



M MaxLiTE™

LED ROADWAY LIGHTING

MAXLITE LED ROADWAY LIGHTING

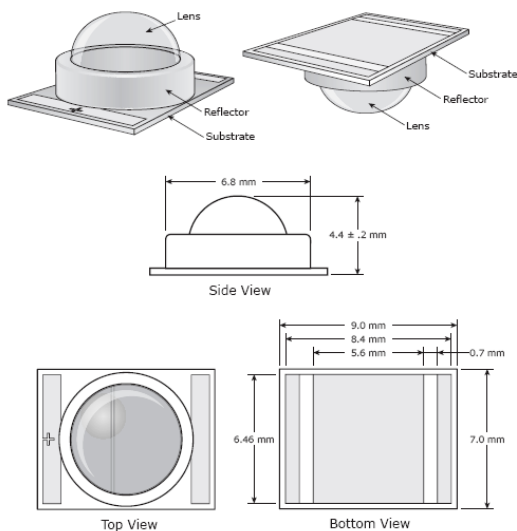
Why LED?

- Lamp Life
- Directionality
- Multi Layer vs. Multi Spot
- Light Trespass
- Light Pollution
- Perception of Brightness
- Flexibility



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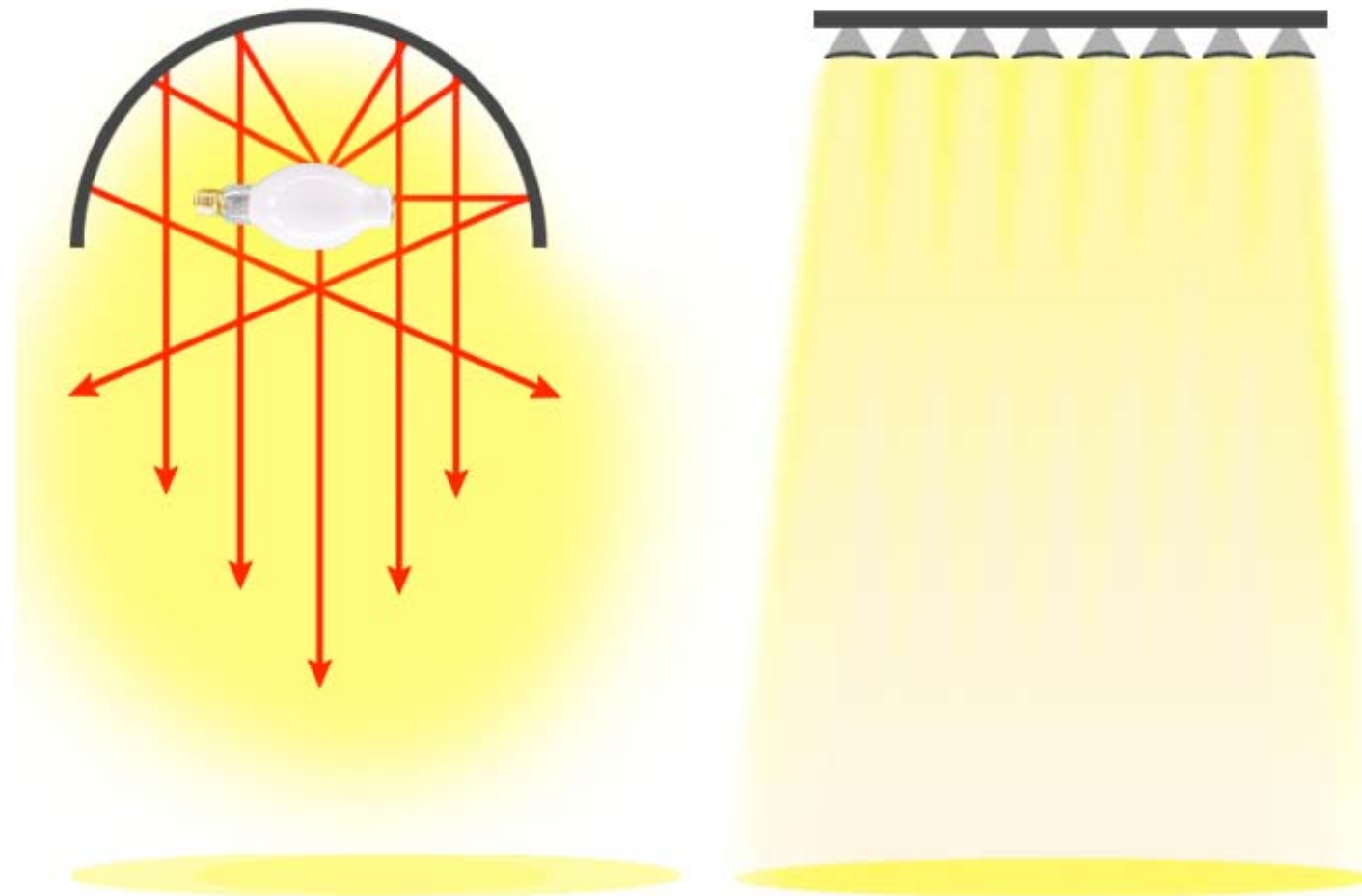
Cree Xlamp XR-E LED



