**GENERAL**

1. The Hybrid Network Illuminator shall combine both Infra-Red and White-Light LED in a single unit.
2. The Hybrid Network illuminator shall be a fully IP addressable network device.
3. The Hybrid Network illuminator shall be a solid-state LED device utilizing PLATINUM Elite SMT (Surface Mount Technology) LEDs, light intensifying optics and light shaping holographic diffuser with current controlled LEDs providing at least 10 years illumination life (44,000hrs night time use).
4. The Hybrid Network Illuminator shall be powered from either Power over Ethernet (IEEE 802.3bt; 90W PoE++ [4-pair PoE]) or powered from 24V DC.
5. The Hybrid Network illuminator shall include an adjustable photocell for automatic on/off operation.
6. The Hybrid Network illuminator shall have a telemetry control input for remote operation. The telemetry control shall work with a volt-free or a TTL input.
7. The Hybrid Network illuminator shall provide a configurable volt-free output.
8. The Hybrid Network illuminator shall be available in 850nm and White-Light. Other wavelengths available.
9. The Hybrid LED illuminator shall be vandal resistant and manufactured using high impact polycarbonate lensing and shall incorporate an aluminum extruded heat sink to aid LED life expectancy.
10. The Hybrid Network illuminator shall have an IP66 rating as a minimum.
11. The Hybrid Network illuminator shall have an operational temperature range between -50 to 50˚C (-58 to 122°F).
12. The Hybrid Network illuminator shall be CE and FCC approved.
13. The Hybrid Network illuminator shall incorporate hot-spot reduction (HRT) technology.
14. The Hybrid Network illuminator shall make use of interchangeable diffuser-lenses permitting optional angles of 10°, 35°, 60°, 80°, 120° and custom diffuser-lenses as an option.
15. The Hybrid Network illuminator shall comply with the POWERS lighting standard and the manufacturer shall guarantee that the illuminator will provide a minimum of 0.35uW/cm2 (Infra-Red) or 3 Lux (White-Light) power on scene at the maximum quoted distance.
16. The Hybrid illuminator shall be covered by a manufacturer’s warranty of 5 years.

**NETWORK SPECIFICATIONS**

1. The Network Illuminator can be discovered using Raytec DiscoMan - this tool facilitates:

* Discovery of Network Illuminators
* Addressing (IP), Naming and Configuration of one or more illuminators
* Viewing status of Network Illuminators at a glance
* Generation of a Certificate Authority (CA), or importing of an existing CA, to enable the user to create HTTPS certificates to upload to illuminators (DiscoMan v2 and above)
* Uploading of new firmware versions to the lamp (DiscoMan v2 and above)

1. The Network Illuminator will force the user to change the default password when opening the web interface of the illuminator for the first time.
2. The Network Illuminator supports HTTPS. The encryption algorithm used is ECDSA with 256-bit private keys.
3. The Network Illuminator will offer control via an integrated web interface for remote set-up, commissioning, operation and maintenance.
4. The Network Illuminator can autonomously control, and be controlled by, other Illuminators on the network in the same group via a multicast messaging protocol.
5. The Network Illuminator shall offer ping command capability.
6. The Network Illuminator shall support standard IP protocols and will support open architecture best practices.
7. The Network Illuminator will provide a Windows based Application Programming Interface (API) for deep, customised, lighting integrations into VMS and BMS environments (video management system/ building management system) and a separate HTTPS based API for simple cross-platform integrations.
8. The Network Illuminator’s standard web interface shall permit the remote adjustment of the following parameters and functions:

* Individual or group control
* Power On/Off
* Power control: 20-100%
* Deterrent feature with selectable patterns (x3) and speeds (x3)
* Timer functions – duration up to 12 hours
* Soft start selectable on/off
* Configurable external telemetry input: volt–free or TTL
* Configurable telemetry output: volt-free
* Photocell sensitivity
* Assign illuminator to group for collective control
* Create user and administrator passwords
* Assign name, group name and IP address
* Restore factory defaults
* Restart/reboot
* Software upgrade
* Standard and advanced diagnostics including status of LEDs and input voltage and current state of the illuminator
* Lifetime diagnostics of max voltage, total powered time and total illuminator on time.
* Autonomous, VMS or HTTP operating modes (including combinations)
* HTTPS certificate generation

**TECHNICAL SPECIFICATIONS**

1. The illuminator shall meet or exceed the following specifications:
   1. Max. lighting distance (WL): 195m (640ft) DC supply; 164m (538ft) PoE supply
   2. Max. lighting distance (IR): 450m (1,476ft) DC supply; 378m (1,240ft) PoE supply
   3. Angle of Illumination: 10, 35, 60, 80, 120 degrees, adjustable from a

single unit

* 1. Optics: PLATINUM Elite SMT LEDs
  2. Wavelength: 850nm and White-Light (940nm and White-Light as an

option)

* 1. Power on Scene

at max distance: At least 0.35uW/cm2

At least 3 Lux (WL)

* 1. Consumption: 77 watts DC supply; 71W PoE supply
  2. Input: Power over Ethernet (IEEE 802.3bt; 90W PoE++; 4-pair   
      POE) or 24V DC

* 1. Weight: 3.16kg (7lbs)
  2. Ingress Protection Rating: IP66
  3. Operating Temperature: -50°C to + 50⁰C (-58 to 122°F)
  4. Colour: Black (RAL 9005) as standard. Other colours available

to order

* 1. Dimensions: 135mm x 180mm x 68.2mm (5” x 7” x 2.6”)

* 1. Cable: 1x Cat5, 1x multicore (6 core)
  2. Connector: RJ-45 for 100Base-TX, Auto MDI/MDI-X
  3. Supported Protocols: TCP/IP, UDP multicast, DHCP, IPv4, v2/v3, HTTPS

encryption algorithm ECDSA (256-bit private keys)

* 1. Security Access: Password Protected
  2. Software Interface: Raytec DiscoMan and Integrated Web Interface   
      as standard
  3. System Integration: Windows based API for deep, customised integrations  
      and HTTPS based API for simple cross-platform  
      integrations
  4. Minimum System PC running Windows 10, modern web browser  
     Requirements:

1. The Network illuminator shall be covered by a manufacturer’s warranty of 5 years.
2. The Network illuminator shall be available with full specification data based on the POWERS lighting standard for video surveillance.
3. The Network illuminator shall be available with additional VARIO Universal Bracketry (VUB), to accommodate for the mounting of multiple LED panels at various horizontal and vertical tilts.
4. The Infra-Red Network illuminator shall be the VAR2-IPPOE-hy16-1(for 850nm models) or VAR2-IPPOE-hy16-1-C (for 940nm models) manufactured by Raytec or an approved equivalent.