CRYSTAL-MINE

~4.9° spot beam especially designed for mining headlamps. Assembly with holder.

SPECIFICATION:

Dimensions	Ø 50.3 mm
Height	28.7 mm
Fastening	pin, screw
ROHS compliant	yes ⓘ

MATERIALS:

Component	Type	Material	Colour	Finish
F12985_CRYSTAL-MINE	Single lens	PMMA	clear	
C13478_CRYSTAL-HLD	Holder	PC	white	

ORDERING INFORMATION:

Quantities for one set:

Single lens	1
Holder	1

| Component		Qty in box	MOQ	MPQ	Box weight (kg)
F12985_CRYSTAL-MINE » Box size: 480 x 280 x 300 mm	Single lens	288	64	32	7.1
C13478_CRYSTAL-HLD » Box size: 480 x 280 x 300 mm	Holder	1152	64	32	6.1

DATE
31.05.2018

Ø2.5
Ø2
20 c/c

Bottom view

21.52
c/c

28.73
1.19

Front view

Ø50.3

Top view

INDEX	PART	MATERIAL	COLOR / COATING
1	C13478_CRYSTAL-HLD	PC	black
2	CRYSTAL-RS_	PMMA	CLEAR

MECHANICAL DRAWING

PRODUCT **CRYSTAL**

LEDiL®

Plastic moulding general tolerances according to DIN 16901-130 and applies if not otherwise shown in the drawing. Silicone moulding general tolerances according to ISO 3302-1 Class M3 and applies if not otherwise shown in the drawing.

FIRST ANGLE PROJECTION:

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SCALE	1:1	WEIGHT	-	A3	SHEET 1/1

Notes
Part dimensions are the master. Assembly drawing dimensions refer to the sum of the part dimensions.
Ensure four (4) clips are fixed in assembly process.
Ensure lens xyz-direction assembly result is stable.

See also our general installation guide: www.ledil.com/installation_guide

OPTICAL RESULTS (MEASURED):

CREE LEDs

LED	XP-G
FWHM / FWTM	4.7° / 10.5°
Efficiency	90 %
Peak intensity	66.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

CREE LEDs
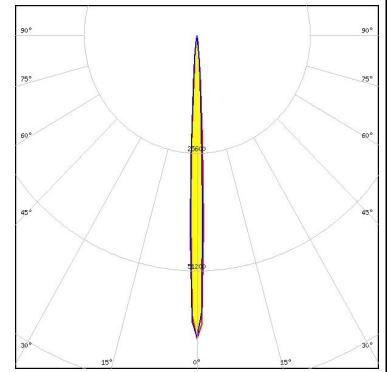
LED	XP-G2
FWHM / FWTM	4.6° / 12.0°
Efficiency	90 %
Peak intensity	65.2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

CREE LEDs
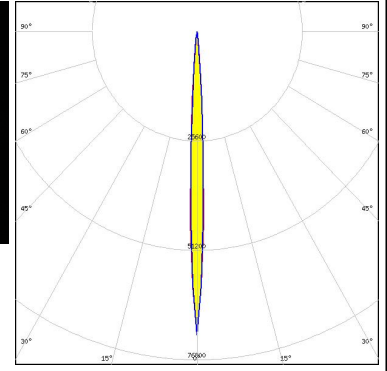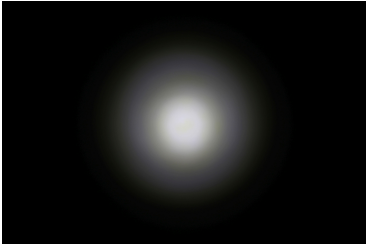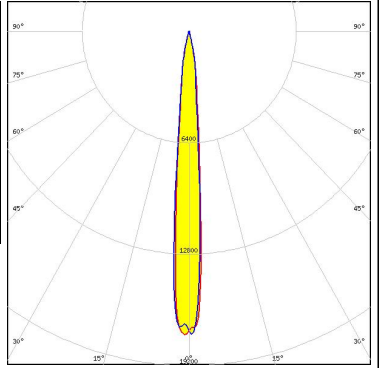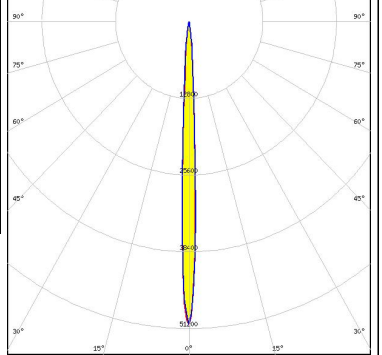
LED	XP-L HD
FWHM / FWTM	7.0° / 14.0°
Efficiency	86 %
Peak intensity	33 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

