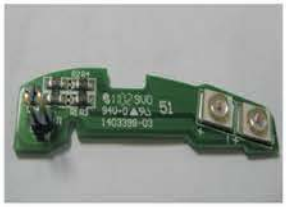
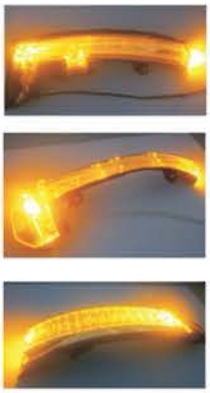
LED Module

Auto light Series

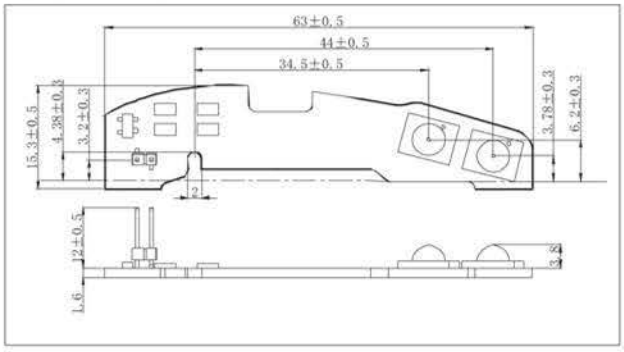




Features

- color uniformity, low power consuption ,high reliability , long life-span;
- Mainly used for indication of instruments, dashboard, decorative lightings, indoor display, etc..

Outline Dimensions/ Unit: mm



Tolerance : ±0.1mm

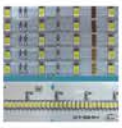
Absolute Maximum Ratings:

Parameter	Symbol	Rating
Forward Current	I_F	150mA
Pulse Forwards Current	I_{FP}	350mA
Reverse Voltage	V_R	5V
Working Temperature	T_{OPR}	-30~+50℃
Storage Temperature	T_{STG}	-30~+80℃

• Pulse Width≤0.1ms, Duty Cycle≤1/10

Parameter/Ta=25℃:

Part Number	Color	I_F(mA) TEST	λ_D(nm) Typ.	Flux(lm) Typ.	V_F (V) Typ.
VO-L538-R	Yellow	110	590	23	13.5



LED Engine

LED Engine Series

LED Engine

Applications: SSL Lighting, Industrial Lighting, Commercial, Residential Lighting.
Features: Energy Saving, Long Life, Cool Light, Green Environment.

LED Modules

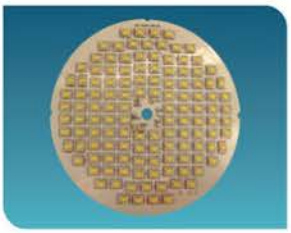
Flex/Hard Strips, Tube Light

LED Reading Lamp

Spot Light/Down Light/R Lamp/Bulb

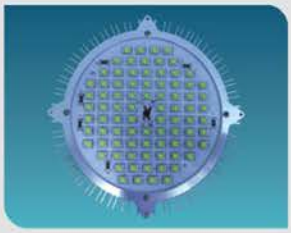
LED Ceiling Light

LED Panel Light



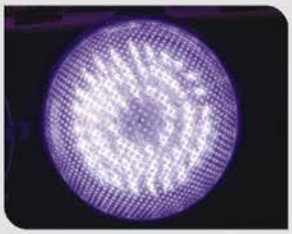
LED Hi-Bay/Low-Bay

LED Street Light/LED Parking Lot Light



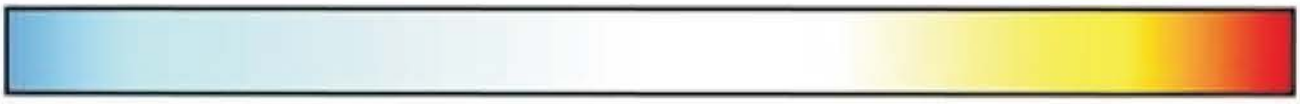
Heat Solution

Optical Lens Solution



UV LED Luminaire

Schematical Design & Connector Design



10000K 6000K 4000K 3000K

Luminous Intensity / Luminous Flux Bins Table

High Power LED Bins are Sorted by Luminous Flux

Code	Luminous Flux（lm）	
	Minimum	Maximum
F1	60	70
F2	70	80
G1	80	90
G2	90	100
H1	100	110
H2	110	120
J1	120	130
J2	130	140

