

### APPLICATIONS

- Street Lighting
- High and Low Bay Lighting
- Flood Lighting
- Parking Lot
- Industrial Lighting

### SPECIFICATIONS

- OSRAM OSLOM SQUARE GIANT
- From 2200 K to 6500 K CCT Range
- Long lifetime up to 100,000 hours
- Easy connection with push-in connectors
- Accurate Color Matching [SDMC]
- NTC Optional

- Calculated Parameters for OSRAM Oslon Square @85 °C

❖ Color Rendering Index : 70 (typ. 72)

PALS14544(OS)SSLFAMILY-12S1P	
LED Brand	OSRAM
LED	Oslon Square Giant - GW CSSRM2.PM Oslon Square Giant - GW CSSRM3.PM Typ. 700 mA , Max 1.8 A Min M8 - Max N8 Lumen Bin Min K2 - Max M2 Voltage Bin
PCB Properties	Aluminium 1 Oz Copper 1.6 mm Thickness 1 W/mK Thermal Conductivity * IPC Class 2, Class 3 Hasl Lead Free
Number of LEDs	12 Led
NTC	NTC is optionl with respect to proper led driver
Electrical Connection	12 Serial 1 Parallel
Color Rendering Index - CRI	min 70 (typ. 72) **
Color Tempeature - CCT	2200 K - 6500 K ***
Viewing Angle	120°
Electrical Thermal Resistance	1.8 K/Watt (with efficiency $\eta_e = 41\%$ )
Max Drive Current of Led Module	1800 mA
Led Junction Temperature	150 °C
SMD Connector on Led Module	Wago 2060-452 Series ,
<p>* Higher termal conductivity materials like 1.5 , 2 , 2.5 are optional for PCBs. ** For GW CSSRM3.PM N6-N7-N8 lumen bins, there are only 72 CRI products *** 2200K-2700K is only for GW CSSRM3.PM</p>	

❖ Color Rendering Index : 70 (typ. 72) , CONT.

Drive Current [mA]	Voltage [V] ****	Power [W]	CCT [K] - Lumen Bin	Flux [lm]		Efficacy [lm/Watt]	
				Min	Max	Min	Max
700	32,4	22,68	2200 - MFN2	3000	3360	132,3	148,1
			2700 - MFN2	3240	3600	142,9	158,7
			3000 - N3N5	3600	3960	158,7	174,6
			4000 - N3N8	3600	4320	158,7	190,5
			5000 - N3N8	3600	4320	158,7	190,5
			6500 - N3N8	3600	4320	158,7	190,5
1050	33,3	34,96	2200 - MFN2	4200	4704	120,1	134,6
			2700 - MFN2	4536	5040	129,7	144,2
			3000 - N3N5	5040	5544	144,2	158,6
			4000 - N3N8	5040	6048	144,2	173,0
			5000 - N3N8	5040	6048	144,2	173,0
			6500 - N3N8	5040	6048	144,2	173,0
1400	34,1	47,74	2200 - MFN2	5400	6048	113,1	126,7
			2700 - MFN2	4536	5040	95,0	105,6
			3000 - N3N5	6480	7128	135,7	149,3
			4000 - N3N8	6480	7776	135,7	162,9
			5000 - N3N8	6480	7776	135,7	162,9
			6500 - N3N8	6480	7776	135,7	162,9

❖ Color Rendering Index: 80 (typ. 82)

PALS14544(OS)SSLFAMILY-12S1P	
LED Brand	Osram
LED	Oslon Square Giant - GW CSSRM2.EM Typ. 700 mA , Max 1.8 A Min M8 - Max N2 Lumen Bin Min K2 - Max M2 Voltage Bin
PCB Properties	Aluminium 1 Oz Copper 1.6 mm Thickness 1 W/mK Thermal Conductivity * IPC Class 2, Class 3 Hasl Lead Free
Number of LEDs	12 Led
NTC	NTC is optionl with respect to proper led driver
Electrical Connection	12 Serial 1 Parallel
Color Rendering Index - CRI	min 80 (typ. 82)
Color Tempeature - CCT	2700 K - 5700 K
Viewing Angle	120°
Electrical Thermal Resistance	1.8 K/Watt (with efficiency $\eta_e = 41\%$ )
Max Drive Current of Led Module	1800 mA
Led Junction Temperature	150 °C
SMD Connector on Led Module	Wago 2060-452 Series ,
* Higher termal conductivity materials like 1.5 , 2 , 2.5 are optional for PCBs.	