Color	CCT Range		Base Order Codes Min Luminous Flux (lm)		Order Code
	Min.	Max.	Group	Flux (lm)	
Cool White	5,000 K	10,000 K	P2	67.2	XREWHT-L1-0000-00701
			P3	73.9	XREWHT-L1-0000-00801
			P4	80.6	XREWHT-L1-0000-00901
			Q2	87.4	XREWHT-L1-0000-00A01
			Q3	93.9	XREWHT-L1-0000-00B01
			Q4	100	XREWHT-L1-0000-00C01
Neutral White	3,700 K	5,000 K	Q5	107	XREWHT-L1-0000-00D01
			N3	56.8	XREWHT-L1-0000-005E4
			N4	62.0	XREWHT-L1-0000-006E4
			P2	67.2	XREWHT-L1-0000-007E4
			P3	73.9	XREWHT-L1-0000-008E4
			P4	80.6	XREWHT-L1-0000-009E4
Warm White	2,600 K	3,700 K	N2	51.7	XREWHT-L1-0000-004E7
			N3	56.8	XREWHT-L1-0000-005E7
			N4	62.0	XREWHT-L1-0000-006E7
			P2	67.2	XREWHT-L1-0000-007E7
			P3	73.9	XREWHT-L1-0000-008E7

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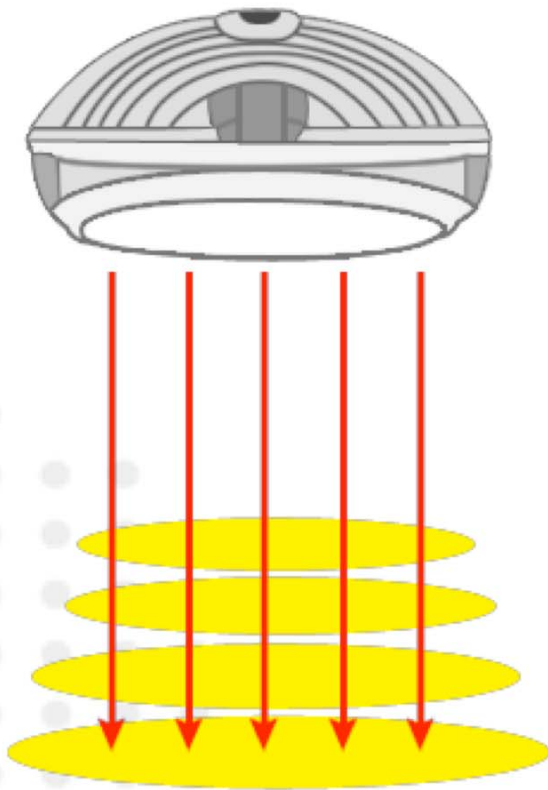
Directionality



