

UL-LL

HYPER SPECTRAL

LED ILLUMINATION SYSTEM

Metaphase has another machine vision first, Hyperspectral broad band LED illumination! Finally break away from the typical hyperspectral Halogen light source with its high temperature and high-power consumption. Metaphase Hyperspectral VNIR 428-915nm or Broadband SWIR illumination (1050-1650nm) provide the ideal match to your favorite Hyperspectral camera. Don't need the full spectrum? Metaphase can tailor the light sources to match the camera's spectral response and specific application requirements.



Utilizing a full rod focal lens, the UL-LL provides a tight structured beam of light up to 12 inches (30.48 cm). The optimal working distance is 5 inches (12.7 cm). For working distances beyond 12 inches (30.48 cm), please see our Collimated Line Light offerings. High uniformity ($\pm 5\%$) makes the UL Line Light ideal for front and back lighting line scan applications.

FEATURES

- Built-in Constant Current Driver with 0-10VDC Intensity Control
- Passive cooling (no fans needed)
- Compliance: ETL listed (UL compliant), CE and RoHS.
- Compatible with DDC-3 and ILD-35-24-L

APPLICATIONS

- Color chemical analysis
- Sorting
- Geometry measurements of long targets
- Direct position measurement
- Tube or bottle inspection
- Food and Pharmaceutical Inspections

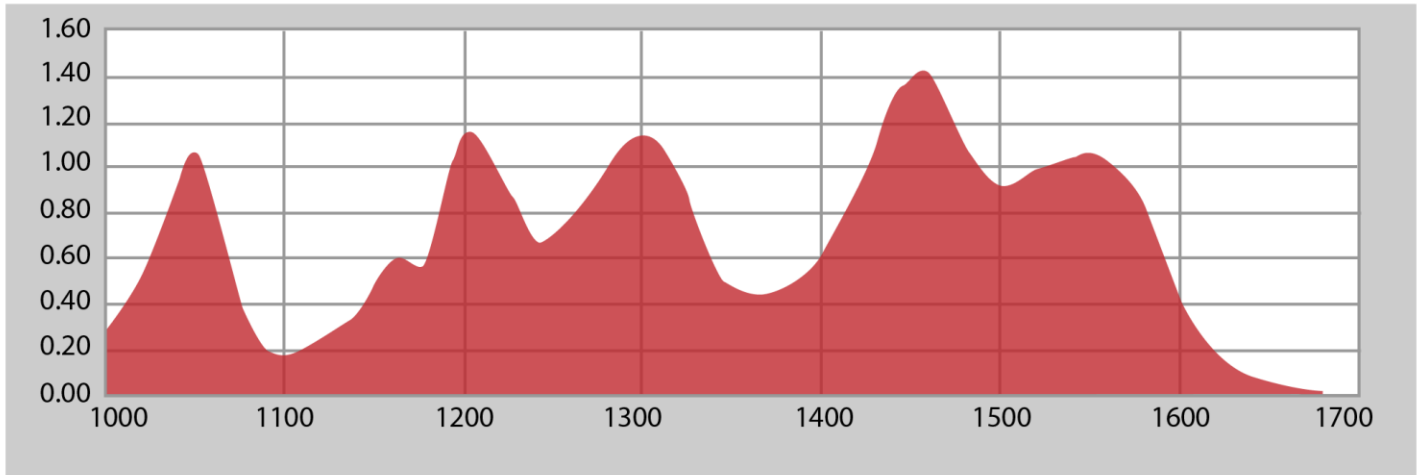
GENERAL SPECIFICATIONS

Power Source:	24VDC $\pm 5\%$
Cable (Standard):	10-foot cable with flying leads
Housing:	Black Anodized Aluminum
Ambient Temp:	-20°C to 40°C
Lifetime Expectancy:	50,000 hours

