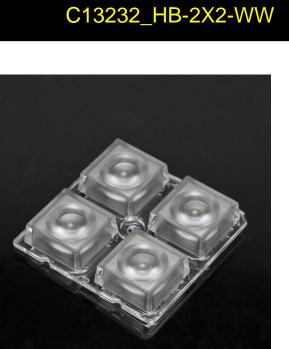


# HB-2X2-WW

~65° wide beam

# **TECHNICAL SPECIFICATIONS:**

Dimensions	50.0 x 50.0 mm
Height	8.5 mm
Fastening	glue, pin, screw
ROHS compliant	yes 🛈



PRODUCT DATASHEET

# MATERIAL SPECIFICATIONS:

Component HB-2X2-WW **Type** Multi-lens

Material	Colour	Finish
PMMA	clear	

LEDil®

### **ORDERING INFORMATION:**

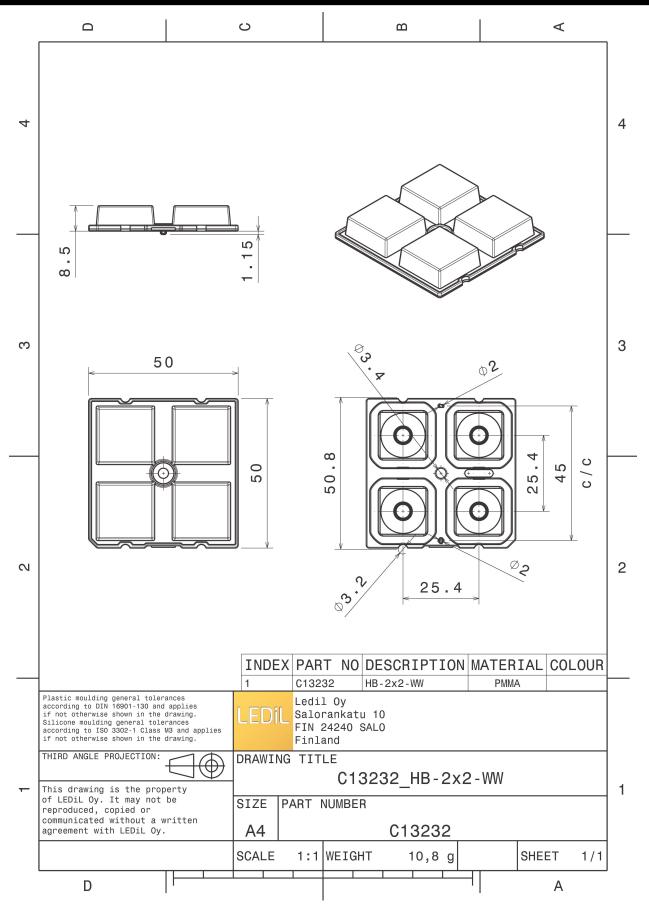
Component C13232\_HB-2X2-WW » Box size: 480 x 280 x 300 mm

Qty in box	MOQ	MPQ	Box weight (kg)
800	160	160	9.5

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# PRODUCT DATASHE C13232\_HB-2X2-WW