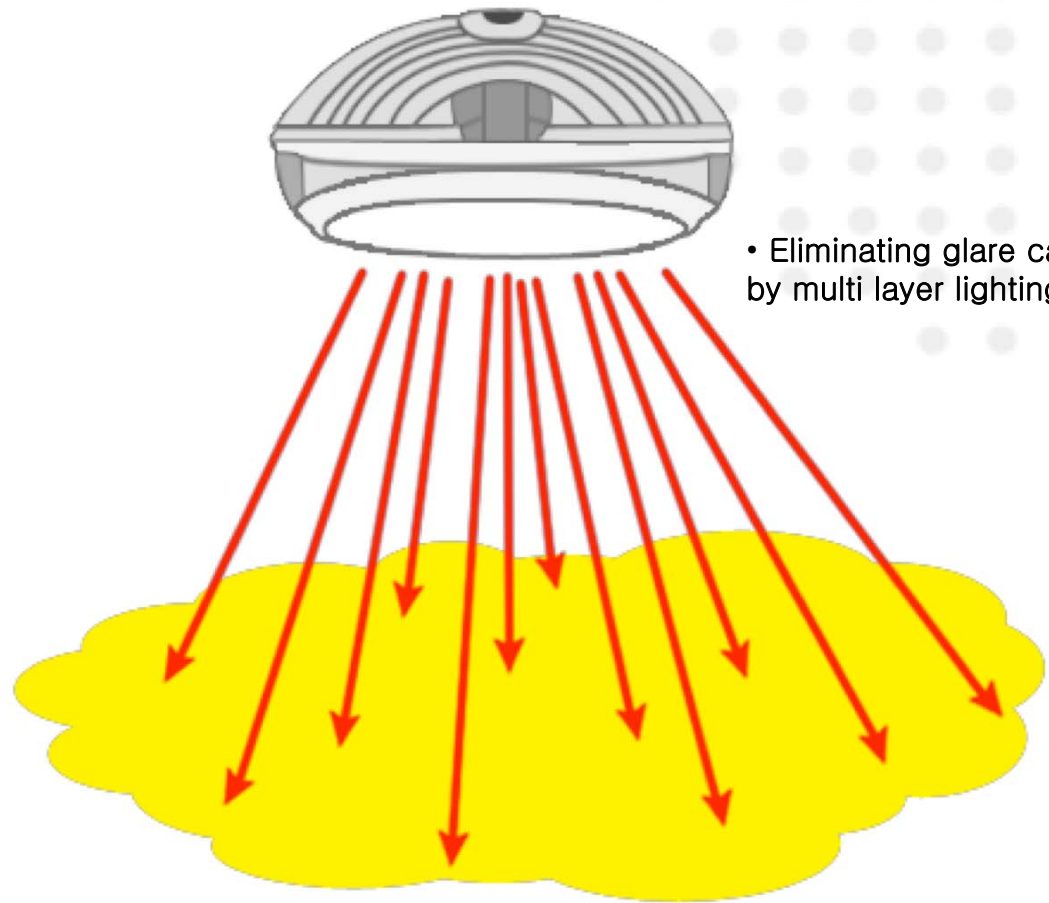
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Multi Layer vs Multi Spot

