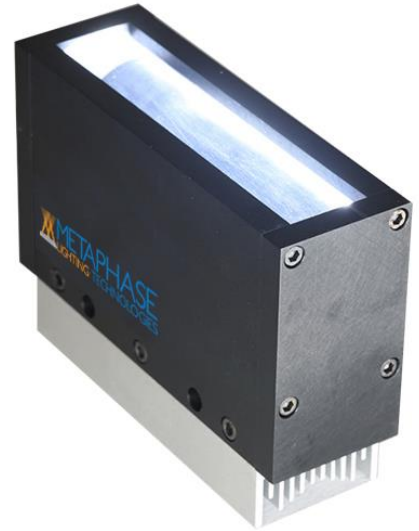


UL-ECL

The Metaphase Technologies *Eclipser™*, is a unique LED back line light for improved detection of imperfections in optically clear materials that previously couldn't be seen with traditional line scan illumination techniques. The *Eclipser™* LED illuminator uses strategically positioned LEDs with innovative optics to highlight sub-pixel defects such as gels, unmelts, stones and contaminants.

This new technique bends light from two parallel LED strips through specially developed optics highlighting formerly undetectable particles with illumination. Much the way the rays of the sun form a halo effect during a total eclipse of the moon. The tiniest particles suspended in the material being scanned "glow" as the light passes through the defect. This helps the imaging of the smallest of optically clear defects down to sub-pixel sizes.



FEATURES

- Patented optics coupled with a dark field creates superior contrast
- Illuminates previously undetectable clear on clear imperfections
- Amplifies sub-micron defects at a sub-pixel level
- Speeds inspection time from "seconds" to "milliseconds"
- Built-in Constant Current Driver with 0-10VDC Intensity control
- Compatible with DDC-3 and ILD-35-24-L
- Improved accuracy minimizes returns, increasing customer satisfaction
- One light allows a smaller footprint and more versatile installations

WAVELENGTHS

Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red 630nm
G	Green 530nm
B	Blue 470nm
IR850	Infrared / 850nm
UV395	Ultraviolet Long / 395nm

GENERAL SPECIFICATIONS

Power Source:	24VDC ±5%
Cable (Standard):	10-foot cable with flying leads
Housing:	Black Anodized Aluminum
Ambient Temp:	-20° to 40°C
Lifetime Expectancy:	75,000 hours (except UV)

