



Anti-glare High Bay/Low Bay Solution with Luminus COBs

**Luminus Application Group
July 2016**

Outline

- Luminus COBs for High bay/Low Bay Applications
- Anti-glare Optics for COBs
- Beam Distribution of Anti-glare glass optics on CXM22
- Beam Distribution of Anti-glare glass optics on CXM32

Over 115lm/W Low Bay/High bay with Gen 3 Luminus COBs at 4000K CRI80

Applications	Low bay(50W)	Low/High Bay(75W)	High Bay(150W)
COBs	CLM-22-F4	CXM-22-F4	CXM-32-F4
Driving current	1.25	1.25	2.5
Voltage	34.5	51.5	51.5
CCT	4000	4000	4000
CRI	80	80	80
Lumen Output_85C	6600	9500	19000
LED power(W)	43.1	64.4	128.75
LED Efficacy_hot	153.04	147.57	147.57
Lens efficiency	90%	90%	90%
Driver efficiency	88%	88%	88%
Fixture output(lm)	5940	8550	17100
Fixture power(W)	49.01	73.15	146.31
Fixture efficiency(lm/W)	121	117	117

Around 130lm/W Low Bay/High bay with Gen 3 Luminus COBs at 5000K CRI70

Applications	Low bay(50W)	Low/High Bay(75W)	High Bay(150W)
COBs	CLM-22-F4	CXM-22-F4	CXM-32-F4
Typical current	1.25	1.25	2.5
Voltage	34.5	51.5	51.5
CCT	5000	5000	5000
CRI	70	70	70
Lumen Output_85C	7200	10500	20900
LED power(W)	43.1	64.4	128.75
LED Efficacy_hot	166.96	163.11	162.33
Lens efficiency	90%	90%	90%
Driver efficiency	88%	88%	88%
Fixture output(lm)	6480	9450	18810
Fixture power(W)	49.01	73.15	146.31
Fixture efficiency(lm/W)	132	129	129

Around 115lm/W Low Bay/High bay with Gen1/Gen2 Luminus COBs at 5000K CRI70

Applications	Low bay(50W)	Low/High Bay(75W)	High Bay(150W)
COBs	CXM-22-F2	CXM-22-F3	CXM-32-F2
Typical current	1.28	1.8	2.5
Voltage	34	35.5	52
CCT	5000	5000	5000
CRI	70	70	70
Lumen Output_85C	6250	9215	19000
LED power(W)	43.5	63.9	130
LED Efficacy_hot	143.61	144.21	146.15
Lens efficiency	90%	90%	90%
Driver efficiency	88%	88%	88%
Fixture output(lm)	5625	8293.5	17100
Fixture power(W)	49.45	72.61	147.73
Fixture efficiency(lm/W)	114	114	116

Anti-glaring technologies:

- High output single emitter increase the potential of glare
- Good optical management is key to provide comfortable, anti-glare light
- One of anti-glaring technologies is to use multi-imaging approach to re-distribute the light from point of light
- Another anti-glaring technologies is to eliminate the wide angle light with appropriate optical designed lens