❖ Color Rendering Index: 80 (typ. 82) , Cont.

Drive Current [mA]	Voltage [V]	Power [W]	CCT [K] - Lumen Bin	Flux [lm]		Efficacy [lm/Watt]	
				Min	Max	Min	Max
700	33,6	23,52	2700 - M6M8	2760	3120	117,3	132,7
			3000 - M6M8	2760	3120	117,3	132,7
			4000 - M8MF	3000	3360	127,6	142,9
			5000 - M8MF	3000	3360	127,6	142,9
			5700 - MFN2	3240	3600	137,8	153,1
1050	34,5	36,22	2700 - M6M8	3864	4368	106,7	120,6
			3000 - M6M8	3864	4368	106,7	120,6
			4000 - M8MF	4200	4704	116,0	129,9
			5000 - M8MF	4200	4704	116,0	129,9
			5700 - MFN2	4536	5040	125,2	139,1
1400	35,1	49,14	2700 - M6M8	4968	5616	101,1	114,3
			3000 - M6M8	4968	5616	101,1	114,3
			4000 - M8MF	5400	6048	109,9	123,1
			5000 - M8MF	5400	6048	109,9	123,1
			5700 - MFN2	5832	6480	118,7	131,9

❖ Color Rendering Index : 90 (typ. 92)

PALS14544(OS)SSLFAMILY-12S1P	
LED Brand	Osram
LED	Oslon Square Giant - GW CSSRM2.CM Typ. 700 mA , Max 1.8 A Min M2 - Max M8 Lumen Bin Min K2 - Max M2 Voltage Bin
PCB Properties	Aluminium 1 Oz Copper 1.6 mm Thickness 1 W/mK Thermal Conductivity * IPC Class 2, Class 3 Hasl Lead Free
Number of LEDs	12 Led
NTC	NTC is optionl with respect to proper led driver
Electrical Connection	12 Serial 1 Parallel
Color Rendering Index - CRI	min 90 (typ. 92)
Color Tempeature - CCT	2700 K - 6500 K
Viewing Angle	120°
Electrical Thermal Resistance	2 K/Watt (with efficiency $\eta_e = 35\%$ )
Max Drive Current of Led Module	1800 mA
Led Junction Temperature	135 °C
SMD Connector on Led Module	Wago 2060-452 Series ,
* Higher termal conductivity materials like 1.5 , 2 , 2.5 are optional for PCBs.	

❖ Color Rendering Index : 90 (typ. 92) , Cont.

Drive Current [mA]	Voltage [V]	Power [W]	CCT [K] - Lumen Bin	Flux [lm]		Efficacy [lm/Watt]	
				Min	Max	Min	Max
700	33,6	23,52	2700 - M2M4	2280	2640	96,9	112,2
			3000 - M3M5	2400	2760	102,0	117,3
			4000 - M5M7	2640	3000	112,2	127,6
			5000 - M6M8	2760	3120	117,3	132,7
			6500 - M6M8	2760	3120	117,3	132,7
1050	34,5	36,22	2700 - M2M4	3192	3696	88,1	102,0
			3000 - M3M5	3360	3864	92,8	106,7
			4000 - M5M7	3696	4200	102,0	116,0
			5000 - M6M8	3864	4368	106,7	120,6
			6500 - M6M8	3864	4368	106,7	120,6
1400	35,1	49,14	2700 - M2M4	4104	4752	83,5	96,7
			3000 - M3M5	4320	4968	87,9	101,1
			4000 - M5M7	4752	5400	96,7	109,9
			5000 - M6M8	4968	5616	101,1	114,3
			6500 - M6M8	4968	5616	101,1	114,3