TOP LED Bins are Sorted by Luminous Intensity

Code	Luminous Intensity (cd)	Code	Luminous Intensity (cd)
A0	1.2 ~ 1.5	N0	5.8 ~ 6.4
B0	1.5 ~ 1.8	O0	6.4 ~ 7.7
C0	1.8 ~ 2.1	P0	7.7 ~ 8.5
D0	2.1 ~ 2.4	Q0	8.5 ~9.3
E0	2.4 ~ 2.7	R0	9.3 ~10.2
F0	2.7 ~ 3.0	S0	10.2 ~ 11.2
G0	3.0 ~ 3.3	T0	11.2-12.3
H0	3.3 ~ 3.6	U0	12.3-13.5
I0	3.6 ~ 4.0	V0	13.5-15.0
J0	4.0 ~ 4.4	W0	15.0-16.5
K0	4.4 ~ 4.8	X0	16.8-18.0
L0	4.8 ~ 5.3	Y0	18-20
M0	5.3 ~ 5.8	Z0	20-22

Voltage Bins

Each TOP LED Voltage Bin Range is 0.1V

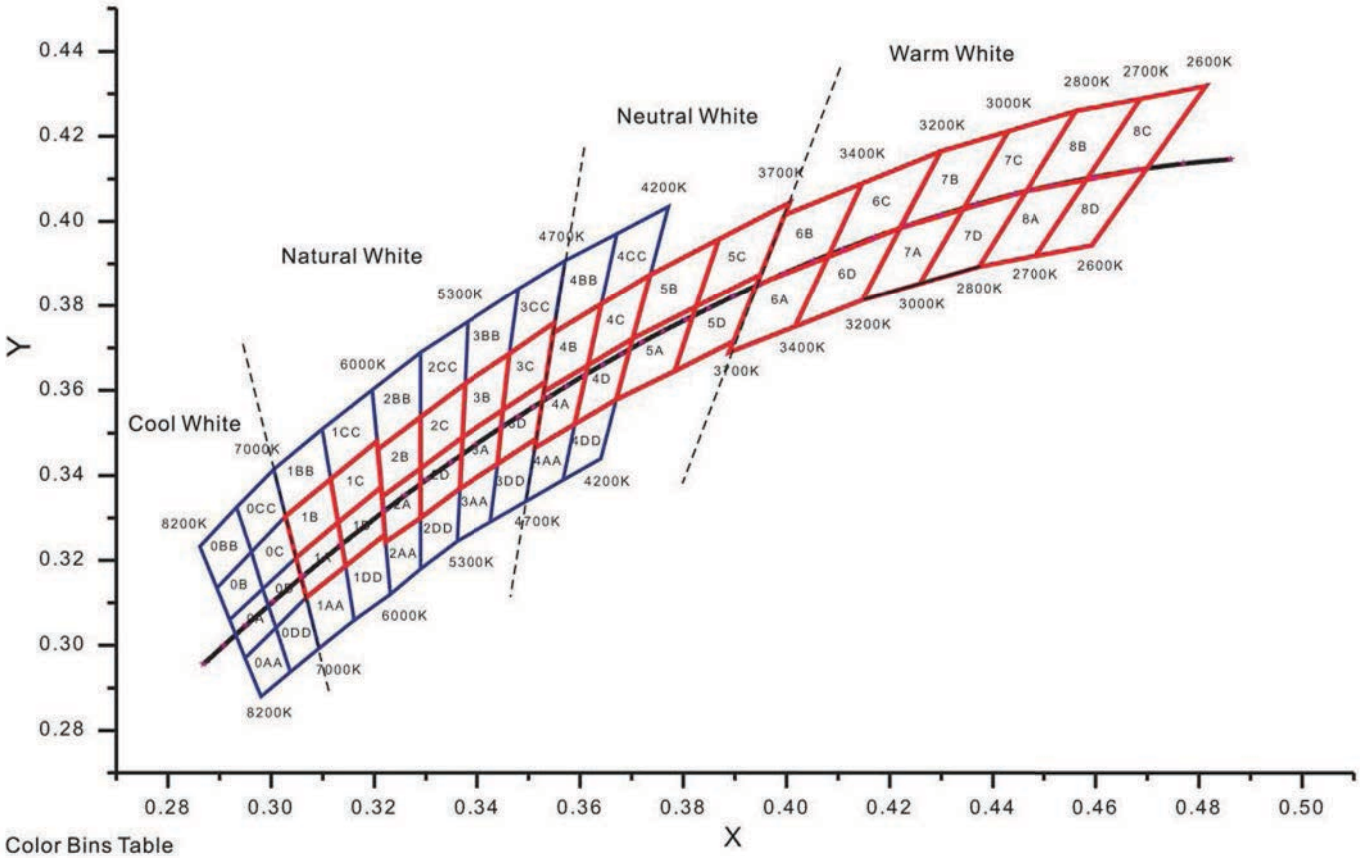
Each High Power LED Voltage Bin Range is 0.2V