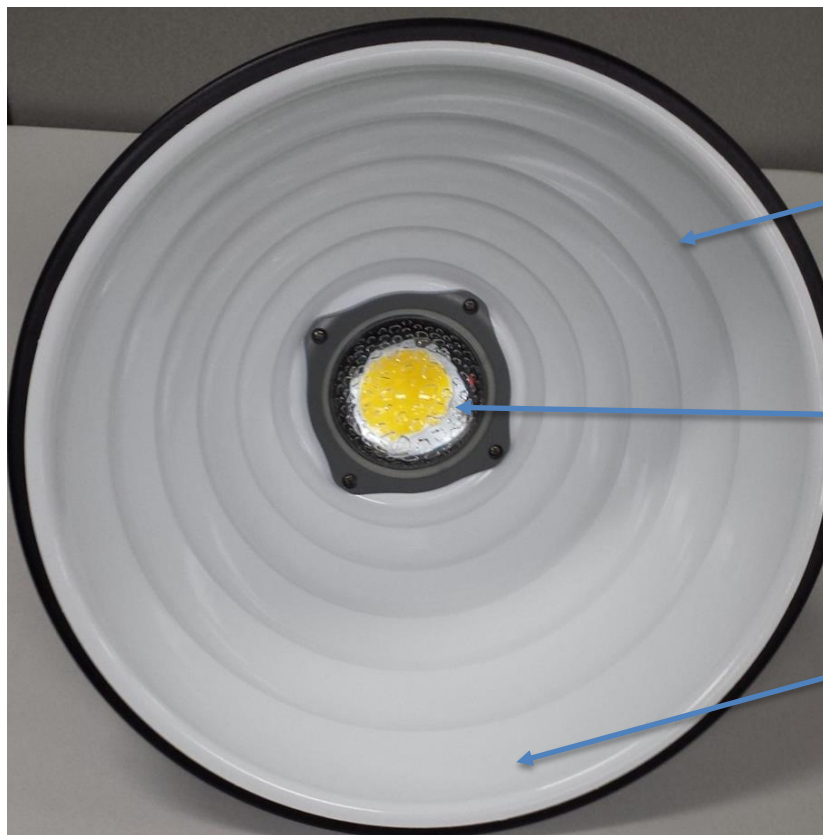
Anti-glaring narrow beam angle glass lens