❖ Color Rendering Index : 95 (typ. 97)

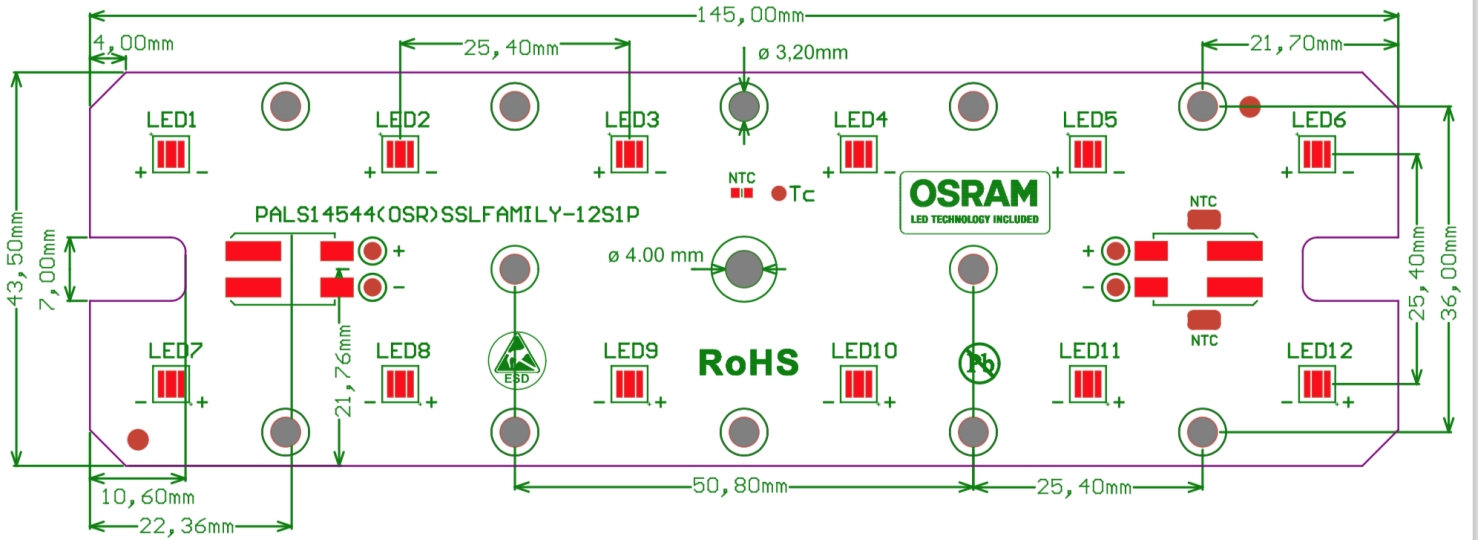
PALS14544(OS)SSLFAMILY-12S1P	
LED Brand	Osram
LED	Oslon Square - GW CSSRM1.BM Typ. 700 mA , Max 1.8 A Min M1 - Max M8 Lumen Bin Min K2 - Max M2 Voltage Bin
PCB Properties	Aluminium 1 Oz Copper 1.6 mm Thickness 1 W/mK Thermal Conductivity * IPC Class 2, Class 3 Hasl Lead Free
Number of LEDs	12 Led
NTC	NTC is optionl with respect to proper led driver
Electrical Connection	12 Serial 1 Parallel
Color Rendering Index - CRI	min 95 (typ. 97)
Color Tempeature - CCT	2700 K - 4000 K
Viewing Angle	120°
Electrical Thermal Resistance	2.9 K/Watt (with efficiency $\eta_e = 32\%$ )
Max Drive Current of Led Module	1800 mA
Led Junction Temperature	135 °C
SMD Connector on Led Module	Wago 2060-452 Series
* Higher termal conductivity materials like 1.5 , 2 , 2.5 are optional for PCBs.	