Multi Layer



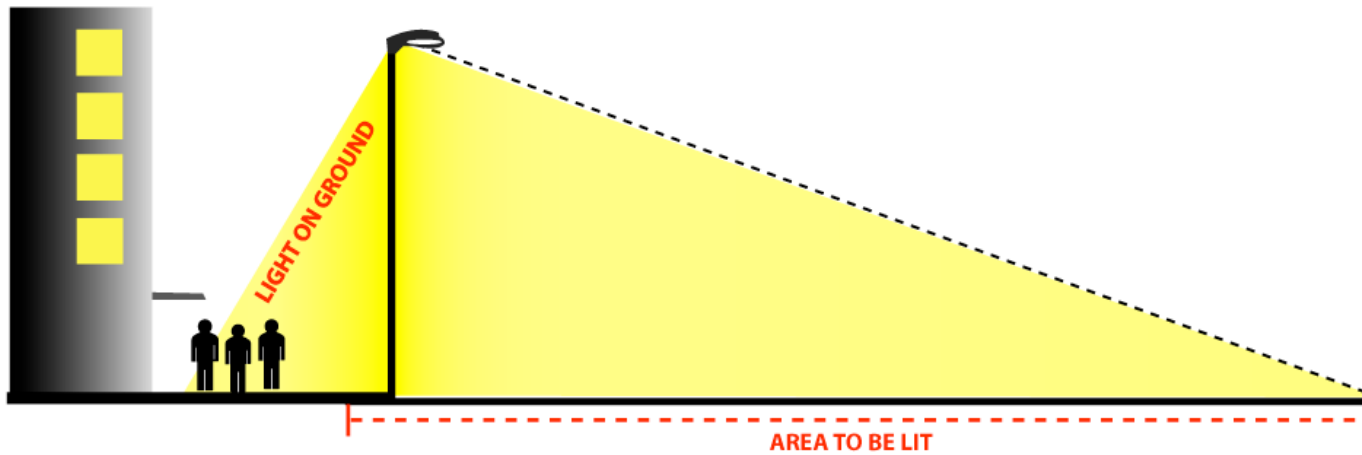
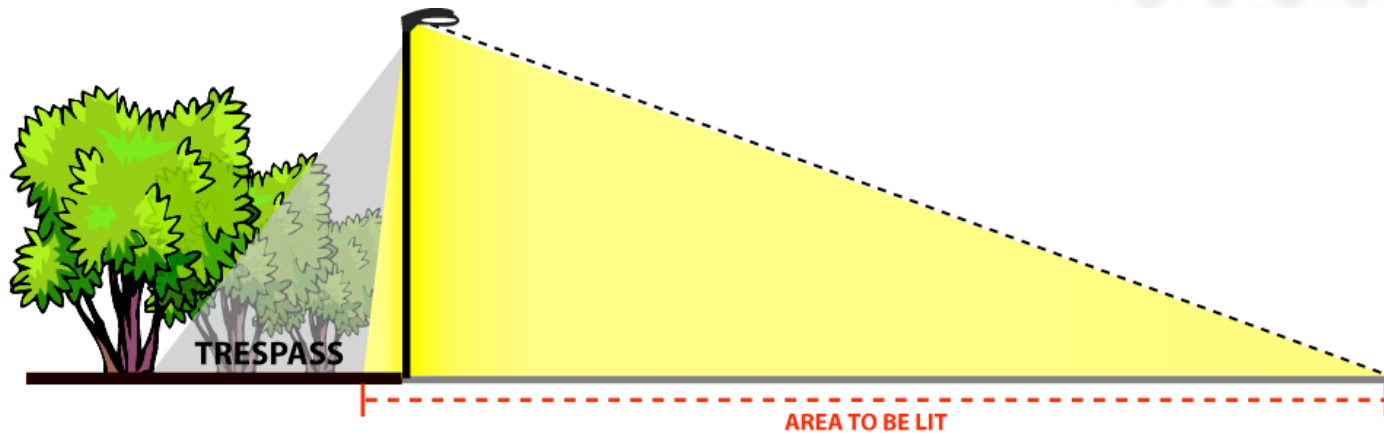
Multi Spot



- Eliminating glare caused by multi layer lighting.