UL-ECL

Eclipser, Dark Field Line Lights													
MODEL	Overall Length Inches / cm	Lens Length Inches / cm	Weight lbs/Kg	Cable(s)			Typical Current (Amps) @24VDC						
				Qty	Lgth	Desc.	WHITE	RED	GREEN	BLUE	IR	UVS	UVL
UL-ECL-LL209	7.0 / 17.8	5.0 / 12.7	3.2 / 1.45	1	10ft		0.5	0.4	0.6	0.5	0.6	0.7	0.8
UL-ECL-LL309	12.0 / 30.5	10.0 / 25.4	5.4 / 2.45				1.0	0.8	1.1	1.1	1.1	1.4	1.6
UL-ECL-LL409	17.0 / 43.2	15.0 / 38.1	7.7 / 3.49				1.6	1.2	1.7	1.7	2.0	2.1	2.4
UL-ECL-LL509	22.0 / 55.9	20.0 / 50.8	10.0 / 4.54				2.1	1.6	2.2	2.2	2.7	3.2	3.2
UL-ECL-LL609	27.0 / 68.6	25.0 / 63.5	12.2 / 5.53				2.7	2.0	2.9	2.8	3.4	4.0	3.4
UL-ECL-LL709	32.0 / 81.3	30.0 / 76.2	14.5 / 6.58				3.2	2.4	3.5	3.4	4.1	4.8	4.1
UL-ECL-LL809	37.0 / 94.0	35.0 / 88.9	16.7 / 7.57				3.8	2.9	4.2	4.0	4.7	5.6	4.8
UL-ECL-LL909	42.0 / 106.7	40.0 / 101.6	18.9 / 8.57				4.4	3.3	4.8	4.6	5.6	6.4	5.5
UL-ECL-LL1009	47.0 / 119.4	45.0 / 114.3	21.2 / 9.62				4.9	3.7	5.4	5.2	6.4	7.2	6.2
UL-ECL-LL1109	52.0 / 132.1	50.0 / 127.0	23.5 / 10.6				5.5	4.2	6.0	5.8	7.1	8.0	6.9
UL-ECL-LL1209	57.0 / 144.8	55.0 / 139.7	25.5 / 11.6				6.1	4.6	6.7	6.4	7.9	8.8	7.6
UL-ECL-LL1309	62.0 / 157.5	60.0 / 152.4	28.3 / 12.8				6.7	5.0	7.4	7.0	8.7	9.6	8.2
UL-ECL-LL1409	67.0 / 170.2	65.0 / 165.1	30.4 / 13.8				7.3	5.5	8.1	7.7	9.6	10.4	8.9
UL-ECL-LL1509	72.0 / 182.9	70.0 / 177.8	35.5 / 16.1				2	20ft	16 AWG 6 Wire	8.0	5.9	8.8	8.3
UL-ECL-LL1609	77.0 / 195.6	75.0 / 190.5	37.7 / 17.1	8.6	6.4	9.5				9.0	11.3	12.0	10.3
UL-ECL-LL1709	82.0 / 208.3	80.0 / 203.2	40.0 / 18.1	9.2	6.9	10.2				9.7	12.1	12.8	11.0
UL-ECL-LL1809	87.0 / 221.0	85.0 / 215.9	42.3 / 19.2	9.9	7.3	10.9				10.4	13.0	13.6	11.7
UL-ECL-LL1909	92.0 / 233.7	90.0 / 228.6	44.5 / 20.2	10.6	7.8	11.7				11.1	14.0	14.4	12.4
UL-ECL-LL2009	97.0 / 246.4	95.0 / 241.3	47.0 / 21.3	11.2	8.3	12.5				11.8	14.9	15.2	13.0
UL-ECL-LL2109	102 / 259.1	100.0 / 254.0	49.0 / 22.2	11.9	8.8	13.3				12.5	15.9	16.0	13.7
UL-ECL-LL2209	107 / 271.8	105.0 / 266.7	51.2 / 23.2	12.6	9.3	14.1				13.3	17.0	16.8	14.4
UL-ECL-LL2309	112 / 284.5	110.0 / 279.4	53.4 / 24.2	13.4	9.8	14.9				14.1	18.0	17.6	15.1
UL-ECL-LL2409	117 / 297.2	115.0 / 292.1	55.6 / 25.2	14.1	10.3	15.7				14.8	19.1	18.4	15.8
UL-ECL-LL2509	122 / 309.9	120.0 / 304.8	58.0 / 26.3	14.9	10.8	16.6				15.7	20.3	19.2	16.5
UL-ECL-LL2609	127 / 322.6	125 / 317.5	60.2 / 27.3	15.6	11.3	17.5				16.5	21.5	20.0	17.2
UL-ECL-LL2709	132 / 335.3	130 / 330.2	62.1 / 28.2	16.4	11.8	18.4				17.3	22.8	20.8	17.9
UL-ECL-LL2809	137 / 348.0	135 / 342.9	64.3 / 29.2	17.3	12.4	19.4				18.2	24.1	21.6	18.6
UL-ECL-LL2909	142 / 360.7	140 / 355.6	66.5 / 30.2	18.1	12.9	20.4				19.1	25.5	22.4	19.3
UL-ECL-LL3009	147 / 373.4	145 / 368.3	68.7 / 31.2	19.0	13.5	21.5				20.0	27.1	23.2	20.1
UL-ECL-LL3109	152 / 386.1	150 / 381.0	71.0 / 32.2	19.9	14.0	22.6	21.1	28.8	24.0	20.7			

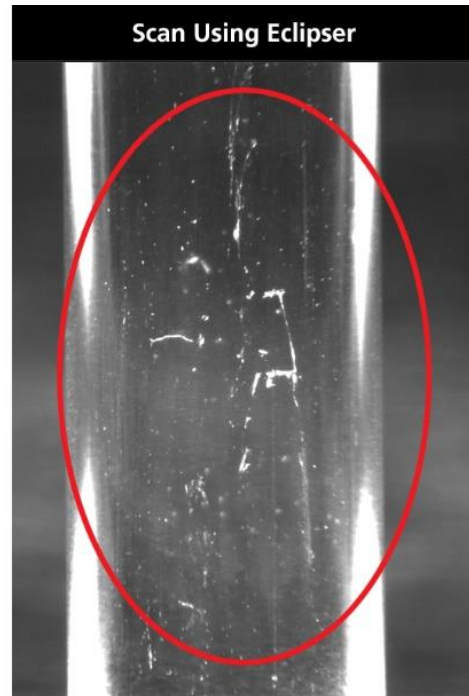
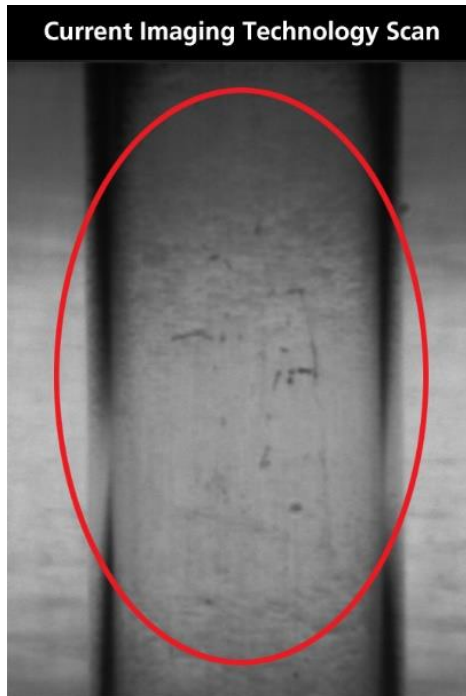
UL-ECL

