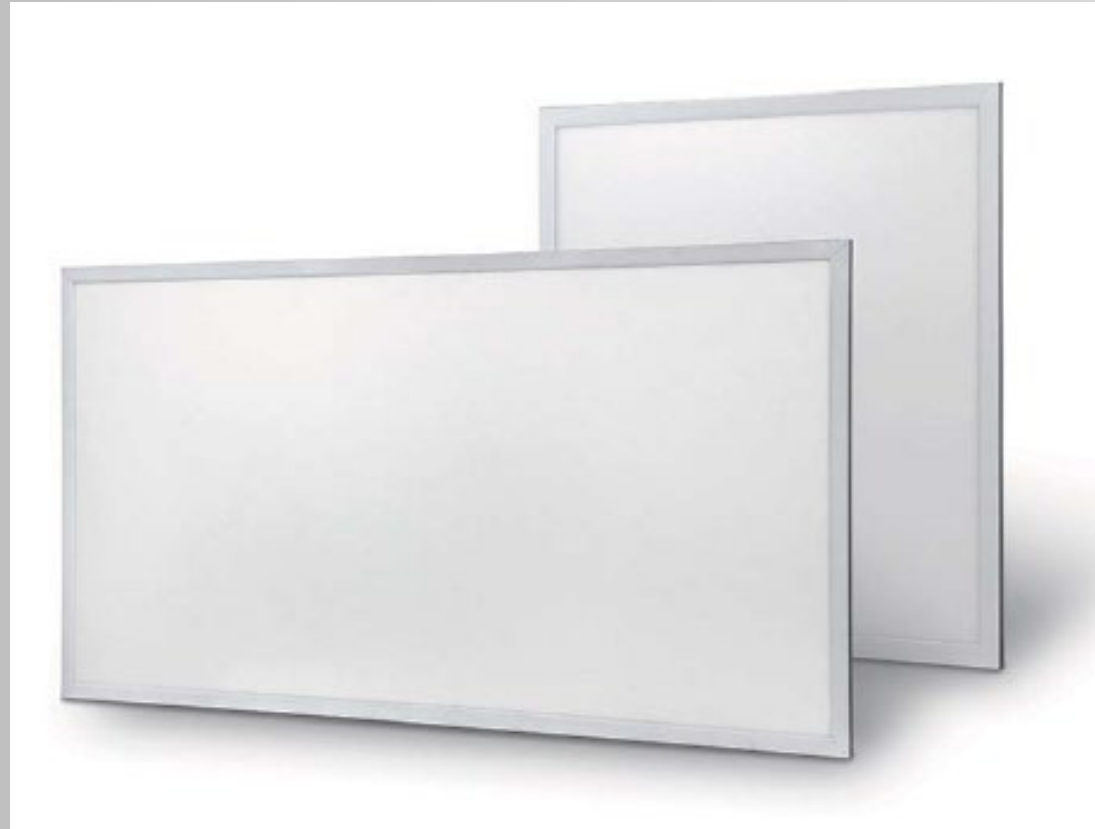


# Led COI Medical Panel

Hospital lighting should permit rapid and correct evaluation of the patient's health status as judged from visual inspection of the colour or condition of the patient's skin, eyes or tissue. It is important that medical staff can detect the onset of cyanosis upon visual observation reliably. Cyanosis is a state where the oxygen levels in the blood are dangerously low. It can be diagnosed from the bluish discoloration of the skin or mucous membranes



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Product Specification

# LED Bollard Light

## Product APPLICATIONS

Suitable for:  
 Medical examination  
 Doctors rooms  
 Clinics  
 Hospitals  
 Laboratories  
 High Ra applications

## Product FEATURES

90 Lm/W delivered light  
 COI < 2,2  
 Ra > 95  
 10mm Flat Panel  
 UGR < 19 with micro prismatic diffuser  
 PMMA Light Guide plates (no yellowing)  
 No "hot lines" or "Yellow Lines"  
 1-10V or Dali dimmable options  
 Cord set included  
 Surface mount, recessed or suspended  
 Sizes  
 595mm X 595mm  
 1195mm x 295mm  
 1195mm x 595mm