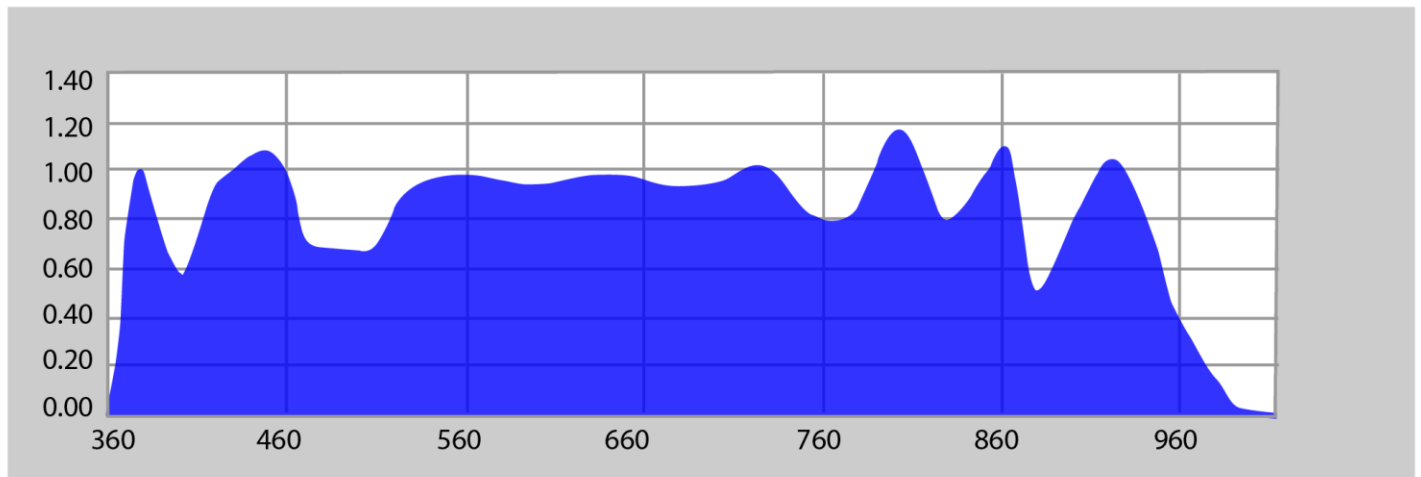
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Broadband SWIR



Visible-NIR*



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HYPER SPECTRAL LINE LIGHTS								
				Cable(s)			Estimated Current (Amps) @24VDC	
MODEL	Overall Length Inches / cm	Lens Length Inches / cm	Weight lbs/Kg	Qty	Lth	Desc.	VNIR	SWIR
UL-LL209	7.0 / 17.8	6.25 / 15.9	3.2 / 1.45	1	10ft	CAT5	.80	.80
UL-LL309	12.0 / 30.5	11.25 / 28.6	5.4 / 2.45				1.5	1.5
UL-LL409	17.0 / 43.2	16.25 / 41.3	7.7 / 3.49				2.3	2.3
UL-LL509	22.0 / 55.9	21.25 / 54.0	10.0 / 4.54				3.0	3.0
UL-LL609	27.0 / 68.6	26.25 / 66.7	12.2 / 5.53				3.8	3.8
UL-LL709	32.0 / 81.3	31.25 / 79.4	14.5 / 6.58				4.5	4.5
UL-LL809	37.0 / 94.0	36.25 / 92.1	16.7 / 7.57				5.3	5.3
UL-LL909	42.0 / 106.7	41.25 / 104.8	18.9 / 8.57				6.0	6.0
UL-LL1009	47.0 / 119.4	46.25 / 117.5	21.2 / 9.62				6.8	6.8
UL-LL1109	52.0 / 132.1	51.25 / 130.2	23.5 / 10.6				7.5	7.5
UL-LL1209	57.0 / 144.8	56.25 / 142.9	25.5 / 11.6				8.3	8.3
UL-LL1309	62.0 / 157.5	61.25 / 155.6	28.3 / 12.8				9.0	9.0
UL-LL1409	67.0 / 170.2	66.25 / 168.3	30.4 / 13.8				9.8	9.8
UL-LL1509	72.0 / 182.9	71.25 / 181.0	35.5 / 16.1	2	20ft	CAT5(1) 16/6 (1)	10.5	10.5
UL-LL1609	77.0 / 195.6	76.25 / 193.7	37.7 / 17.1				11.3	11.3
UL-LL1709	82.0 / 208.3	81.25 / 206.4	40.0 / 18.1				12.0	12.0
UL-LL1809	87.0 / 221.0	86.25 / 219.1	42.3 / 19.2				12.8	12.8
UL-LL1909	92.0 / 233.7	91.25 / 231.8	44.5 / 20.2				13.5	13.5
UL-LL2009	97.0 / 246.4	96.25 / 244.5	47.0 / 21.3				14.3	14.3
UL-LL2109	102 / 259.1	101.25 / 257.2	49.0 / 22.2				15.0	15.0
UL-LL2209	107 / 271.8	106.25 / 269.9	51.2 / 23.2				15.8	15.8
UL-LL2309	112 / 284.5	111.25 / 282.6	53.4 / 24.2				16.5	16.5
UL-LL2409	117 / 297.2	116.25 / 295.3	55.6 / 25.2				17.3	17.3
UL-LL2509	122 / 309.9	121.25 / 308.0	58.0 / 26.3				18.0	18.0

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CABLE #1, CAT5				
Wire Color	Wire Type	Function	Notes	
Red	16 AWG, Stranded	24VDC	CAT5 Belden 7949A	
White	16 AWG, Stranded	24VDC		
Black	16 AWG, Stranded	Ground (24V RTN)		
Green	16 AWG, Stranded	Ground (24V RTN)		
Brown	24 AWG, Solid	Signal #1, 0-10V Intensity Control		
Orange	24 AWG, Solid	Signal #2, 0-10V Intensity Control		
Blue	24 AWG, Solid	Signal #3, 0-10V Intensity Control		
Green	24 AWG, Solid	Signal #4, 0-10V Intensity Control		
Brown/White stripe	24 AWG, Solid	Signal #5, 0-10V Intensity Control		
Orange/White stripe	24 AWG, Solid	No Connection		
Blue/White stripe	24 AWG, Solid	No Connection		
Green/White stripe	24 AWG, Solid	No Connection		

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).

