WELCOME

RAYTEC WEBINAR 3.05pm

The Need CCTV Lighting

- Most crime occurs during darkness
- All cameras need light to see
- Street Lighting is NOT good enough

The Right CCTV Lighting

- Better Picture
- Zero Maintenance
- Reduced electrical consumption

Firstly - Thanks

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AGENDA

- 30 Min. Review
- Which Demos took place
- Key Lessons
- Practical Tips
- Tools
- Q & A (15min)

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The Need for White-Light

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The Need for White-Light

White-Light

- Illuminate an area for CCTV
- Improve the lighting level of an area for key personnel
- Provide a welcoming environment
- Deter crime
- Used for multipurpose lighting
- Used with colour camera

KEY LESSONS – Demos 1 & 2

- Old Technology Vs. New Technology

Evolution of Lighting

Incandescent Bulb

Fluorescent Lamp

HID Bulb

LED

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500W Halogen

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40W Raylux

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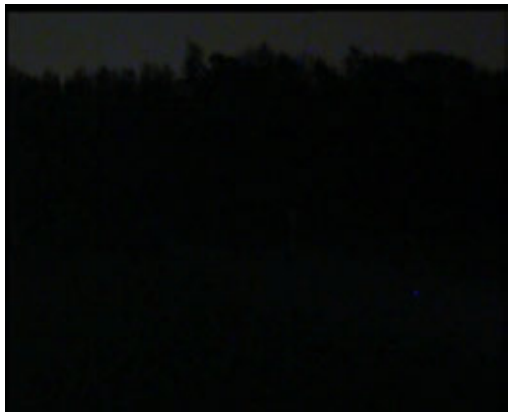
500W vs 40W



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High Pressure Sodium vs LED

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Technology Comparison

COMPARING DIFFERENT SOURCES OF LIGHT

	Incandescent Lamps	Fluorescent Lamps	HID Lamps	LEDs
Operational Life (hours)	1,000	10,000	20,000	100,000
Efficiency (%)	10	40	60-80	80-90
Fast Start	Yes	Yes	No	Yes

LESSONS FROM THE DARK SIDE

- Light Costs Money...so Don't Waste it.
- Use the right technology – LED
- 80W vs. 4000W

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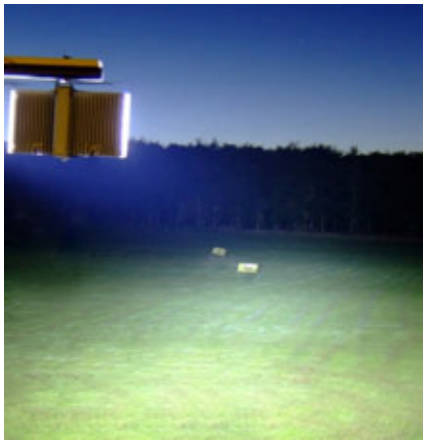
Demos 3 & 4

06:45 RAYLUX	
3rd Demo	Colour Camera subject in scene
4th Demo	Subject still: Accurate Colour Rendition



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RAYLUX 100

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RAYLUX 300

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RAYLUX 300 Wide Angle

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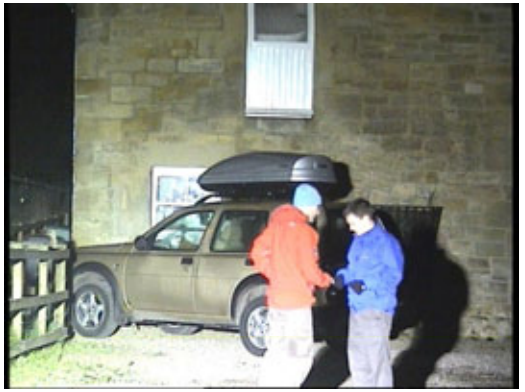
HYBRID Demo 7

IR OFF

IR ON



WL ON

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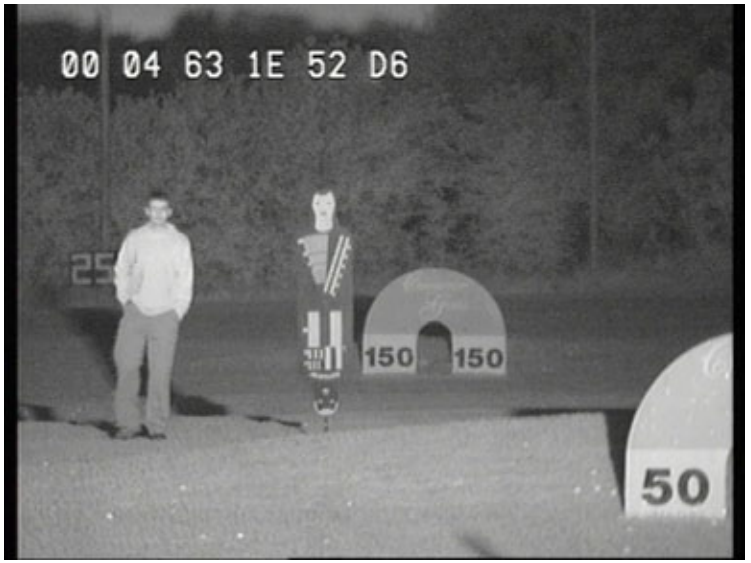
INFRA-RED

