

# L Family: Low Level

Model Number Smart Part Number	USLR-L20F-NBNL L5NB-NLNN-NNLR-NS00-0000	USLR-L12F-NBNL L3NB-NLNN-NNLR-NS00-0000	USLR-L12L-NBNL L4NB-NLNN-NNLR-NS00-0000	USLR-L08F-NBNL L1NB-NLNN-NNLR-NS00-0000	USLR-L08L-NBNL L2NB-NLNN-NNLR-NS00-0000
<b>OPTICAL PERFORMANCE SPECIFICATIONS</b>					
Spatial Luminance Uniformity over Exit Port (f/4) - All Lamps On	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%
Angular Uniform FOV (Full Angle) - Degrees / F# / NA - All Lamps On	+/-2.0% - 35° / 0.85 / 0.6	+/-2.0% - 35° / 0.85 / 0.6	+/-2.0% - 35° / 0.85 / 0.6	+/-2.0% - 35° / 0.85 / 0.6	+/-2.0% - 35° / 0.85 / 0.6
Expected Maximum Luminance Output: cd/m2	1,600	5,000	7,100	5,000	7,100
Expected Maximum Illuminance at Port: lux	5,000	15,700	22,300	15,700	22,300
Peak Radiance: W/m2-sr-um @ 1.10 um	60	200	287	200	287
Peak Irradiance @ Port: Photons/s-m2-um @ 1.10um	3.39E+20	1.13E+21	1.50E+21	1.13E+21	1.50E+21
Minimum Resolution: lux	1.00E-06	1.00E-06	1.00E-06	1.00E-06	1.00E-06
Number of Steps in System Range	8.80E+06	8.00E+06	8.00E+06	6.00E+06	6.00E+06
Dynamic Range/Bits/dB	4.00E+09/31/191	1.00E+10/32/199	1.00E+10/32/199	6.25E+09/31/196	7.50E+09/32/197
Approximate Correlated Color Temperature (QTH)	2856K +/-50K	2856K +/-50K	2856K +/-50K	2856K +/-50K	2856K +/-50K
Typical Derated Lamp Lifetimes @ 2856K (hrs)	>500	>500	>500	>500	>500
Est. Lamp Degradation Over Lifetime (% & CCT Shift)	-10% & +/-200K	-10% & +/-200K	-10% & +/-200K	-10% & +/-200K	-10% & +/-200K
Est. Output Degradation over 50hrs (% & CCT Shift)	-1.0% & +/-20K	-1.0% & +/-20K	-1.0% & +/-20K	-1.0% & +/-20K	-1.0% & +/-20K
<b>INTEGRATING SPHERE</b>					
Coating / Material	Spectrafect®	Spectrafect	Spectralon	Spectrafect	Spectralon
Sphere Internal Diameter: Inches (Meters)	20 (0.5)	12 (0.3)	11.5 (0.29)	8 (0.2)	7.5 (0.19)
Frame Type	20in Cage	12in Cage	12in Cage	8in Cage	8in Cage
Output Port Size: Inches (Meters)	8 (0.2)	4 (0.1)	4 (0.1)	2 (0.05)	2 (0.05)
<b>SYSTEM COMPONENTS</b>					
QTH Lamps Internal (#, Wattage)	(1) 5, (1) 10	(1) 5, (1) 10	(1) 5, (1) 10	(1) 5	(1) 5
QTH Lamps External (#, Wattage)	None	None	None	None	None
Xenon Lamp & Housing	None	None	None	None	None
Plasma Lamp & Housing	None	None	None	None	None
Spectralon Satellite Sphere (ID/OD)	3"/4"	3"/4"	3"/4"	3"/4"	3"/4"
Power Supplies (# - Model)	(4) LPS-400	(4) LPS-400	(4) LPS-400	(3) LPS-400	(3) LPS-400
Variable Attenuator	VAA-220B	VAA-220B	VAA-220B	VAA-220B	VAA-220B
Monitor Detector(s)	SD-L1, SD-S1	SD-L1, SD-S1	SD-L1, SD-S1	SD-L1, SD-S1	SD-L1, SD-S1
Detector Filters (in Filter Holder)	Photopic	Photopic	Photopic	Photopic	Photopic
System Software	HELIOsense	HELIOsense	HELIOsense	HELIOsense	HELIOsense
Cube Computer	Included	Included	Included	Included	Included
<b>STANDARD SYSTEM CALIBRATIONS (NIST Traceable)</b>					
Luminance	Yes	Yes	Yes	Yes	Yes
Correlated Color Temp (All lamps matched & w/VA position)	Yes	Yes	Yes	Yes	Yes
Spectral Radiance (350-2400nm)	Yes	Yes	Yes	Yes	Yes
Exit Port Spatial Uniformity	Yes	Yes	Yes	Yes	Yes
Exit port Angular Uniformity	Yes	Yes	Yes	Yes	Yes
Night Vision Level Characterization	Yes	Yes	Yes	Yes	Yes
Operational Duration of Calibration	50hrs	50hrs	50hrs	50hrs	50hrs