0.2V Bins Table		0.1V Bins Table	
Code	Voltage(V)	Code	Voltage(V)
I0	2.8-3.0	I1	2.8-2.9
		I2	2.9-3.0
J0	3.0-3.2	J1	3.0-3.1
		J2	3.1-3.2
K0	3.2-3.4	K1	3.2-3.3
		K2	3.3-3.4
L0	3.4-3.6	L1	3.4-3.5
		L2	3.5-3.6
M0	3.6-3.8	M1	3.6-3.7
		M2	3.7-3.8
N0	3.8-4.0	N1	3.8-3.9
		N2	3.9-4.0
O0	4.0-4.2	O1	4.0-4.1
		O2	4.1-4.2

ENERGY STAR

VAOPTO LED Has American Energy Star Certificate

Color Binning

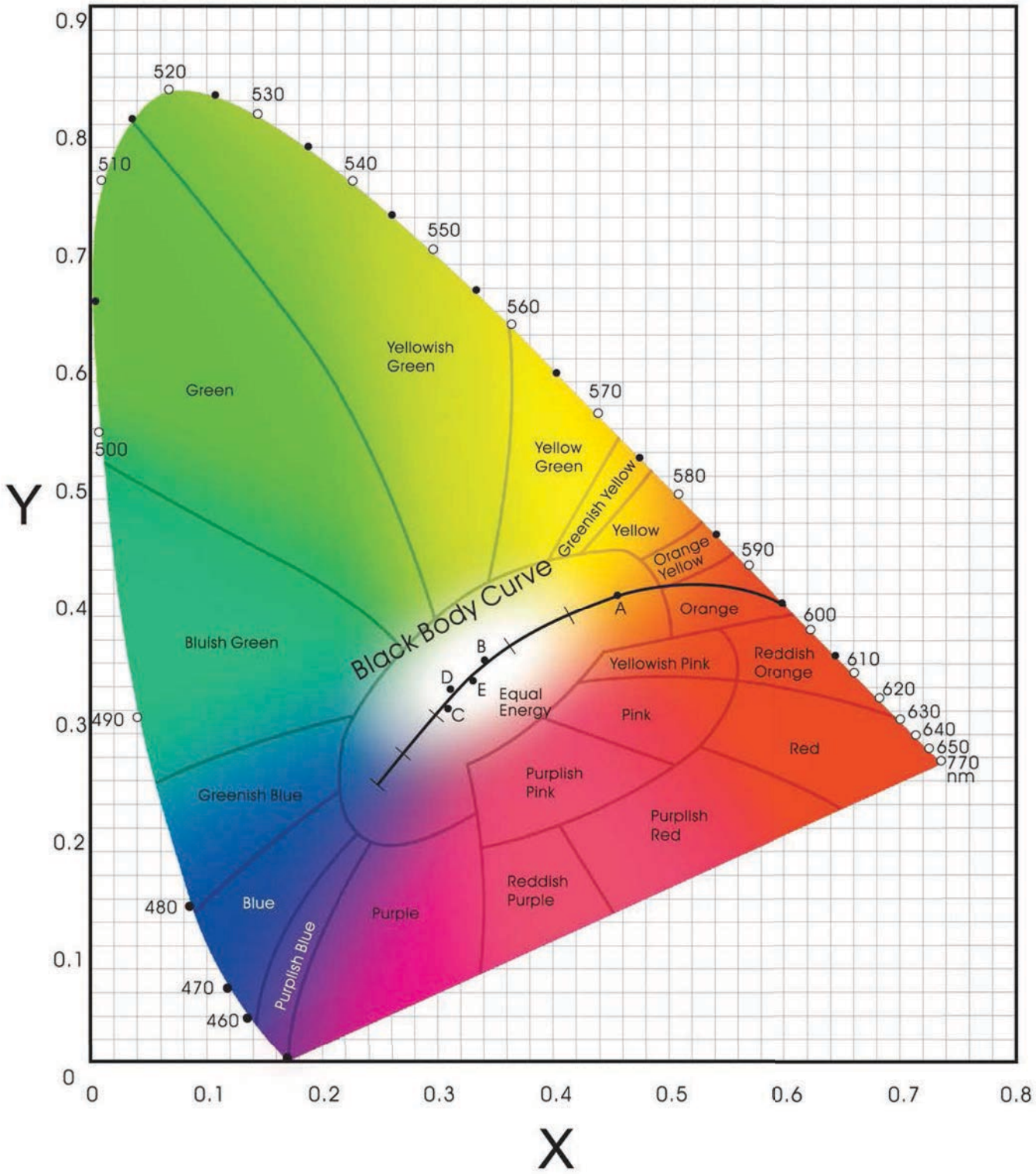


Color Bins Table

COLOR BIN	X	Y	COLOR BIN	X	Y	COLOR BIN	X	Y	COLOR BIN	X	Y
OA	0.295	0.297	OB	0.292	0.306	OC	0.2984	0.3133	OD	0.2984	0.3133
	0.292	0.306		0.2895	0.3135		0.2962	0.322		0.3048	0.3207
	0.2984	0.3133		0.2962	0.322		0.3028	0.3304		0.3068	0.3113
	0.3009	0.3042		0.2984	0.3133		0.3048	0.3207		0.3009	0.3042
OAA	0.298	0.288	OBB	0.2895	0.3135	OCC	0.2962	0.322	ODD	0.3037	0.2937
	0.295	0.297		0.2862	0.3233		0.2933	0.3325		0.3009	0.3042
