Laboratory Measurements

Test Engineer	Dony Wang	Client	VIVOTEK INC.
Subject	Network Camera	Address	6F, No.192, Lien-Cheng Rd., Chung-Ho, New Taipei City, 235, Taiwan, R.O.C.
Application Date	2017-09-18	Model No.	FD9167-H, FD9167-HT, FD9367-HV, FD9367-HTV, FD9367-EHTV
Issue Date	2017-09-18	Rating	1) DC 37-57V, 0.19-0.13A or DC 12V, 0.5A for Model: FD9167-H, FD9367-HV 2) DC 37-57V, 0.27-0.18A or DC 12V, 0.75A for Model: FD9167-HT, FD9367-HTV 3) DC 42.5-57V, 0.59-0.44A or DC 12V, 1.59A for Model: FD9367-EHTV
Full-test	☒	Sample No.	Engineering Sample
Re-test/ Modification	☐	Standard	**IEC 62471:2006, EN 62471:2008**
Add Test after review	☐	Project No.	611061725301

*	Clause(s)	Test(s)	Result
✓		**Hazard of total irradiance**	P
✓		**Hazard of spectral radiance of the source**	P

* Select the test(s) to be done.

Remark: 1 pcs of each color temperature for each model, carry out the tests after aging. Aging time for LED lamp is 1 hours, for halogen lamp is 24 hours.

Dony Wang
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Signature
Testing Engineer

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Signature
Approved by

General product information:

Equipment manufacturer information (Data Sheet) about the containing LED component	
Manufacturer	Lextar
LED Part No.	PR35F0A
Emitted Wavelength	850 nm

Equipment manufacturer information (Data Sheet) about the containing LED component	
Manufacturer	Lextar
LED Part No.	PR88F03
Emitted Wavelength	850 nm

1. Tested on FD9167-HT was considered as the representative of models listed in this report
2. The difference between models:

Model	FD9167-HT	FD9367-HTV	FD9367-EHTV	FD9167-H	FD9367-HV
Enclosure	Indoor	outdoor	outdoor	indoor	outdoor
Heater	No	No	Yes	No	No
Lens	Remote	Remote	Remote	Fixed	Fixed
I/P	12V, 0.75A PoE 37-57V, 0.27-0.18A	12V, 0.75A PoE 37-57V, 0.27-0.18A	12V, 1.59A PoE 42.5-57V, 0.59-0.44A	12V, 0.5A PoE 37-57V, 0.19-0.13A	12V, 0.5A PoE 37-57V, 0.19-0.13A
Ambient	-10°C ~ 50°C	-30°C ~ 50°C	-50°C ~ 50°C	-10°C ~ 50°C	-30°C ~ 50°C

3. All tests were performed according to IEC/EN 62471
4. The LED output power was measured under normal conditions noted in details of measurement procedure and measurement results
5. The product was complied with the requirements of Exempt group LED product according to IEC/EN 62471

Hazard of total irradiance (IEC 62471)

Hazard name: irradiance based values	Limit for Exempt level/ low risk/ mod risk	FD9167-HT
E_{UVA}: Eye UV-A: 315-400nm (Near-UV hazard for eye) (W/ m^2)	10/ 33/ 100	**0**
E_{eff}: Actinic UV skin & eye: 200-400nm (Actinic UV hazard for skin and eye) (W/ m^2)	0.001/ 0.003/ 0.03	**2.6×10^{-6}**
E_B : Blue-light small source: 300-700nm (Retinal blue light hazard) (W/ m^2)	1/ 1/ 400	**N/A**
E_{IR}: Retinal thermal hazard (W/ m^2)	100/ 570/ 3200	**14.3**
Measurement distance(cm)	**-**	**20**
Voltage (Vdc)	**-**	**56**
Angular subtense (rad)	α	**0.082**

Hazard of spectral radiance of the source (IEC 62471)

Hazard name: radiance based values	Limit for Exempt level/ low risk/ mod risk	FD9167-HT
L_B: Retinal blue light hazard: 300-700nm ($W.m^{-2}.sr^{-1}$)	100/ 10000/ 4000000	**1.3×10^{-4}**
L_R: Retinal thermal : 380-1400nm ($W.m^{-2}.sr^{-1}$)	(28000/α) / (28000/α) / (71000/α)	**1.4×10^4**
L_{IR}: Retinal thermal(weak visual stimulus) : 780-1400nm ($W.m^{-2}.sr^{-1}$)	6000/α	**1.4×10^4 (Lv = 133 cd/m^2)**
Measurement distance(cm)	-	**20**
Voltage (Vdc)	**-**	**56**
Angular subtense (rad)	α	**0.082**