CREE LEDs
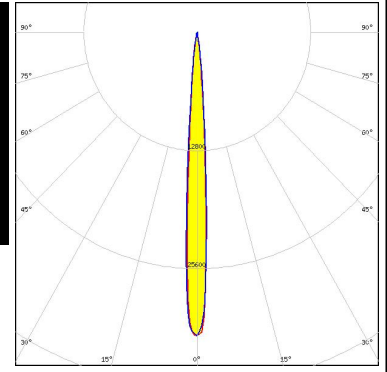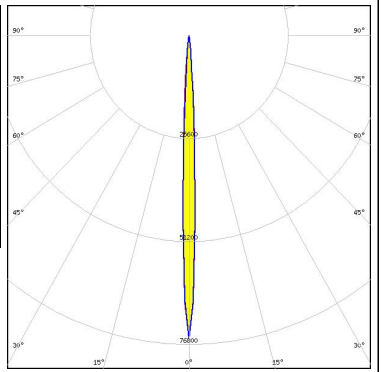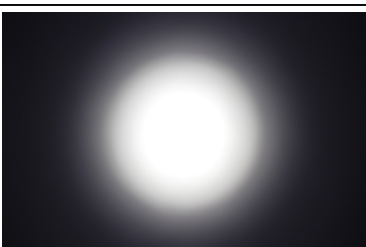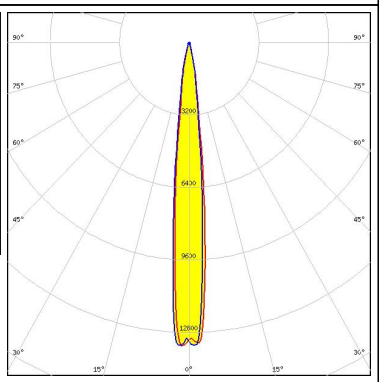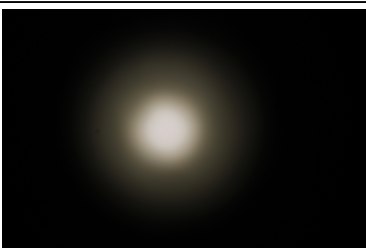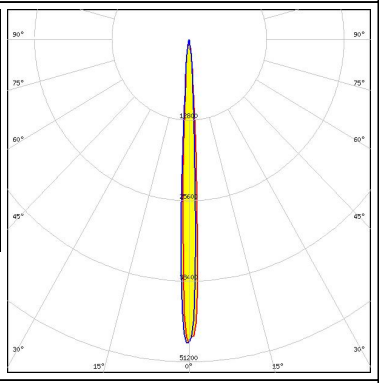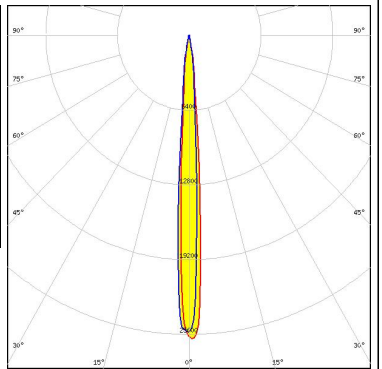
LED	XP-L HI
FWHM / FWTM	4.5° / 12.0°
Efficiency	92 %
Peak intensity	60 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OPTICAL RESULTS (MEASURED):