	0.3009	0.3042		0.2933	0.3325		0.3005	0.3415		0.3068	0.3113
	0.3037	0.2937		0.2962	0.322		0.3028	0.3304		0.3093	0.2993
1A	0.3048	0.3207	1B	0.3028	0.3304	1C	0.3115	0.3391	1D	0.313	0.329
	0.313	0.329		0.3115	0.3391		0.3205	0.3481		0.3213	0.3373
	0.3144	0.3186		0.313	0.329		0.3213	0.3373		0.3221	0.3261
	0.3068	0.3113		0.3048	0.3207		0.313	0.329		0.3144	0.3186
1AA	0.3093	0.2993	1BB	0.3005	0.3415	1CC	0.3099	0.3509	1DD	0.3161	0.3059
	0.3068	0.3113		0.3099	0.3509		0.3196	0.3602		0.3144	0.3186
	0.3144	0.3186		0.3115	0.3391		0.3205	0.3481		0.3221	0.3261
	0.3161	0.3059		0.3028	0.3304		0.3115	0.3391		0.3231	0.312
2A	0.3215	0.335	2B	0.3206	0.3461	2C	0.329	0.3538	2D	0.329	0.3417
	0.329	0.3417		0.329	0.3538		0.3376	0.3616		0.3371	0.349
	0.329	0.33		0.329	0.3417		0.3371	0.349		0.3366	0.3369
	0.3222	0.3243		0.3215	0.335		0.329	0.3417		0.329	0.33