TECHNICAL DATA			
<b>ELECTRICAL INFORMATION</b>			
MODEL NO.	PHM66N/5040	PHM123N/5040	PHM126N/7240
WATT(W)	50W	50W	72
POWER SUPPLY	Boke		
RATED INPUT VOLTAGE(V)	220-240Vac		
FREQUENCY	50 / 60 Hz		
POWER FACTOR	≥0.92		
SURGE PROTECTION	220-240VAC		
DRIVER TYPE	Constant Current (CC)		
DIMMABLE	Non-dimmable (Dali, 1-10V Optional)		
INTELLIGENT CONTROL	-		
<b>OPTIC INFORMATION</b>			
LIGHT GUIDE PLATE (LGP)	PMMA		
LUMINOUS FLUX (±5%)	4500	4500	6480
EFFICACY (4000K, RA70)	90 LM/W		
CORRELATED COLOR TEMPERATURE	4000K/5000K		
COLOR RENDERING INDEX	RA95		
BEAM ANGLE	120 Deg		
COI	<2,2		
UGR	<19		
<b>DIMENSIONS &amp; MOUNT</b>			
PRODUCT DIMENSION (MM)	595mm x 595mm	1195m x 295mmm	1195mm x 595mm
LUMINAIRE NETWEIGHT KG			
MOUNTING OPTION	Recessed / surface / suspended		
MATERIAL	Aluminium Frame , PMMA. Micro Prismatic diffuser		
FINISH	Powder Coating		
FINISHING COLOUR	Wite		
IP RATING	IP44		
<b>LIFESPAN &amp; WARRANTY</b>			
LIFETIME (HR)	>65,000Hrs (Ta=30°C@L70)		
OPERATING TEMP.(°C)	-30°C ~ 50°C		
WARRANTY	5 Years		

# Product TECHNICAL

Cyanosis can be detected in a blue-purple discoloration area commonly around the mucous membranes which are around the lips, fingers and toes. It is one of the respiratory distress' symptoms that can be caused by either the low level of oxygenated blood or poor circulation. Low oxygen saturation in the blood will make the skin and lips appear to be blue since the blood's colour changes from bright red to a darker bluish.

Patients with cyanosis need urgent assessment and initiation of medical care.

Therefore, a systematic and rational approach in identifying cyanosis symptoms are crucial since its occurrence is known to be one of the most difficult situations to be handled in the paediatric world as well as in other medical diagnosis.

Thus, the early detection of cyanosis symptoms and understanding the physiology of oxygenation in neonates are important to save lives.

There are three different output rays can explain the light paths in the human's skin.