Cable #1(6 conductor, flying leads)**	
Wire Color	Function
RED, BROWN	+24VDC
YELLOW	SIGNAL GROUND
BLACK, BLUE	GROUND (24V RTN)
ORANGE	0-10VDC INTENSITY CONTROL
When not using Intensity Control, connect the 0-10V control line to +24VDC and connect Signal Ground to Ground (24V RTN) for maximum intensity	

Cable #2 (if applicable)	
Wire Color	Function
RED, BROWN	+24VDC
YELLOW	GROUND (24V RTN)
BLACK, BLUE	GROUND (24V RTN)
ORANGE	+24VDC
Power Cable	

Wiring with ULC-2 (6 conductor)	
Wire Color	Function
RED, BROWN (+)	LED INPUT
BLACK, BLUE (-)	
ORANGE, YELLOW	NO CONNECTION
Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)	

Note: The 0-10VDC Intensity Control input can accept voltages from 0-24VDC where the light will operate at full intensity in the 10-24VDC range. The light is proportionally dimmer for any Intensity Control voltage less than 10VDC and the light is OFF at approximately 0V or not connected (floating).



UL-ECL

PART NUMBER KEY							
MODEL	LENGTH ID (inches)	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH
UL-ECL	XXXX	-	XXXXX	-	XXX-XXXXXX	-	XXX
UL-ECL	209 to 3109		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR850 (Infrared 850nm) UV395 (UV Long 395nm)		24Z 24Z-TRG 24-ILD U¹		5M 10M Length can be customized: ex.7M=7meters Select or leave blank for 3 meters
Example 1: UL-ECL609-W-24Z Example 2: UL-ECL2709-R-24Z-TRG				¹ Not available in lights exceeding 4A input current			

Contact Metaphase Technologies or your local representative for options such as custom diffusers, lenses, polarizers, IP-rated enclosures for harsh environments, higher intensity, custom wavelengths, higher uniformity, etc. Not all options are available for all lights.

Link to [*Driver Options Key](#) / [**Connector Options Key](#)

UL-ECL

Sample Model Number: **UL-ECL209-W-24Z**

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	8/22/2017	
B	LENS COVER REPLACED W CLEAR ACRYLIC	9/22/2017	
C	UPDATED TITLE PART NUMBER PER SALES	2/12/2018	
D	REMOVED CLEAR COVER FROM STANDARD UNIT	4/9/2018	

6.25 [158.8] ACTIVE

7.9 [199.9]

7.00 [177.8]

5.00 [127]

1.70 [43.2]

HEAT SINK

MOUNTING HOLES 2X Ø .33 [8.3] THRU ALL

POWER CABLE 16 AWG Stranded; 6 conductor w/ flying leadfree leads, 8 FT Lg.

1.85 [47]

4.00 [101.6]

METAPHASE LIGHTING TECHNOLOGIES

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977

QUANTITY: Per order	TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED	THIS DOCUMENT IS THE PROPERTY OF METAPHASE TECHNOLOGIES, INC. WHOM MAY LOAN IT, SUBJECT TO RETURN UPON DEMAND. IT INCLUDES CONFIDENTIAL & PROPRIETARY INFORMATION WHICH MAY NOT BE DISCLOSED TO ANY THIRD PARTY, AND OR USED FOR ANY PURPOSE CONTRARY TO ITS INTENDED USE, WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF METAPHASE TECHNOLOGIES, INC.	 Top Assy.- 5" ECL Line Light USED ON: Per customer DRAWING NUMBER: UX-ECL-LL209-1 SCALE: 1:12 SHEET 1 OF 1
MATERIAL: Per BOM	.X .X .XX .XXX [R&L, 200] [12.7] [5.08] [2.54] [7.62] [1.27] [3.05] ANGLES ±1°		
FINISH: Black Anodize			
TREATMENT: N/A			

Approval Signature: _____ Date: / /

COMPLIANCE



CONTACT US

For more information please contact:



BOCK OPTRONICS INC.
14 Steinway Blvd., Unit 7
Toronto, Ontario M9W 6M6

Tel: (416) 674-2804
sales@bockoptronics.ca
www.bockoptronics.ca