LUMILEDS

LED	LUXEON 5050 Round LES
FWHM / FWTM	9.0° / 23.0°
Efficiency	94 %
Peak intensity	17.5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

LUMILEDS

LED	LUXEON A
FWHM / FWTM	4.9° / 13.0°
Efficiency	89 %
Peak intensity	58.2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

LUMILEDS

LED	LUXEON T
FWHM / FWTM	4.9° / 13.0°
Efficiency	89 %
Peak intensity	55.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

LUMILEDS

LED	LUXEON TX
FWHM / FWTM	5.0° / 12.6°
Efficiency	94 %
Peak intensity	50.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OPTICAL RESULTS (MEASURED):

NICHIA

LED	NCSxx19B
FWHM / FWTM	3.6° / 12.0°
Efficiency	90 %
Peak intensity	73.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

NICHIA

LED	NV4x144A
FWHM / FWTM	11.0° / 24.0°
Efficiency	90 %
Peak intensity	13.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

NICHIA

LED	NVSxx19B/NVSxx19C
FWHM / FWTM	6.0° / 13.0°
Efficiency	93 %
Peak intensity	48 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

NICHIA

LED	NWSx229A
FWHM / FWTM	7.0° / 18.0°
Efficiency	91 %
Peak intensity	26 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OPTICAL RESULTS (MEASURED):

SAMSUNG

LED	LH351B
FWHM / FWTM	5.1° / 13.0°
Efficiency	90 %
Peak intensity	51.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
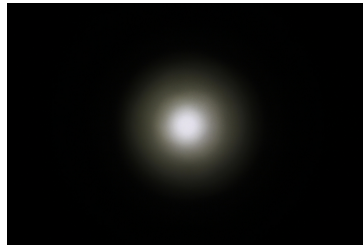
SAMSUNG

LED	LH351Z
FWHM / FWTM	4.2° / 10.0°
Efficiency	90 %
Peak intensity	71.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
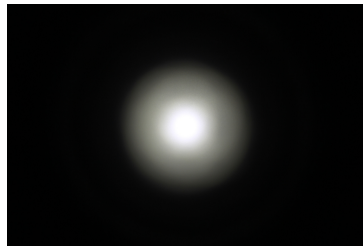
SEOUL SEMICONDUCTOR