2/11



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



CREE 🗢 LED		50°	90'
LED	XP-G		
FWHM / FWTM	69.0° / 92.0°	32	75
Efficiency	91 %		$\mathcal{A}$
Peak intensity	0.8 cd/lm		
LEDs/each optic	1		
Light colour	White		45
Required compone	nts:		
		40	
		N <sup>4</sup>	36
	5	25 <sup>5</sup> 0 <sup>4</sup> 25 <sup>4</sup>	
			90'
	XP-G2		
FWHM / FWTM	69.0° / 92.0° 91 %		
Efficiency Peak intensity	91 % 0.7 cd/lm		60'
LEDs/each optic	0.7 ca/im 1		
Light colour	White		45
Required compone			/
Required compone	1115.		K
		20° 00 10°	36
		55*	90'
LED	XT-E		
		75	75
FWHM / FWTM	65.0° / 89.0°	200	
Efficiency	65.0° / 89.0° 91 %		60'
			60'
Efficiency	91 %		×
Efficiency Peak intensity	91 % 0.9 cd/lm	50 - 50 - 50 - 50 - 50 - 50 - 50 - 50 -	60
Efficiency Peak intensity LEDs/each optic	91 % 0.9 cd/lm 1 White		50
Efficiency Peak intensity LEDs/each optic Light colour	91 % 0.9 cd/lm 1 White		65
Efficiency Peak intensity LEDs/each optic Light colour	91 % 0.9 cd/lm 1 White		
Efficiency Peak intensity LEDs/each optic Light colour	91 % 0.9 cd/lm 1 White		69
Efficiency Peak intensity LEDs/each optic Light colour Required compone	91 % 0.9 cd/lm 1 White nts:		60
Efficiency Peak intensity LEDs/each optic Light colour Required compone	91 % 0.9 cd/lm 1 White nts:		65
Efficiency Peak intensity LEDs/each optic Light colour Required compone	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q		60 67 99 72
Efficiency Peak intensity LEDs/each optic Light colour Required compone	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0°		
Efficiency Peak intensity LEDs/each optic Light colour Required compone	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0° 91 %		
Efficiency Peak intensity LEDs/each optic Light colour Required compone	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0° 91 % 0.8 cd/lm		60 
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>Composition</b> <b>COMPASSION</b> <b>EVALUATE</b> FWHM / FWTM Efficiency Peak intensity LEDs/each optic	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0° 91 % 0.8 cd/lm 1		
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Compariso</b>	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0° 91 % 0.8 cd/lm 1 White		90 90 90 72 90 90 90 90 90 90 90 90 90 90 90 90 90
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>Composition</b> <b>COMPASSION</b> <b>EVALUATE</b> FWHM / FWTM Efficiency Peak intensity LEDs/each optic	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0° 91 % 0.8 cd/lm 1 White		99 99 99 99
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Comparison</b> <b>Compariso</b>	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0° 91 % 0.8 cd/lm 1 White		99 99 99 99 99 99 99
Efficiency Peak intensity LEDs/each optic Light colour Required compone <b>Comparison</b> <b>EUMIL</b> LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour	91 % 0.9 cd/lm 1 White nts: EDS LUXEON Q 67.0° / 92.0° 91 % 0.8 cd/lm 1 White		



		11222_H=222-H(a (Inners, 2, 15)
🤭 LUMIL	EDS	90 <sup>4</sup> 90 <sup>4</sup>
LED	LUXEON Z ES	
FWHM / FWTM	59.0° / 87.0°	
Efficiency	90 %	
Peak intensity	1 cd/lm	
LEDs/each optic	1	
Light colour	White	er / er
Required compone		34" 23" of 15" 36"
<b>ØNICHI</b>	k i i i i i i i i i i i i i i i i i i i	90 <sup>4</sup> 90 <sup>4</sup>
LED	NVSxE21A	
FWHM / FWTM	54.0° / 89.0°	
Efficiency	94 %	60
Peak intensity	1.1 cd/lm	
LEDs/each optic	1	
Light colour	White	ar de
Required compone	nts:	
		30 0 20 0 20 0 20
OSRAM	1	90 <sup>4</sup> 90 <sup>4</sup>
LED	PrevaLED Brick HP 2x8	
FWHM / FWTM	67.0° / 92.0°	
Efficiency	92 %	
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	er de la companya de
Required compone	nts:	60 31 <sup>6</sup> 20 20 4 <sup>7</sup> 20 4 <sup>7</sup> 20
OSRAM Opto Semiconductors		91
LED	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	67.0° / 92.0°	27
Efficiency	92 %	60× - 200
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required compone	nts:	21 <sup>+</sup> 25 <sup>+</sup> 25 <sup>+</sup> 25 <sup>+</sup>