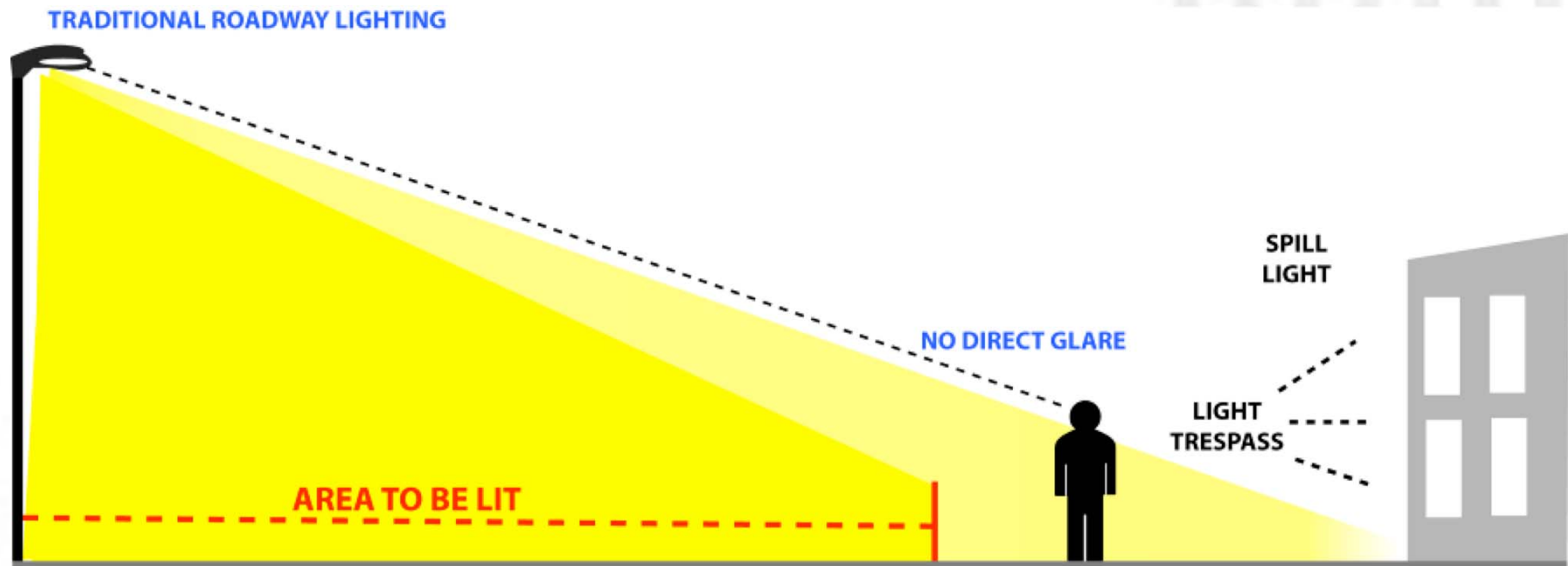
MAXLITE LED ROADWAY LIGHTING

Light Trespass



MAXLITE LED ROADWAY LIGHTING

Light Pollution



- Dark Skies Compliant

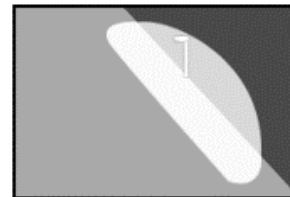
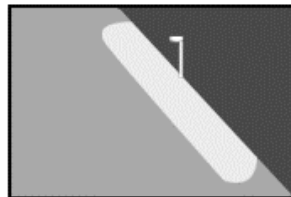
MAXLITE LED ROADWAY LIGHTING

Flexibility

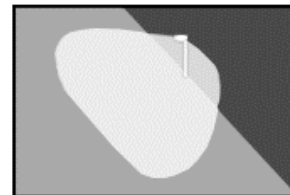
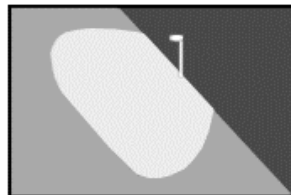
Trimmed House Side

Traditional Light Source

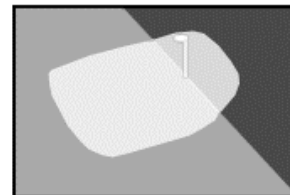
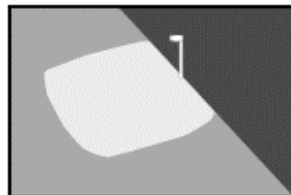
TYPE 2



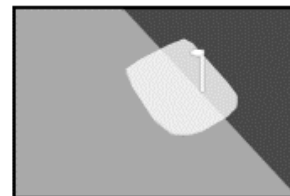
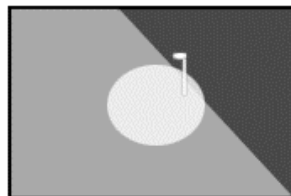
TYPE 3