Hazard of total irradiance (EN 62471)

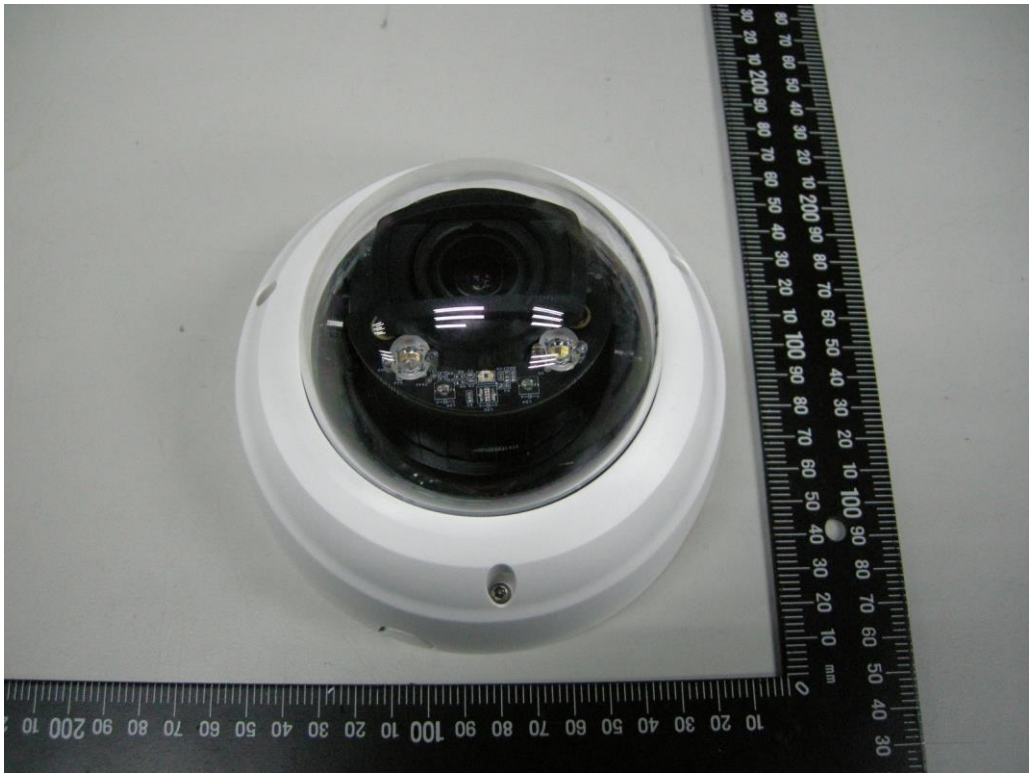
Hazard name: irradiance based values	Limit for Exempt level/ low risk/ mod risk	FD9167-HT
E_{UVA}: Eye UV-A: 315-400nm (Near-UV hazard for eye) (W/ m^2)	0.33	**0**
E_{eff}: Actinic UV skin & eye: 180-400nm (Actinic UV hazard for skin and eye) (W/ m^2)	0.001	**2.6×10^{-6}**
E_B : Blue-light small source: 300-700nm (Retinal blue light hazard) (W/ m^2)	0.01/ 1/ 400	**N/A**
E_{IR}: Retinal thermal hazard (W/ m^2)	100/ 570/ 3200	**14.3**
Measurement distance(cm)	**-**	**20**
Voltage (Vdc)	**-**	**56**
Angular subtense (rad)	α	**0.082**

Hazard of spectral radiance of the source (EN 62471)

Hazard name: radiance based values	Limit for Exempt level/ low risk/ mod risk	FD9167-HT
L_B: Retinal blue light hazard: 300-700nm ($W.m^{-2}.sr^{-1}$)	100/ 10000/ 4000000	**1.3×10^{-4}**
L_R: Retinal thermal : 380-1400nm ($W.m^{-2}.sr^{-1}$)	(28000/α) / (28000/α) / (71000/α)	**1.4×10^4**
L_{IR}: Retinal thermal(weak visual stimulus) : 780-1400nm ($W.m^{-2}.sr^{-1}$)	6000/α	**1.4×10^4 (Lv = 133 cd/m^2)**
Measurement distance(cm)	-	**20**
Voltage (Vdc)	**-**	**56**
Angular subtense (rad)	α	**0.082**

Photo:

FD9167-HT



FD9367-EHTV