LED	nPola
FWHM / FWTM	2.0° / 7.0°
Efficiency	94 %
Peak intensity	114 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
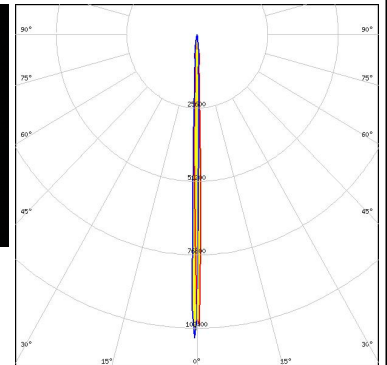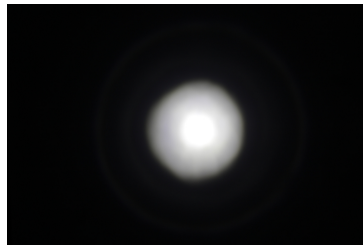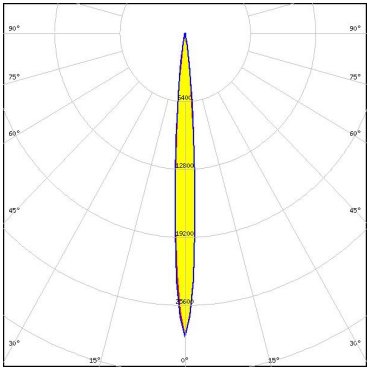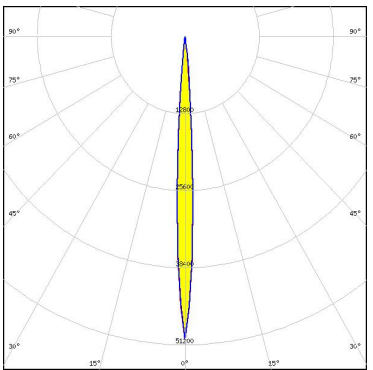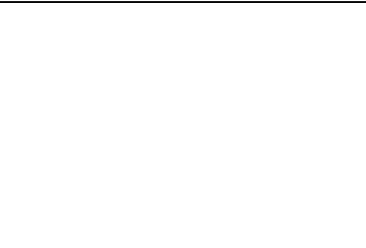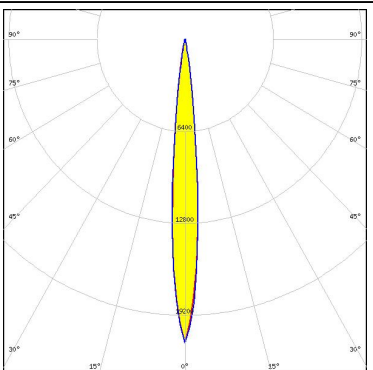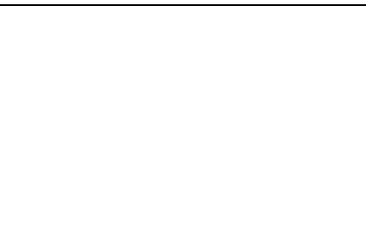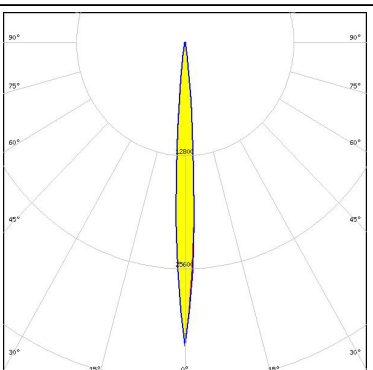
SEOUL SEMICONDUCTOR

LED	Z5M3
FWHM / FWTM	6.0° / 19.0°
Efficiency	93 %
Peak intensity	28.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OPTICAL RESULTS (SIMULATED):

LED	XHP35 HD
FWHM / FWTM	7.8° / 17.0°
Efficiency	94 %
Peak intensity	28.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

LED	XHP35 HI
FWHM / FWTM	6.2° / 13.0°
Efficiency	94 %
Peak intensity	50.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

LED	XHP35.2 HD
FWHM / FWTM	10.0° / 19.0°
Efficiency	94 %
Peak intensity	21.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

LED	XHP35.2 HD
FWHM / FWTM	8.0° / 16.0°
Efficiency	96 %
Peak intensity	34.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OPTICAL RESULTS (SIMULATED):

CREE LEDs

LED	XHP50.2
FWHM / FWTM	12.0° / 22.0°
Efficiency	95 %
Peak intensity	15.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

CREE LEDs
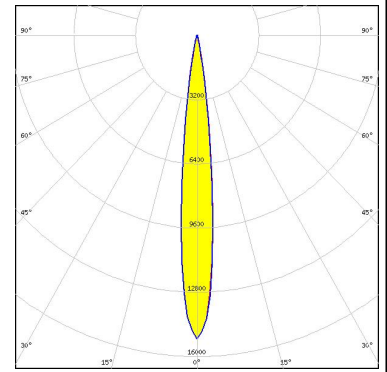
LED	XM-L2
FWHM / FWTM	8.0° / 16.0°
Efficiency	97 %
Peak intensity	35 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