TYPE 4



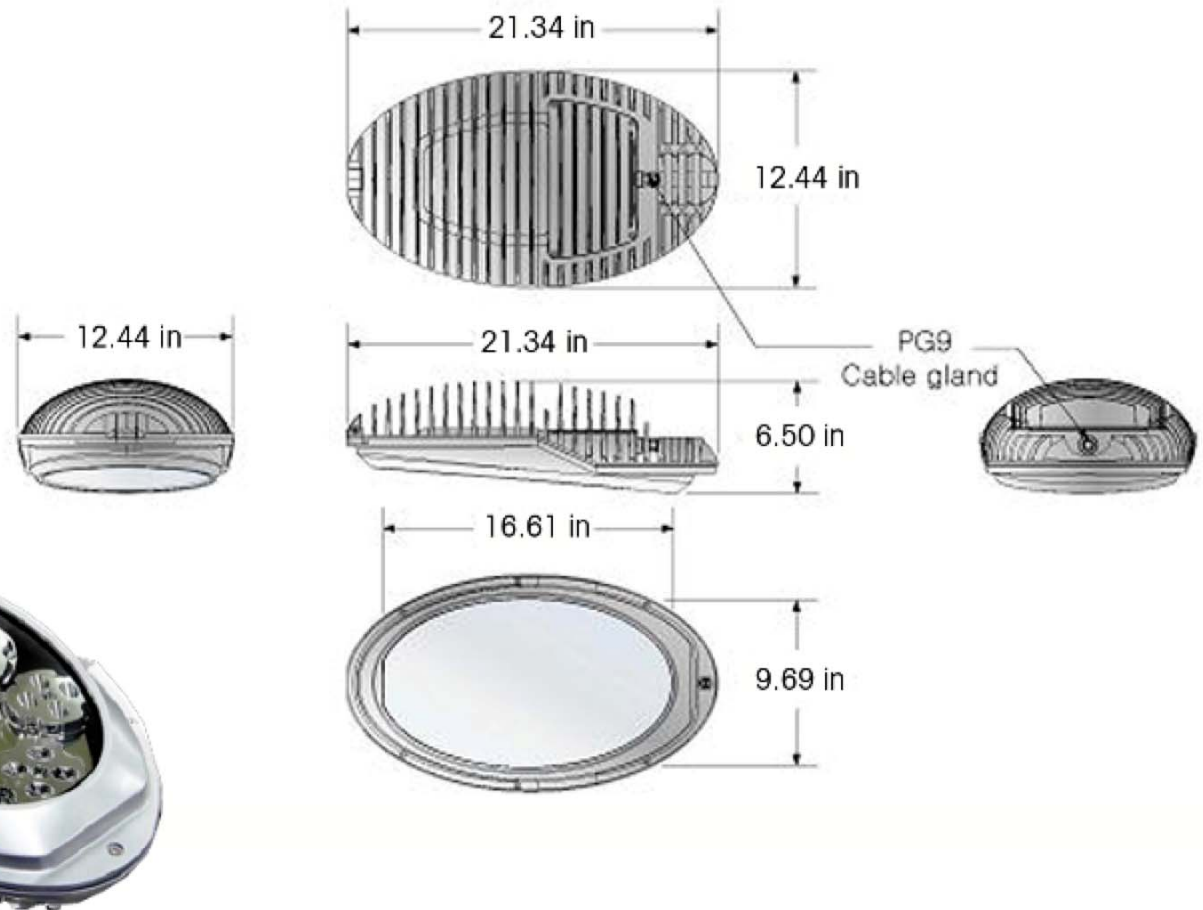
TYPE 5
Round



TYPE 5
Square

MAXLITE LED ROADWAY LIGHTING

Dimensions



MAXLITE LED ROADWAY LIGHTING

Construction

Construction

Fixture housing:

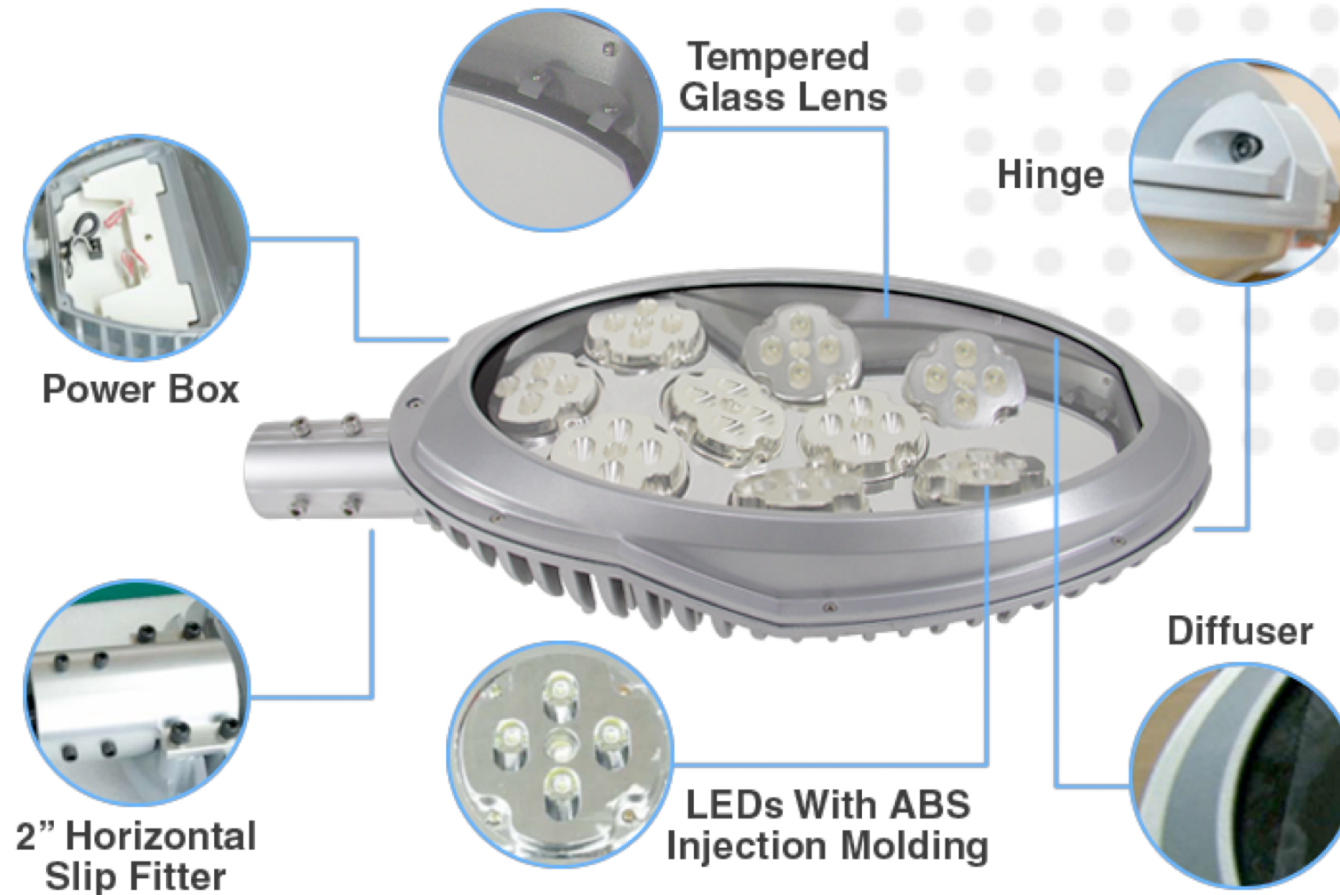
Die-cast aluminum fixture housing with integral heat dissipating