❖ Color Rendering Index : 95 (typ. 97) , Cont.

Drive Current [mA]	Voltage [V]	Power [W]	CCT [K] - Lumen Bin	Flux [lm]		Efficacy [lm/Watt]	
				Min	Max	Min	Max
700	33,6	23,52	2700 - LTMP	1800	2328	76,5	99,0
			3000 - LUMQ	1968	2520	83,7	107,1
			4000 - MQMS	2328	2880	99,0	122,4
1050	34,5	36,22	2700 - LTMP	2520	3259	69,6	90,0
			3000 - LUMQ	2755	3528	76,1	97,4
			4000 - MQMS	3259	4032	90,0	111,3
1400	35,1	49,14	2700 - LTMP	3240	4190	65,9	85,3
			3000 - LUMQ	3542	4536	72,1	92,3
			4000 - MQMS	4190	5184	85,3	105,5

- Mechanical Drawing



- Led Modules can be redesign according to customer demands, and customer logos can be added on the product.
- Push-in Connectors accept 0.2 – 0.75 mm<sup>2</sup> solid or stranded wire.

### PALS14543OS(SQR)12S1P-D12 MODÜLÜNE UYGUN LEDİL STRADA-IP-2X6 LENSLER



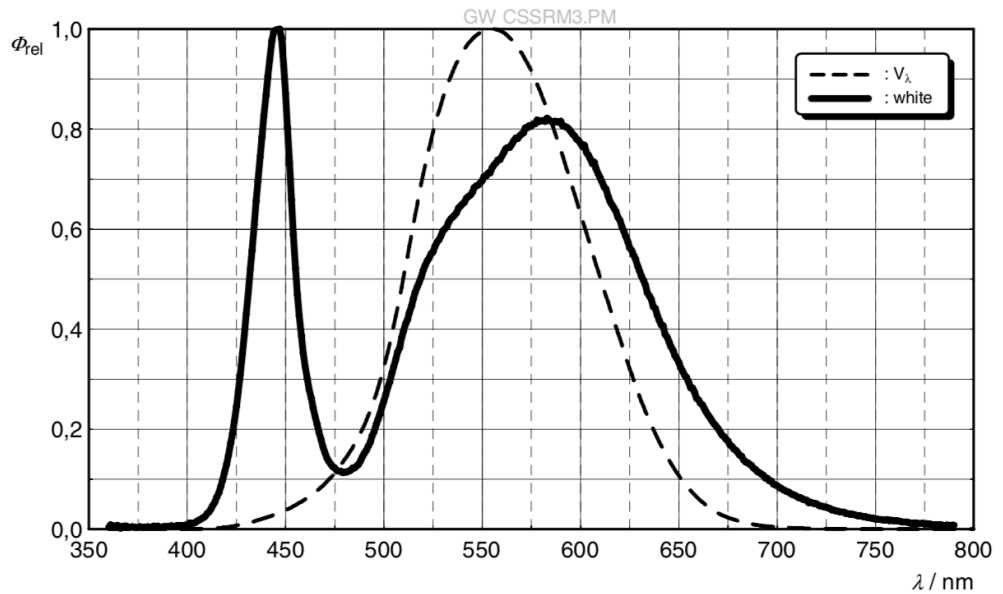
#### Product Codes :