OSRAM Opto Semiconductors		80 <sup>4</sup>
	OSLON Square CSSRM2/CSSRM3	
FWHM / FWTM	71.0° / 94.0°	
Efficiency	94 %	
Peak intensity	0.7 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required componer	nts:	
		60
		30
		205 00 205
OSRAM Opto Semiconductors		50'
LED	OSLON Square PC	
FWHM / FWTM	63.0° / 90.0°	
Efficiency	91 %	
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	gr -
Required componer	nts:	
		20
OSRAM Opto Semiconductors		90 <sup>4</sup>
Opto Semiconductors	OSLON SSL 80	
FWHM / FWTM	54.0° / 80.0°	73
Efficiency	92 %	
Peak intensity	1.1 cd/lm	9 <sup>91</sup> 40
LEDs/each optic	1	
Light colour	White	e-
Required componer		
		30
слисі		
		75
Efficiency	92 %	63 <sup>1</sup>
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required componer	nts:	
SAMSU LED FWHM / FWTM	<b>J N G</b> LH351A 68.0° / 91.0°	



รлмรเ	ING	90 <sup>4</sup>	30*
LED	LH351B	20	
FWHM / FWTM	65.0° / 92.0°		200
Efficiency	89 %	502	
Peak intensity	0.8 cd/lm		
LEDs/each optic	1		400
Light colour	White	da,	e3*
Required compone	nts:	1	
		20*	15° 0° 15°
<u> </u> <b>S</b> ΛΜSI	JNG	90*	904
LED	LH351Z		
FWHM / FWTM	63.0° / 89.0°	23	200
Efficiency	89 %		
Peak intensity	0.9 cd/lm		
LEDs/each optic	1		400
Light colour	White	S.	
Required compone	nts:		
		$\sim$	
			20
		70-	15° 0° 15°
		20,	90*
LED	Z8Y15		
FWHM / FWTM	56.0° / 92.0°	25	200
Efficiency	85 %	605	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Peak intensity	0.9 cd/lm		
LEDs/each optic	1		
Light colour	White	1994 - 1995 - 1996 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	X ×
Required compone	nts:		600
		×	
			800
		200	15° 0° 15° 30°
SEOUL		90 <sup>4</sup>	30'
SEOUL SEMICONDUCTOR	Z8Y19		
	56.0° / 92.0°	25*	200
FWHM/FWTM			
FWHM / FWTM Efficiency	85 %		
Efficiency	85 % 0.9 cd/lm	in the second	
	85 % 0.9 cd/lm 1		40
Efficiency Peak intensity	0.9 cd/lm	64 67	
Efficiency Peak intensity LEDs/each optic	0.9 cd/lm 1 White		
Efficiency Peak intensity LEDs/each optic Light colour	0.9 cd/lm 1 White		410 C
Efficiency Peak intensity LEDs/each optic Light colour	0.9 cd/lm 1 White		40 60 6



SECUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	Z8Y22 55.0° / 94.0° 94 % 1 cd/lm 1 White nts:	50° 50° 50° 50° 50° 50° 50° 50° 50° 50°
SEOUL		
SEOUL SEMICONDUCTOR LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required componen	Z8Y22P 65.0° / 95.0° 94 % 0.9 cd/lm 1 White nts:	5° 5° 5° 5° 5° 5° 5° 5° 5° 5°
TOSHIBA		90° 90°
Leading Innovation LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	TL1L4 60.0° / 87.0° 84 % 0.9 cd/lm 1 White hts:	200 200 64* 66* 66* 600 500 500 500 500 500 500 500
TRIDON LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required component	RLE G1 49x121mm 2000lm xxx EXC OTD 67.0° / 93.0° 94 % 0.9 cd/lm 1 White	50° 75° 600 60° 60° 60° 60° 60° 60° 60° 60° 60