COLOR BIN	X	Y	COLOR BIN	X	Y	COLOR BIN	X	Y	COLOR BIN	X	Y
2AA	0.3231	0.312	2BB	0.3196	0.3602	2CC	0.329	0.369	2DD	0.329	0.318
	0.3222	0.3243		0.329	0.369		0.3381	0.3762		0.329	0.33
	0.329	0.33		0.329	0.3538		0.3376	0.3616		0.3366	0.3369
	0.329	0.318		0.3206	0.3461		0.329	0.3538		0.3361	0.3245
3A	0.3371	0.349	3B	0.3376	0.3616	3C	0.3463	0.3687	3D	0.3451	0.3554
	0.3451	0.3554		0.3463	0.3687		0.3551	0.376		0.3533	0.362
	0.344	0.3427		0.3451	0.3554		0.3533	0.362		0.3515	0.3487
	0.3366	0.3369		0.3371	0.349		0.3451	0.3554		0.344	0.3427
3AA	0.3361	0.3245	3BB	0.3381	0.3762	3CC	0.348	0.384	3DD	0.3426	0.3291
	0.3366	0.3369		0.348	0.384		0.3571	0.3907		0.344	0.3428
	0.344	0.3428		0.3463	0.3687		0.3551	0.376		0.3515	0.3487
	0.3426	0.3291		0.3376	0.3616		0.3463	0.3687		0.3495	0.3339
4A	0.353	0.3597	4B	0.3548	0.3736	4C	0.3641	0.3804	4D	0.3615	0.3659
	0.3615	0.3659		0.3641	0.3804		0.3736	0.3874		0.3702	0.3722
	0.359	0.3521		0.3615	0.3659		0.3702	0.3722		0.367	0.3578
	0.3512	0.3465		0.353	0.3597		0.3615	0.3659		0.359	0.3521
4AA	0.3495	0.3339	4BB	0.3571	0.3907	4CC	0.3671	0.397	4DD	0.3567	0.3389
	0.3512	0.3465		0.3671	0.397		0.3771	0.4034		0.359	0.3521
	0.359	0.3521		0.3641	0.3804		0.3736	0.3874		0.367	0.3578
	0.3567	0.3389		0.3548	0.3736		0.3641	0.3804		0.364	0.344
5A	0.367	0.3578	5B	0.3702	0.3722	5C	0.3825	0.3798	5D	0.3783	0.3646
	0.3702	0.3722		0.3736	0.3874		0.3869	0.3958		0.3825	0.3798
	0.3825	0.3798		0.3869	0.3958		0.4006	0.4044		0.395	0.3875
	0.3783	0.3646		0.3825	0.3798		0.395	0.3875		0.3898	0.3716
6A	0.3889	0.369	6B	0.3941	0.3848	6C	0.408	0.3916	6D	0.4017	0.3751
	0.3941	0.3848		0.3996	0.4015		0.4146	0.4089		0.408	0.3916
	0.408	0.3916		0.4146	0.4089		0.4299	0.4165		0.4221	0.3984
	0.4017	0.3751		0.408	0.3916		0.4221	0.3984		0.4147	0.3814
7A	0.4147	0.3814	7B	0.4221	0.3984	7C	0.4342	0.4028	7D	0.4259	0.3851
	0.4221	0.3984		0.4299	0.4165		0.443	0.4212		0.4342	0.4028
	0.4342	0.4028		0.443	0.4212		0.4562	0.426		0.4465	0.4071
	0.4259	0.3853		0.4342	0.4028		0.4465	0.4071		0.4373	0.3893
8A	0.4373	0.3893	8B	0.4465	0.4071	8C	0.4582	0.4099	8D	0.4483	0.3919
	0.4465	0.4071		0.4562	0.426		0.4687	0.4289		0.4582	0.4099
	0.4582	0.4099		0.4687	0.4289		0.4813	0.4319		0.47	0.4126
	0.4483	0.3919		0.4582	0.4099		0.47	0.4126		0.4593	0.3944

CIE1931 chromaticity diagram



All possible color coordinates(x,y) are on or inside horseshoe curve
Pure colors line on the curve, where as the white point has the coordinates(1/3, 1/3)