07:00 RAYMAX	
1st Demo	Feature Adaptive Illumination (Short Range RM50-AI-30)
2nd Demo	Fusion – New Low Voltage Lighting
3rd Demo	Wide Angle Dome Lighting 180 Degrees (RM300-AI-50)
4th Demo	IP and MegaPixel Demo (RM100-AI-30 and the Platinum RM100-PLT- AI-30)
5th Demo	Long Range demo viewing subject on scene
6th Demo	Different Wavelength Demo

The Need for IR – RM200



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The Need for IR – RM50

IR off

IR on

The Need for IR – RM200

IR off

IR on

The Need for IR

Infra-Red

(700+ nm)

- Discreet illumination for CCTV
- No light pollution
- Long Distance illumination
- Used with B/W or D/N camera

715-730nm - bright red glow
815-850nm - faint red glow
940-950nm - discreet

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LESSONS FROM THE DARK SIDE

NO LIGHT EQUALS NO PICTURE

The reality is that no camera can produce an effective image without light. The test night clearly demonstrated that many cameras struggled to achieve images without light. Even the most advanced cameras required dedicated lighting to produce images with the ability to detect, identify or recognise people or objects on the scene.

RAYMAX IR OFF: 250m+
TWO SUBJECTS RUNNING

RAYMAX IR ON: 250m+
TWO SUBJECTS RUNNING

RAYMAX IR ON: 250m+
GOLF COURSE TREES

RAYMAX IR ON: 250m+
2 SUBJECTS IN TREES

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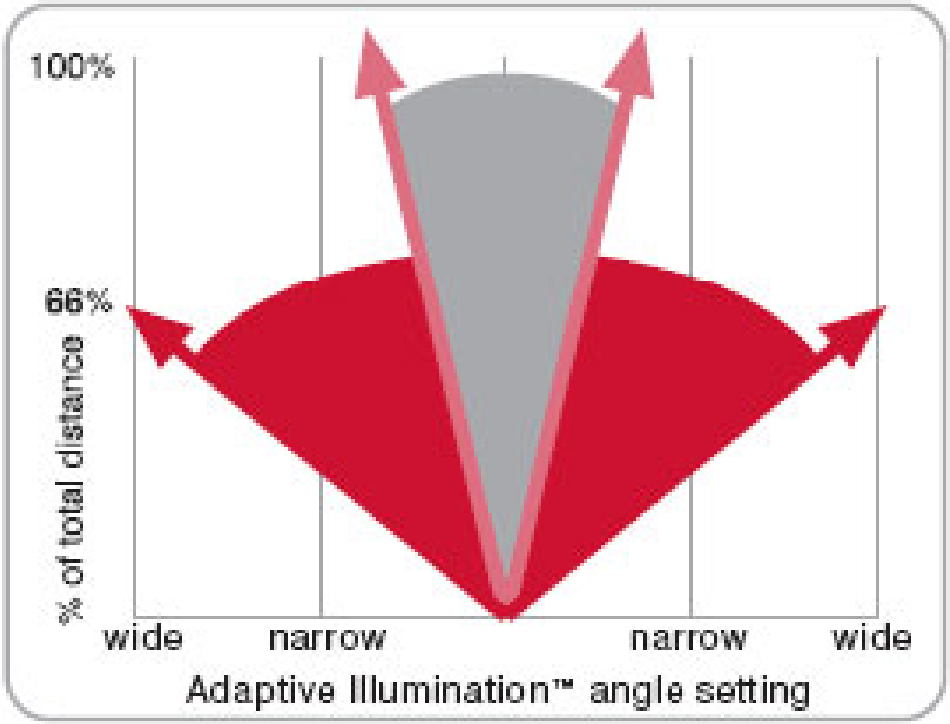
Demo 1

07:00 RAYMAX	
1st Demo	Feature Adaptive Illumination (Short Range RM50-AI-30)