Anti-glare multi-imaging features

Narrow beam angle to control
Wide beam angle

Anti-glaring high bay design

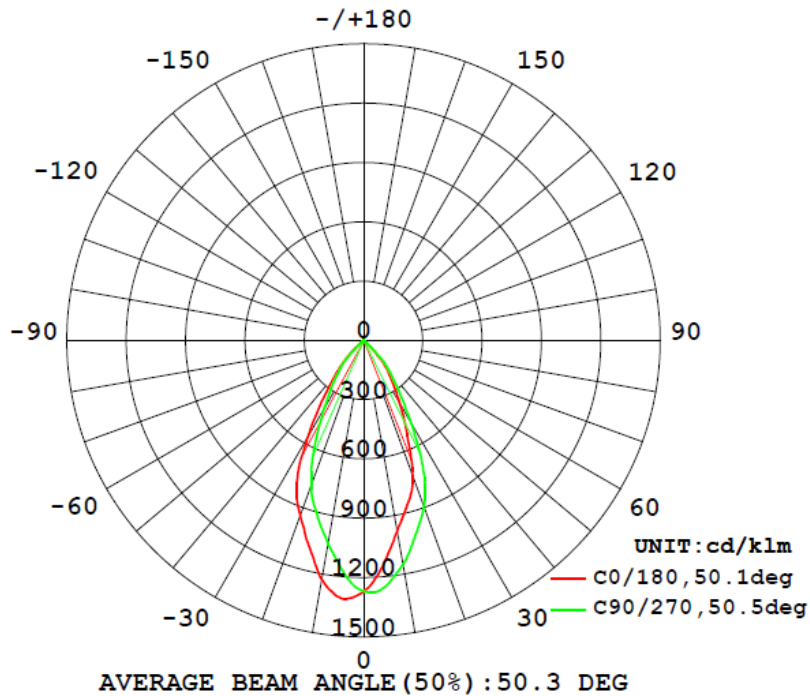


High bay reflector as heat sink

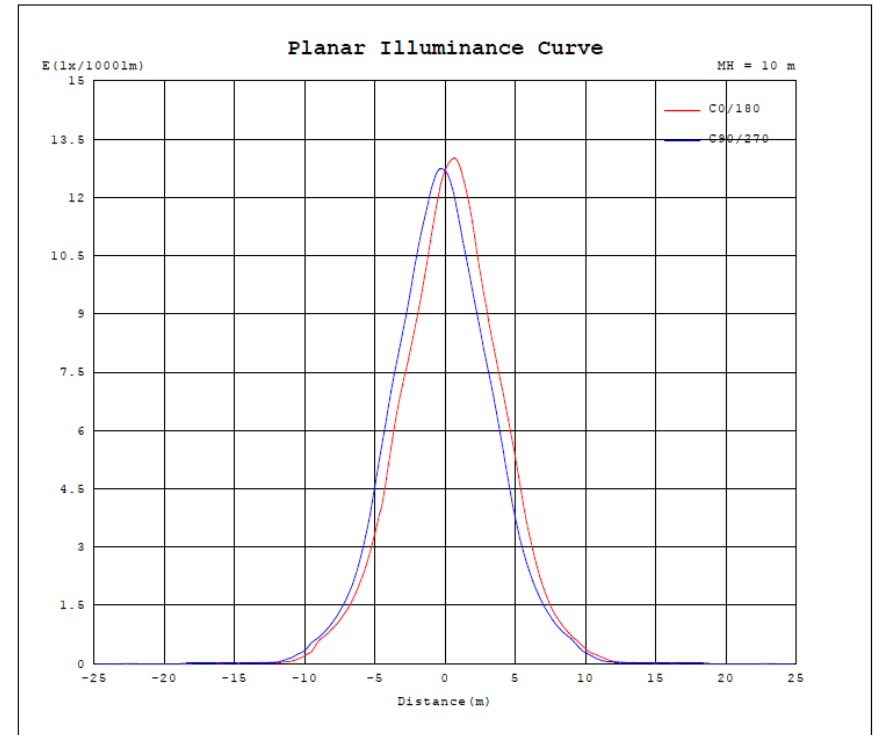
Anti-glare narrow beam glass lens

High bay reflector to block wide angle glaring light

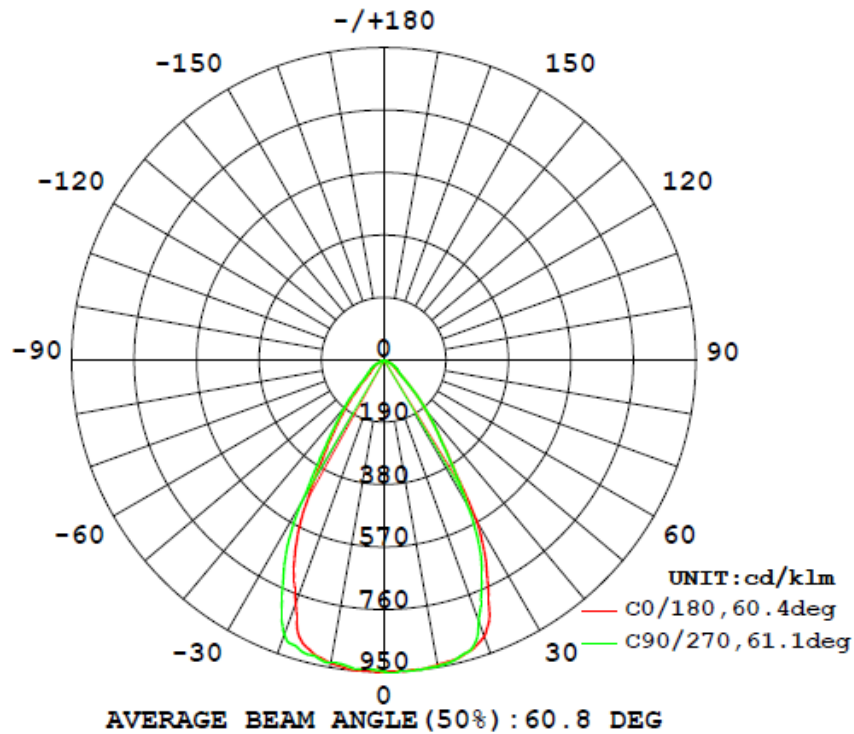
Beam Polar distribution



Beam distribution when mount height is 10m



Beam Polar distribution



Beam distribution when mount height is 10m