LUMILEDS
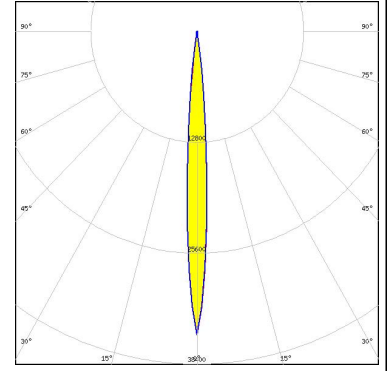
LED	LUXEON C
FWHM / FWTM	4.0° / 10.0°
Efficiency	94 %
Peak intensity	80.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
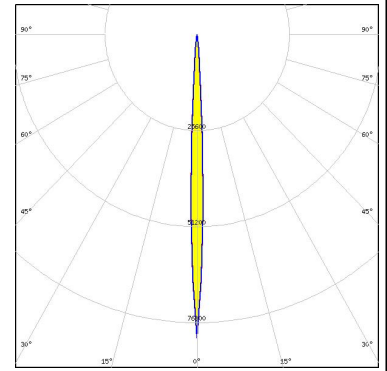
LUMILEDS

LED	LUXEON Rubix
FWHM / FWTM	4.0° / 10.0°
Efficiency	95 %
Peak intensity	107.9 cd/lm
LEDs/each optic	1
Light colour	Red
Required components:	
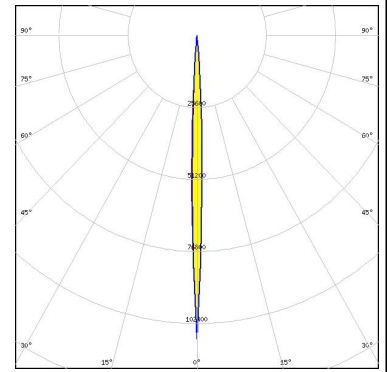
OPTICAL RESULTS (SIMULATED):

LUMILEDS

LED	LUXEON Rubix
FWHM / FWTM	4.0° / 10.0°
Efficiency	95 %
Peak intensity	96.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
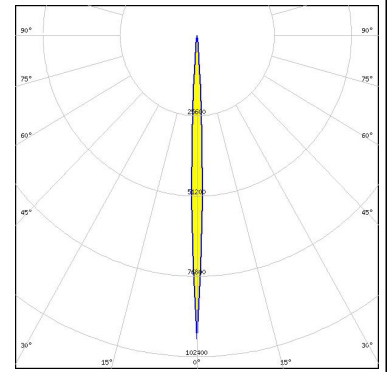
LUMILEDS

LED	LUXEON Rubix
FWHM / FWTM	4.0° / 10.0°
Efficiency	95 %
Peak intensity	104 cd/lm
LEDs/each optic	1
Light colour	Blue
Required components:	
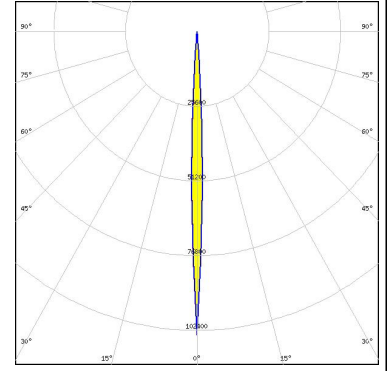
LUMILEDS