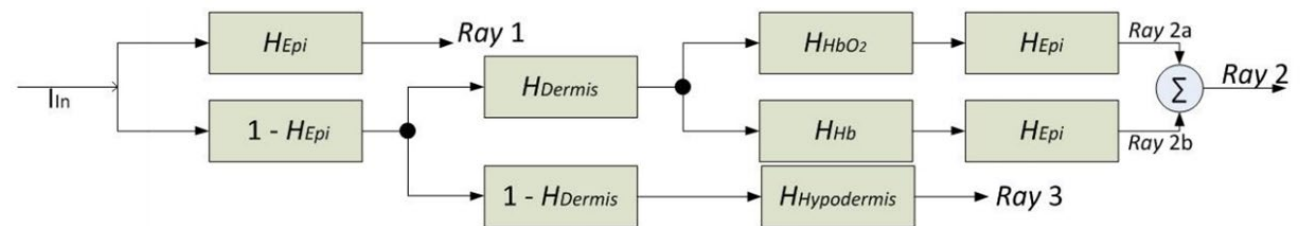
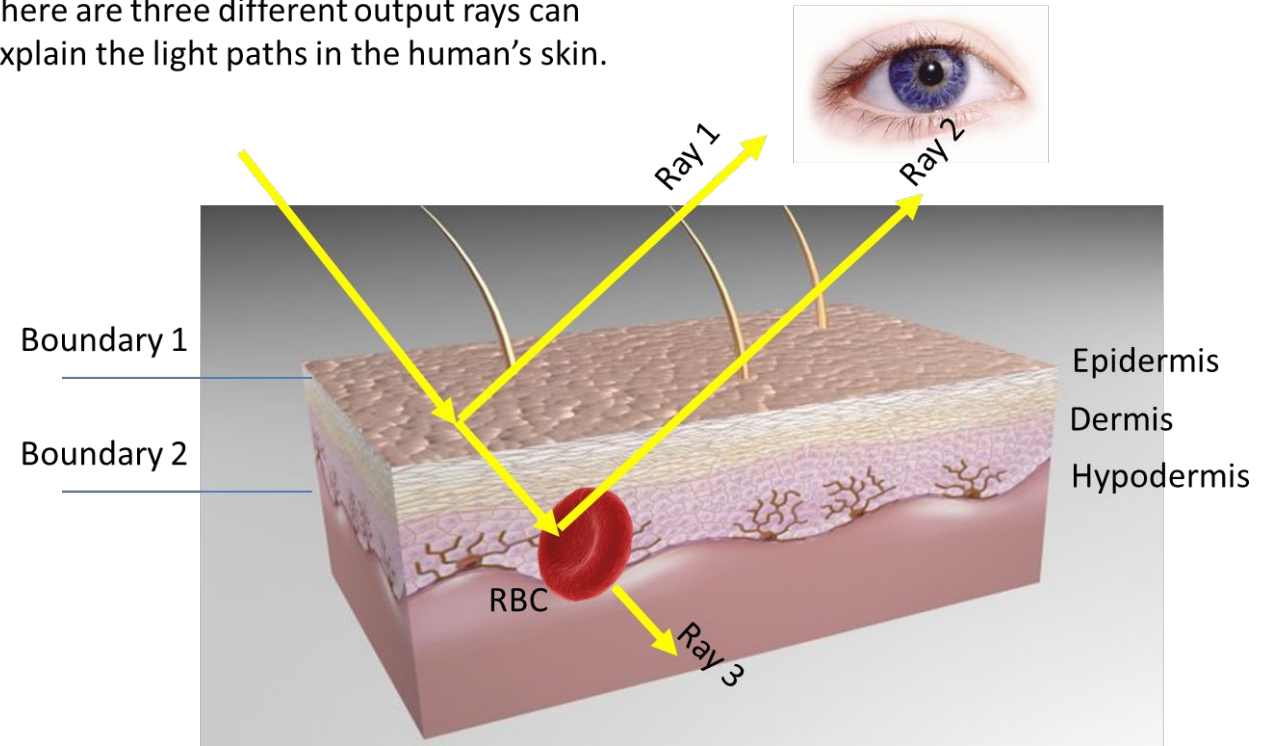


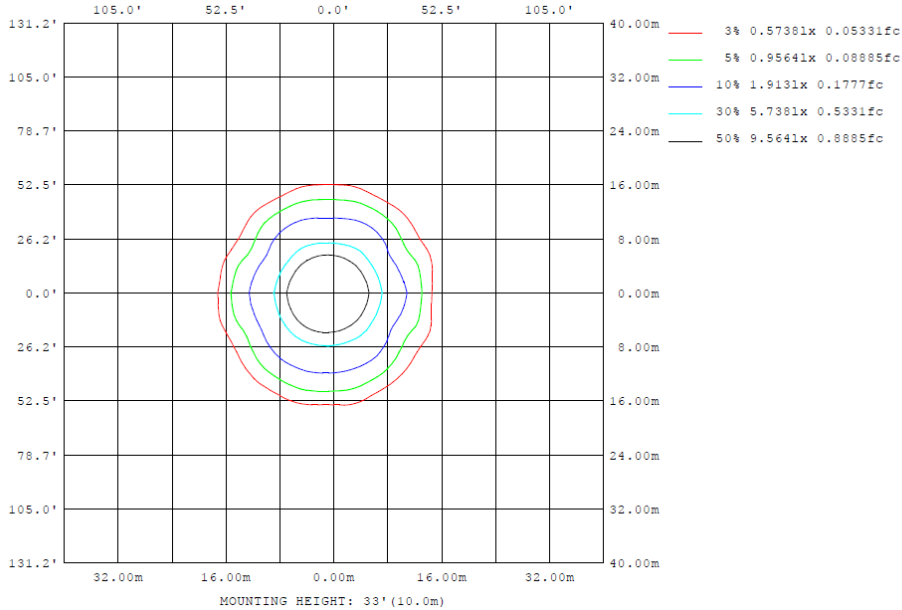
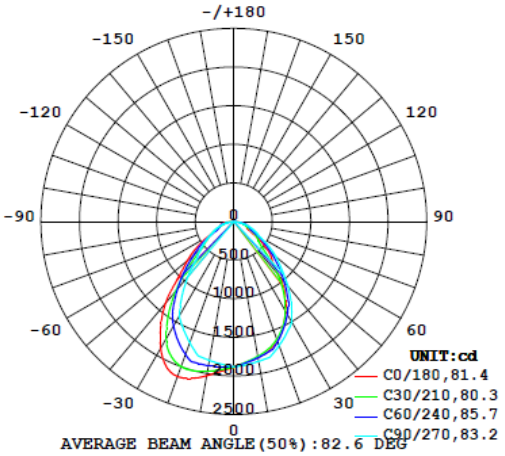
Fig. 3. Block diagrams of transfer function in skin optic.