Reflector module

ABS injection molding draws various beam distributions by rotating angles

9 Modules

Nine Modules with five Xlamp XR-E Cree LED's for efficient assembly and manufacturability



MAXLITE LED ROADWAY LIGHTING

Comparison Chart

FT	HPS	MH	Induction Lamp	LED
30				
26	250W	150W	150W	80W-120W
23				
20	150W	150W	100W	65W
16				50W
13	70/100W	75/100W	85W	40W



MAXLITE LED ROADWAY LIGHTING

2 traffic lanes (two way)

	MaxLite	Betalied	250W HPS
Lamp	LED	LED	HPS
Photometric Type	Type I, VERY SHORT	Type III, SHORT	Type II, SHORT
CUT OFF	CUT OFF	SEMI CUT OFF	SEMI CUT OFF
Power consumption (W)	120	145.5	276
Lumen depreciation	0.95	0.95	0.6
Road-width (m)	11.2(road lanes-7.2, sidewalk-4)		
area (m2)	180.00	136.8	266.4
Standard Illumination (lx)	30		
W/m2	1.33	2.13	2.07
Pole height (m)	12		
Spacing (m)	25.0	19.0	37.0
ROAD - L X	Eav	40.0	30.0
	Emin	24.0	20.0
	Emax	62.0	49.0
	Emin/Eav	0.6	0.6
Road - L	Lav	2.2	2.4
	Lmin	1.5	2.0
	Lmax	3.2	2.9
	U0	0.7	0.7
	U1min	0.7	0.8
	T1(%)	5.0	9.0
	SR	1.0	0.8
	Eav	15.0	18.0

4 traffic lanes (two way)

	MaxLite	Betalied	250W HPS
Lamp	LED	LED	HPS
Photometric Type	Type I, VERY SHORT	Type III, SHORT	Type II, SHORT
CUT OFF	CUT OFF	SEMI CUT OFF	SEMI CUT OFF
Power consumption (W)	120	145.5	276
Lumen depreciation	0.95	0.95	0.6
Road-width(m)	20.4(road lanes-14.4, sidewalk 6)		
area(m2)	288.00	259.2	432
Standard Illumination (lx)	30		
W/m2	0.83	1.12	1.28
Pole height (m)	12		
Spacing(m)	20.0	18.0	30.0
ROAD - L X	Eav	38.0	36.0
	Emin	22.0	19.0
	Emax	54.0	52.0
	Emin/Eav	0.6	0.5
Road - L	Lav	2.0	2.4
	Lmin	1.1	1.2
	Lmax	2.6	3.6
	U0	0.6	0.5
	U1min	0.8	0.9
	T1(%)	2.0	10.0
	SR	0.4	0.5
인도	Eav	9.0	12.0