LED	LUXEON Rubix
FWHM / FWTM	10.0° / 17.0°
Efficiency	97 %
Peak intensity	26.6 cd/lm
LEDs/each optic	4
Light colour	RGBW
Required components:	
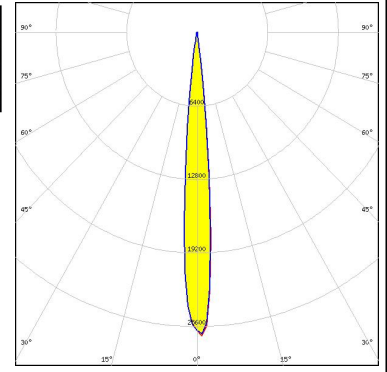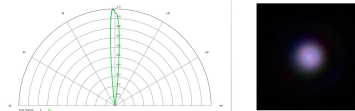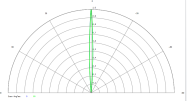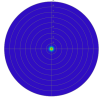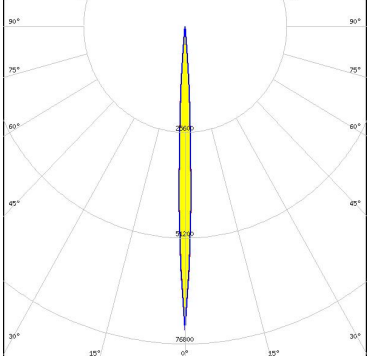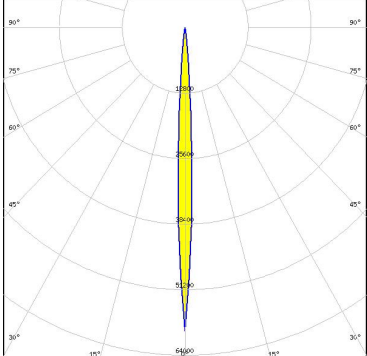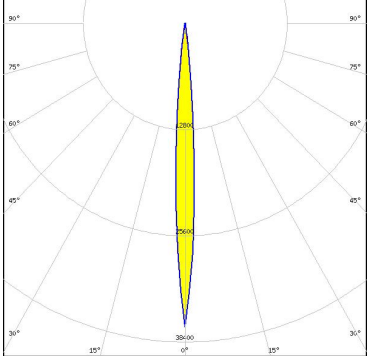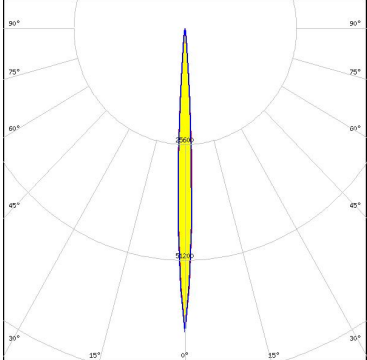
LUMILEDS

LED	LUXEON Rubix
FWHM / FWTM	4.0° / 10.0°
Efficiency	95 %
Peak intensity	104.6 cd/lm
LEDs/each optic	1
Light colour	Green
Required components:	

OPTICAL RESULTS (SIMULATED):

LUMINUS

LED	SST-10-B130
FWHM / FWTM	5.0° / 10.0°
Efficiency	95 %
LEDs/each optic	1
Light colour	IR
Required components:	

OSRAM Opto Semiconductors

LED	OSCONIQ P 3737 (2W version)
FWHM / FWTM	5.5° / 12.8°
Efficiency	94 %
Peak intensity	59.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OSRAM Opto Semiconductors

LED	OSCONIQ P 3737 (3W version)
FWHM / FWTM	5.5° / 12.8°
Efficiency	94 %
Peak intensity	59.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OSRAM Opto Semiconductors

LED	OSLON Square CSSRM2/CSSRM3
FWHM / FWTM	5.4° / 11.0°
Efficiency	94 %
Peak intensity	67 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

OPTICAL RESULTS (SIMULATED):

OSRAM Opto Semiconductors

LED	OSLON Square Flat
FWHM / FWTM	4.8° / 10.0°
Efficiency	94 %
Peak intensity	78 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
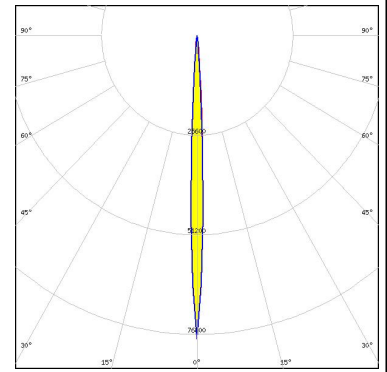
OSRAM Opto Semiconductors

LED	OSTAR Projection Compact (KW.CSLNM1.TG)
FWHM / FWTM	4.0° / 8.0°
Efficiency	94 %
Peak intensity	122.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
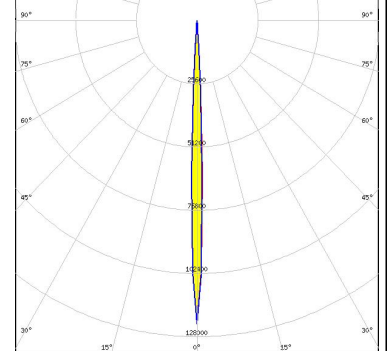
SAMSUNG