CABLE #2, Power (if applicable)		
Wire Color	Function	Notes
Red	24VDC	16AWG 6 conductors
Brown	24VDC	
Orange	24VDC	
Black	Ground (24V RTN)	
Blue	Ground (24V RTN)	
Yellow	Ground (24V RTN)	

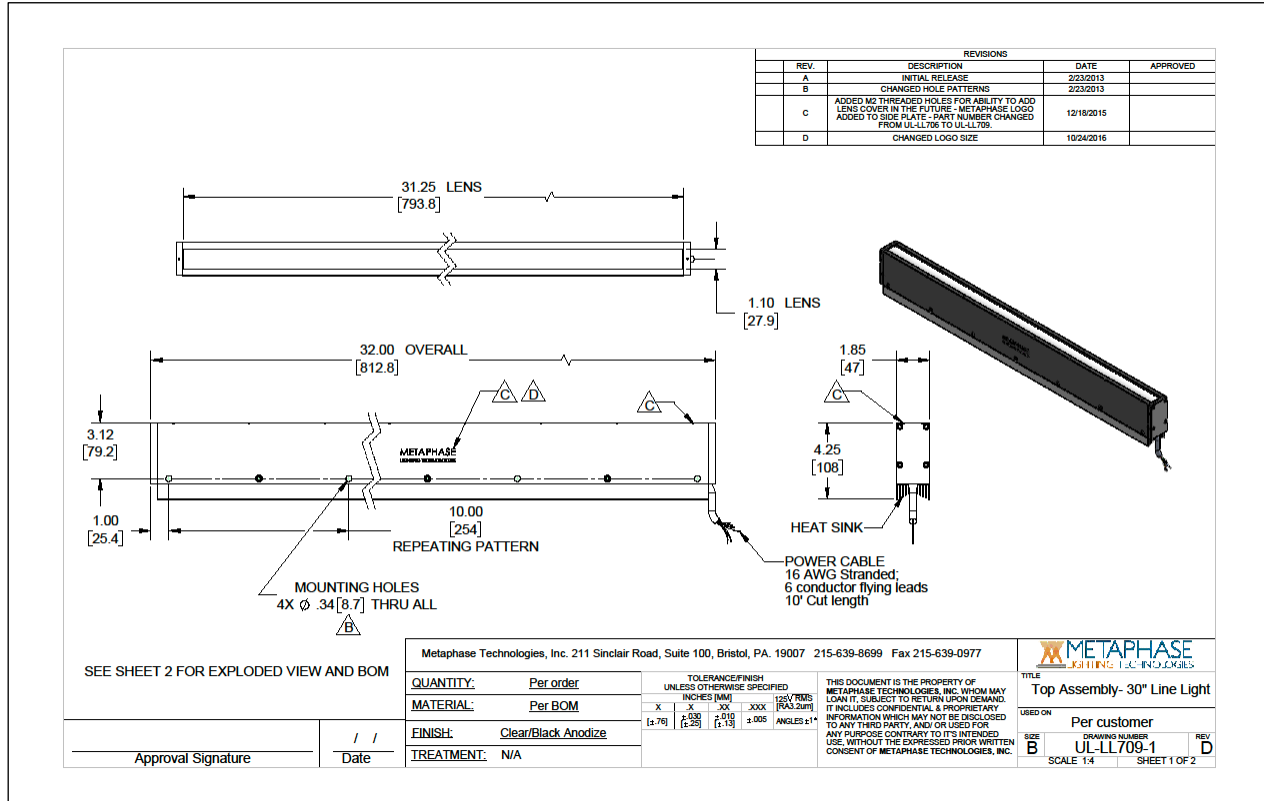
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MODEL NUMBER KEY								
MODEL	-	LENS LENGTH	-	COLOR/WAVELENGTH	-	OPTION 1	-	OPTION 2
UL	-	LLXXXX	-	XXXXX	-	XXX	-	XXX
UL		LL (See above charts and enter model number from 209 to 2509)		(VNIR) (SWIR) Model Number specifics are TBD		24Z		Customer code by request

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.

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Sample Model Number: UL-LL709-VNIR-24Z



COMPLIANCE

CONTACT US



Contact Metaphase Technologies at **215-639-8699** or your local representative for additional details, options and customizations.