# Product APPLICATION



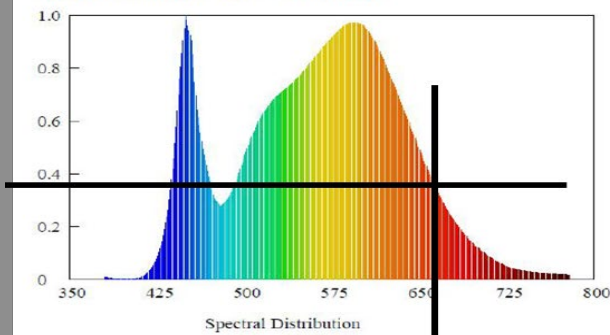
# Product PHOTOMETRY

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

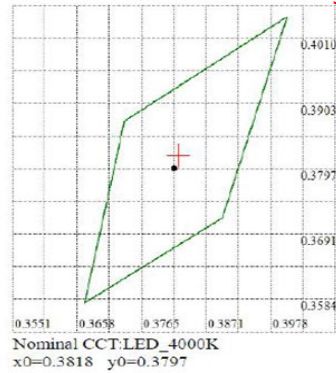


# Product COMPARISON

## 4.2 Spectrum Spectroradiometric Parameters



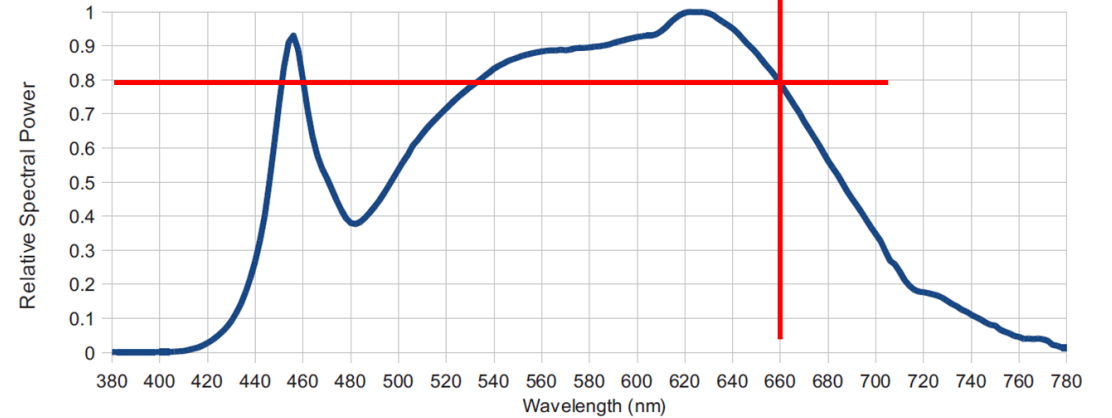
Standard wave length



Chromaticity Coordinates:  $x=0.3825$   $y=0.3817$   $u'=0.2245$   $v'=0.504$   
 Correlated Color Temperature: 3980 K  
 Colour Fidelity Index:  $R_f=82$   
 Luminous Flux: 4044.98 lm  
 Chromaticity Difference: +0.00168Duv  
 Color Ratio:  $K_r=38.0\%$   $K_g=52.6\%$   $K_b=9.4\%$   
 Bandwidth: 19.6nm  
 Photosynthetically Active Radiation(PAR): 12.19W  
 Rendering Index:  $R_a=82.6$   
 $R_1=81$   $R_2=89$   $R_3=95$   $R_4=82$   $R_5=81$   $R_6=84$   $R_7=86$   $R_8=64$   
 $R_9=7$   $R_{10}=73$   $R_{11}=81$   $R_{12}=61$   $R_{13}=83$   $R_{14}=97$   $R_{15}=74$   $R_e=76$