- CS12862\_STRADA-IP-2X6-DWC
- CS13756\_STRADA-IP-2X6-DWC-PC
- CS14055\_STRADA-IP-2X6-T2
- CS14143\_STRADA-IP-2X6-T3
- CS14144\_STRADA-IP-2X6-ME
- CS14145\_STRADA-IP-2X6-DWC-90
- CS15020\_STRADA-IP-2X6-VSM
- CS15055\_STRADA-IP-2X6-DWC-90-PC
- CS15066\_STRADA-IP-2X6-T2-PC
- CS15068\_STRADA-IP-2X6-T3-PC
- CS15071\_STRADA-IP-2X6-ME-PC
- CS14055\_STRADA-IP-2X6-T4-B
- CS14055\_STRADA-IP-2X6-T2-C-90
- CS15362\_STRADA-IP-2X6-T3-B
- CS15363\_STRADA-IP-2X6-T2-B
- CS15418\_STRADA-IP-2X6-SCL
- CS15671\_STRADA-IP-2X6-DWC-B
- CS15689\_STRADA-IP-2X6-FW
- CS15870\_STRADA-IP-2X6-T2-L
- CS15871\_STRADA-IP-2X6-T3-L
- CS15886\_STRADA-IP-2X6-T2-B-90
- CS15887\_STRADA-IP-2X6-T3-B-90
- CS16397\_STRADA-IP-2X6-T2-C-90-PC
- CS16401\_STRADA-IP-2X6-PX

### SPECIFICATIONS FOR LED CHIP ON THE MODULE

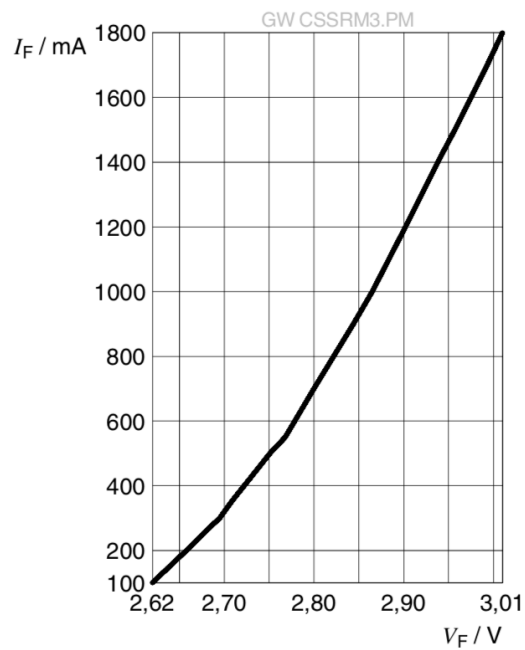
#### 1- Relative Spectral Emission, $V(\lambda)$ = Standart Eye Response Curve

$$\Phi_{rel} = f(\lambda); I_F = 700 \text{ mA}; T_J = 85 \text{ }^\circ\text{C}$$