	RLE G1 49x133mm 2000lm xxx EXC OTD 67.0° / 93.0°	31 34 36
Efficiency	94 %	400
Peak intensity	0.9 cd/lm	60 <sup>2</sup>
LEDs/each optic	1	
Light colour	White	gr di
Required compone	ents:	1200 30° 1600 20 0° 20°
TRIDO	NIC	50° 50°
LED	RLE G1 49x223mm 4000lm xxx EXC OTD	
FWHM / FWTM	67.0° / 93.0°	73*
Efficiency	94 %	400
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	a
Required compone		200 - 200 -
TRIDON	AIC .	50° 90°
LED	RLE G1 49x245mm 4000lm xxx EXC OTD	
FWHM / FWTM	67.0° / 93.0°	73'
Efficiency	94 %	400
Peak intensity	0.9 cd/lm	
LEDs/each optic	1	
Light colour	White	87° 67°
Required compone	ents:	1230 26 <sup>4</sup> 16 <u>20</u> 20 20 0 <sup>4</sup> 12 <sup>3</sup>



# PHOTOMETRIC DATA (SIMULATED):

	VELO	
	XD16	
FWHM / FWTM	69.0° / 90.0°	
Efficiency	95 %	
Peak intensity	0.8 cd/lm	
LEDs/each optic	1	
Light colour	White	
Required components:		
		90*
LED	XP-G2	
FWHM / FWTM	72.0° / 94.0°	73.
Efficiency	92 %	
Peak intensity	0.7 cd/lm	60° 80°
LEDs/each optic	1	
Light colour	White	400
Required components:		
Protective plate	e, glass	
		30
	DS	90* 90*
LED	LUXEON 3030 2D (Round LES)	
FWHM / FWTM	64.0° / 82.0°	75*
Efficiency	94 %	
Peak intensity	1 cd/lm	60° 60°
LEDs/each optic	1	
Light colour	White	ar ar
Required components:		
		<sup>397</sup> <u>397</u> <u>397</u> <u>397</u>
	DS	90* 90*
LED	LUXEON C	75'
FWHM / FWTM	65.0° / 88.0°	200
Efficiency	94 %	50° 50°
Peak intensity	0.8 cd/lm	K / / / / / / / / / / / / / / / / / / /
LEDs/each optic	1	400
Light colour	White	g
Required components:		
		30. 30.
1		423 06 723



# PHOTOMETRIC DATA (SIMULATED):

r		
OSRAM Opto Semiconductors		50° 50°
LED	OSCONIQ C 2424	21*
FWHM / FWTM	68.0° / 82.0°	200
Efficiency	97 %	60° 60°
Peak intensity	0.9 cd/lm	400
LEDs/each optic	1	
Light colour	White	634 634
Required components:		00 00 25 <sup>1</sup> 0 <sup>2</sup> 25 <sup>1</sup> 37
SEOUL SEOUL SEMICONDUCTOR		90 <sup>+</sup>
LED	Z8Y22T	75"
FWHM / FWTM	63.0° / 86.0°	
Efficiency	94 %	60°
Peak intensity	1 cd/lm	400
LEDs/each optic	1	
Light colour	White	at at
Required components:		
		30° 35° 0° 35°



# PRODUCT DATASHEET C13232\_HB-2X2-WW

### **GENERAL INFORMATION:**

NOTE: The typical beam angle will be changed by different color, chip size and chip position tolerance. The typical total beam angle is the full angle measured where the luminous intensity is half of the peak value.

### MATERIALS:

As part of our continuous research and improvement processes, and to ensure the best possible quality and availability of our products, LEDiL reserves the right to change material grades without notice.

### PRODUCT DATA USER AGREEMENT AND DISCLAIMER:

The measured data in the provided downloadable LEDiL Product Datasheets and Mechanical 2D-Drawings is rounded and provided as reference for planning. LEDiL Oy's optical specifications have been verified by conducting performance testing of the products in accordance with the company's quality system. The reported data are averaged results of multiple measurements with typical variation. LEDiL Oy reserves the right to without prior notification make changes and improvements to its products.

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#### LEDiL Oy

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