Dominant Wavelength: 577.0 nm(E)  
 Gamut Index:  $R_g=95$   
 Purity: 0.2936  
 Peak Wavelength: 450.0 nm  
 Radiant Flux: 12.443 W  
 Photosynthetic Photon Flux(PPF): 57.50  $\mu\text{mol/s}$

COI wave length

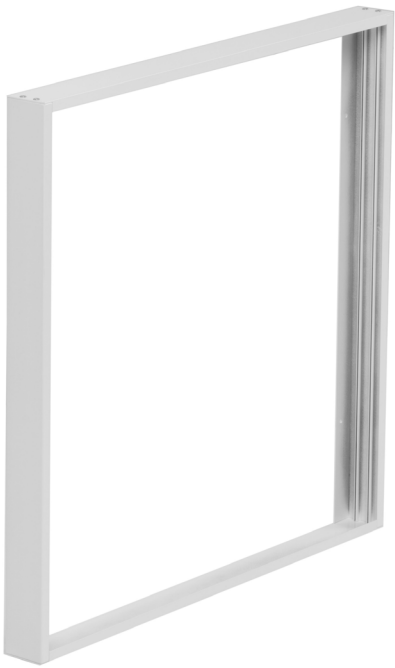


\* The spectral power distribution combines the weighted spectral power distributions of all spatial measurements.

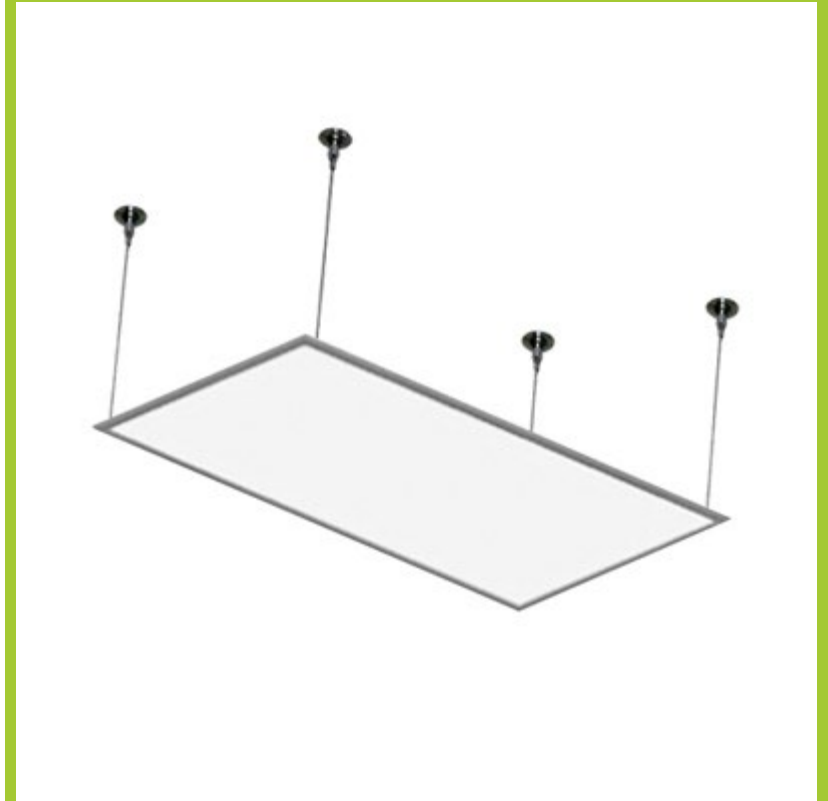
### LM-79 Performance Data

Spectral	CIE 1931 (u, v)	(0.393, 0.393)
	CIE 1976 (u', v')	(0.227, 0.511)
	Correlated Colour Temperature (CCT)	3800 K
	Colour Spatial Uniformity	0.0015
	Colour Rendering Index (Ra)	92.9
	Special CRI 9 (R <sub>9</sub> )	72
	Distance from Planckian Locus (Duv)	0.0041
	Scotopic/Photopic Ratio	1.71
	Cyanosis Observation Index	0.9
	Electrical	Voltage
Frequency		50 Hz
Current		0.197 A
Power		45.6 W
Power Factor		0.97
Current THD	10.7 %	

## Product ACCESSORIES



Mounting Options  
Recessed / Surface / Suspended



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