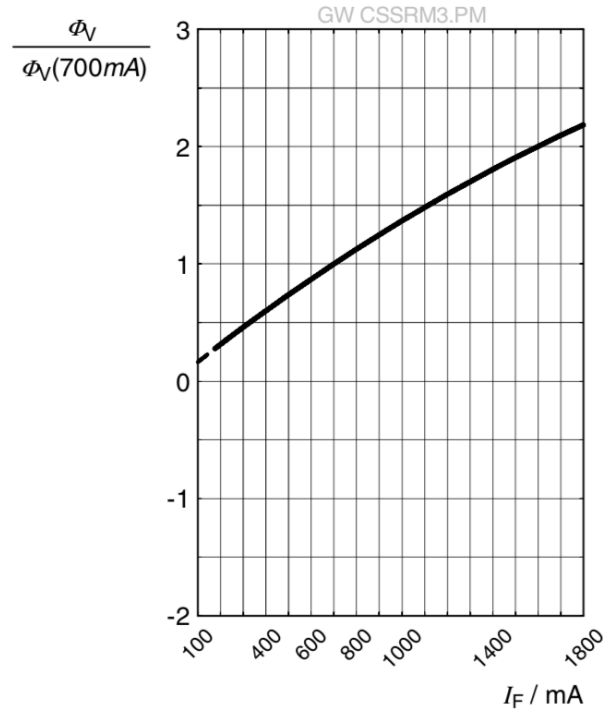
#### 2- Electrical Characteristic

$$I_F = f(V_F); T_J = 85 \text{ }^\circ\text{C}$$



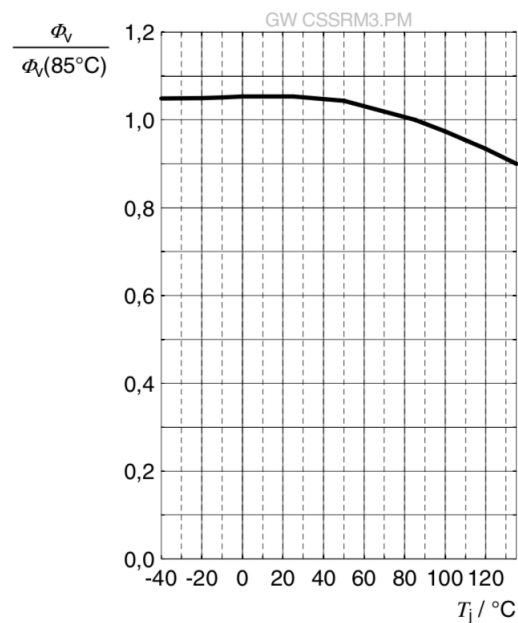
### 3- Relative Luminous Flux vs Current

$$\Phi_v / \Phi_v(700 \text{ mA}) = f(I_F); T_J = 85 \text{ }^\circ\text{C}$$



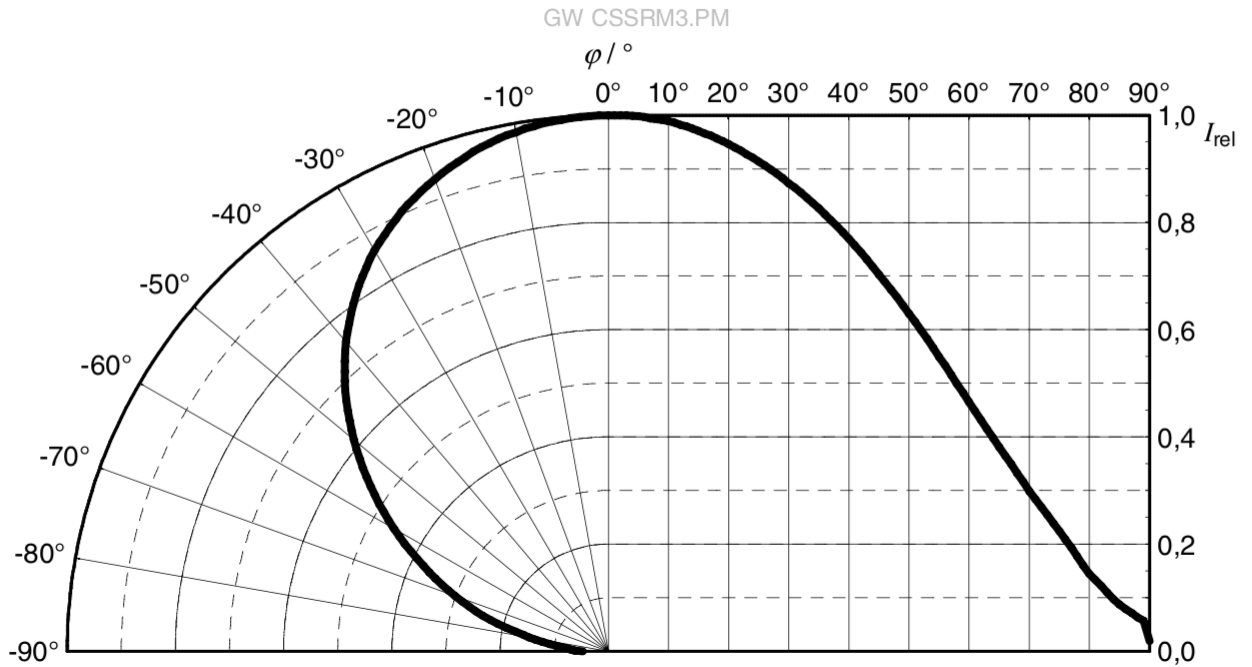
### 4- Relative Luminous Flux vs. Temperature