LED	LH151B
FWHM / FWTM	10.0° / 20.0°
Efficiency	97 %
Peak intensity	19.4 cd/lm
LEDs/each optic	4
Light colour	White
Required components:	
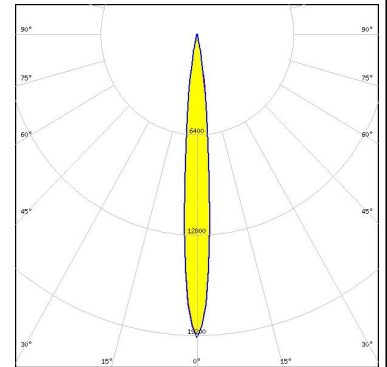
SAMSUNG

LED	LH351C
FWHM / FWTM	6.0° / 14.0°
Efficiency	96 %
Peak intensity	44.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
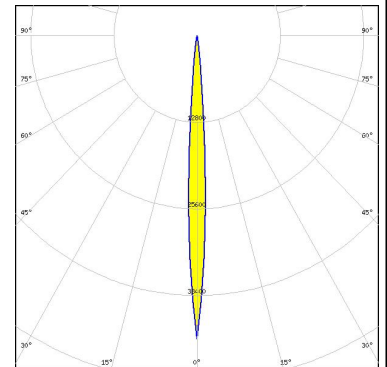
OPTICAL RESULTS (SIMULATED):

SAMSUNG

LED	LH351D
FWHM / FWTM	7.5° / 15.0°
Efficiency	97 %
Peak intensity	34.2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
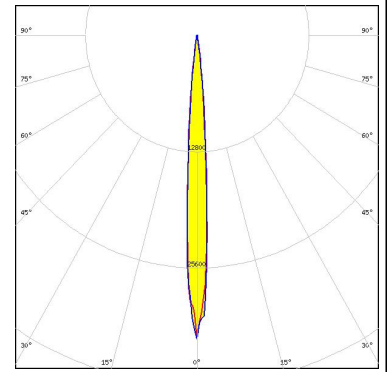
SEOUL SEMICONDUCTOR

LED	Z5M1/Z5M2
FWHM / FWTM	5.4° / 11.0°
Efficiency	94 %
Peak intensity	66.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
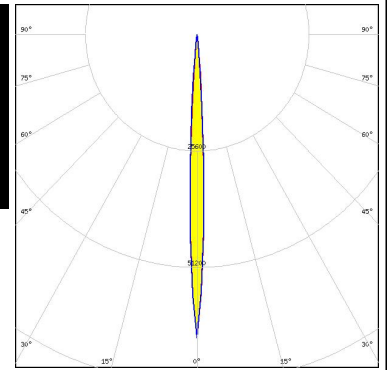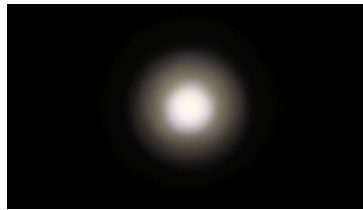
SEOUL SEMICONDUCTOR

LED	Z8Y22P
FWHM / FWTM	7.8°
Efficiency	94 %
Peak intensity	29.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	
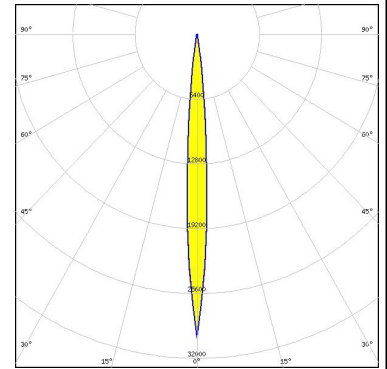
SEOUL SEMICONDUCTOR

LED	Z8Y50P
FWHM / FWTM	12.0° / 24.0°
Efficiency	97 %
Peak intensity	12.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	