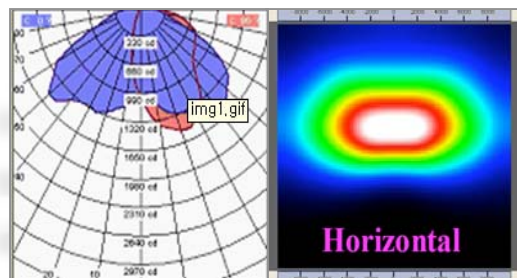
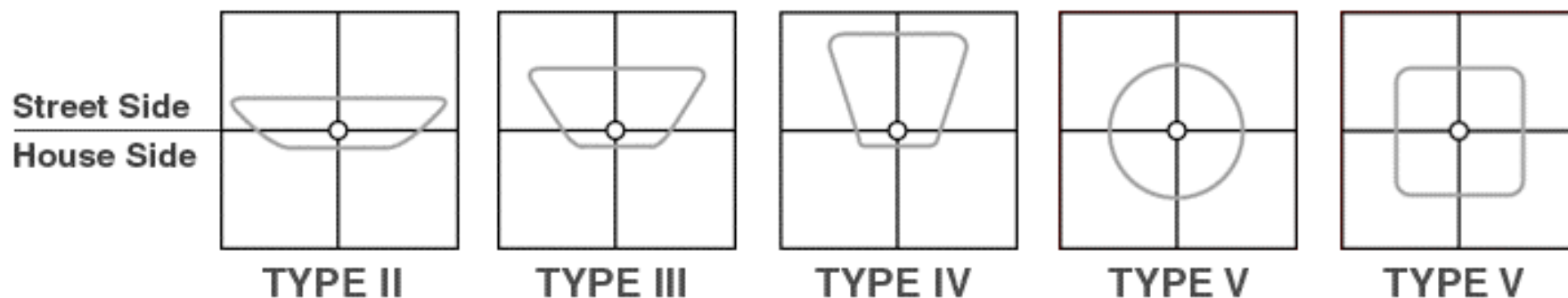
8 traffic lanes (two way)

	MaxLite	Betalied	250W HPS
Lamp	LED	LED	HPS
Photometric Type	Type I, VERY SHORT	Type III, SHORT	Type II, SHORT
CUT OFF	CUT OFF	SEMI CUT OFF	SEMI CUT OFF
Power consumption (W)	120	145.5	276
Lumen depreciation	0.95	0.95	0.6
Road-width(m)	34.8(road lanes-28.8, sidewalk 12)		
area(m2)	302.4	316.8	547.2
Standard Illumination (lx)	30		
W/m2	0.79	0.92	1.01
Pole height (m)	12		
Spacing(m)	21.0	22.0	38.0
ROAD - L X	Eav	38.0	35.0
	Emin	23.0	14.0
	Emax	53.0	57.0
	Emin/Eav	0.6	0.4
Road - L	Lav	2.0	2.2
	Lmin	1.4	1.4
	Lmax	2.5	3.1
	U0	0.6	0.5
	U1min	0.8	0.9
	T1(%)	2.0	13.0
	SR	0.7	0.8
인도	Eav	8.0	11.0

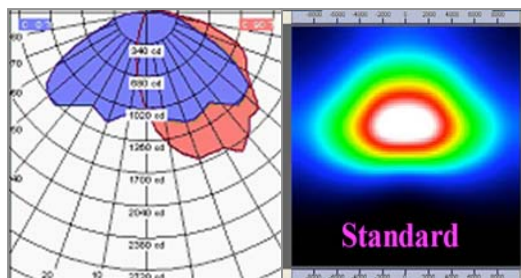
- Simulation Program: DIALUX v.4.7

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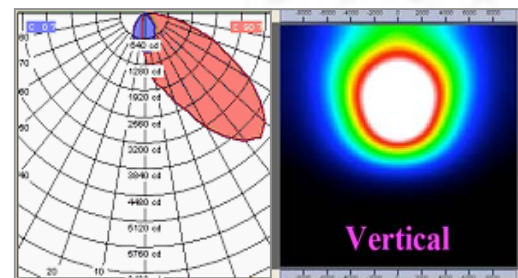
IESNA & Photometry Types



Type II



Type III



Type IV

- Maxlite currently supplies Type II & III
- Type IV & V due for release 4th quarter 2009