$$\Phi_v / \Phi_v(85 \text{ }^\circ\text{C}) = f(T_J); I_F = 700 \text{ mA}$$

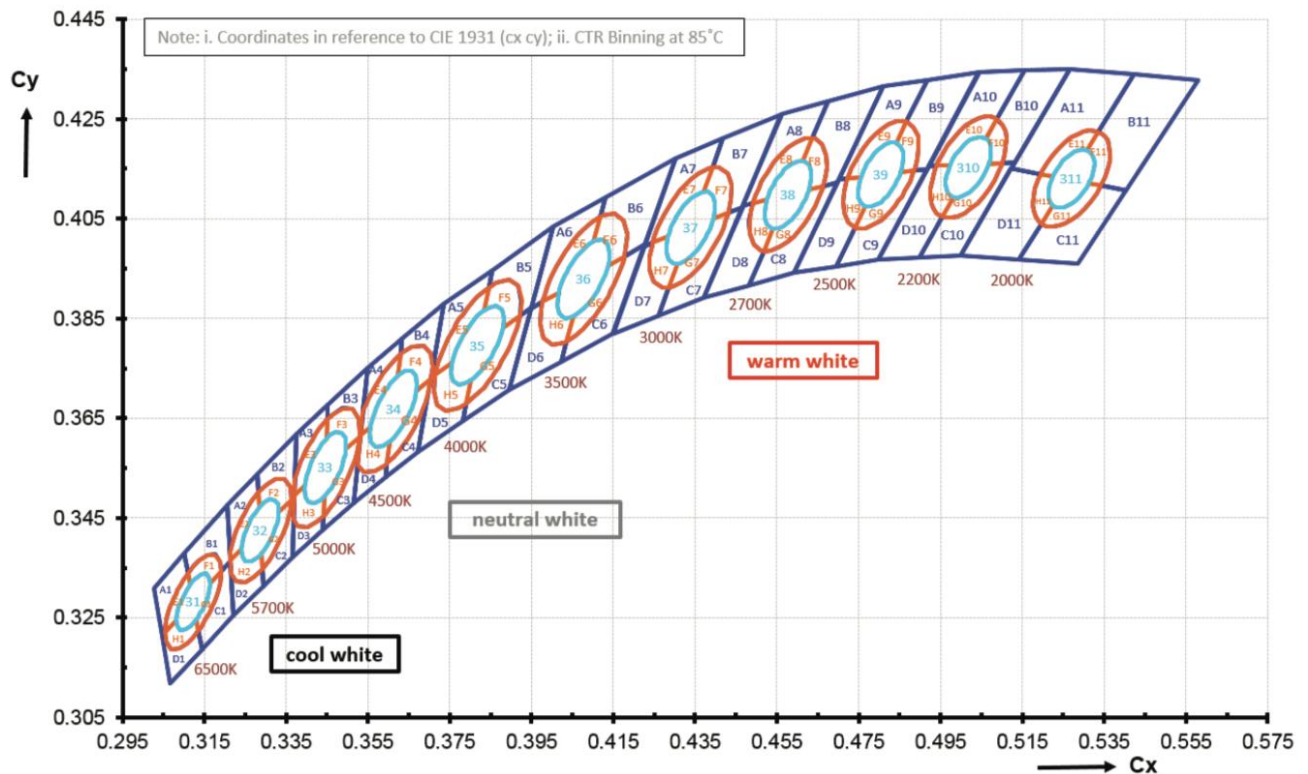


### 5- Radiation Characteristic

$$I_{rel} = f(\phi); T_J = 85^\circ\text{C}$$



### 6- Warm and Neutral White Kits Plotted on Ansi Standart Chromaticity Regions



### Notes

- All plotted figures in led module specifications are collected from the datasheet of Osram Oslon Square (GW CSSRM2.PM) provided by OSRAM via [https://www.osram.com/os/products/led-general-lighting/product\\_portfolio\\_for\\_general\\_lighting.jsp](https://www.osram.com/os/products/led-general-lighting/product_portfolio_for_general_lighting.jsp)
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