Narrow Angle Beam

Wide Angle Beam

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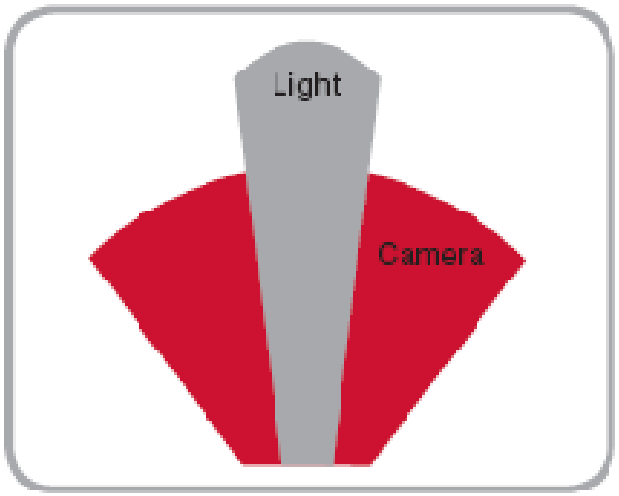
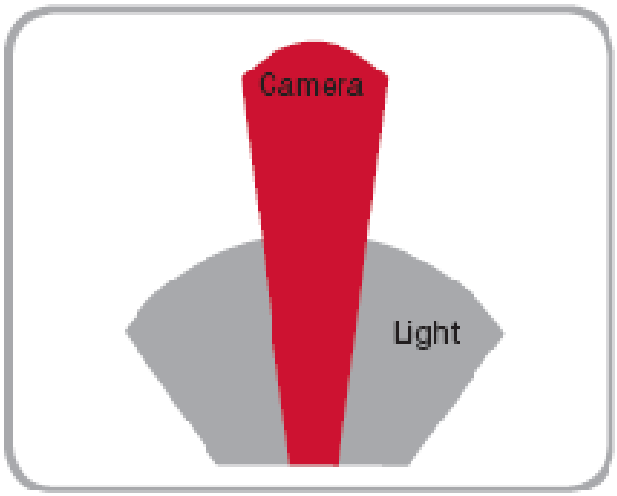
Beam Patterns

Too Narrow creates a Bright Spot

Too Wide wastes Power

Even illumination is needed for best pictures





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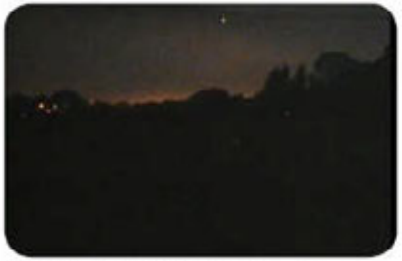
LESSONS FROM THE DARK SIDE

MATCH YOUR ILLUMINATION TO THE LENS ANGLE

It is critical to have the right angle of illumination, matched to the camera field of view. A narrow light on a wide angle can produce a bright spot on the screen and wide angle illumination on a narrow scene results in light wastage and reduced performance. The Raytec demonstration clearly showed this by demonstrating the effectiveness of Adaptive Illumination, unique to RAYMAX and RAYLUX.



RAYLUX OFF RL200-AI-30

RAYLUX ON RL200-AI-30

RAYMAX IR ON

RAYMAX IR ON: 250m+

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Demo 1

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Demo 1

Demo 1

Demo 2

07:00 RAYMAX	
2nd Demo	Fusion – New Low Voltage Lighting

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Fusion – Low Voltage

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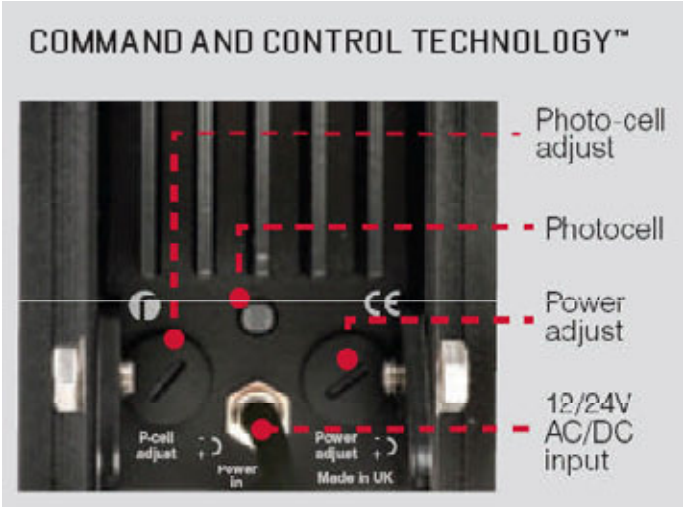
What is FUSION?

- Low Voltage
- Full Range of IR & WL
- PLATINUM LEDs
- Command and Control
- No specialist PSU required



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Demo 3

07:00 RAYMAX	
3rd Demo	Wide Angle Dome Lighting 180 Degrees (RM300-AI-50)

Domes are most at risk because of a lack of “fit for purpose, dedicated lighting”.

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Lighting for Dome Cameras

The 3 Possible Solutions

1. Wide Angle Lighting
2. Target Area Illumination
3. Local Area Illumination

Wide angle lighting is the best solution

Target Area - Dome Cameras

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Dome – Wide Area

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Demo 4

07:00 RAYMAX	
4th Demo	IP and MegaPixel Demo (RM100-AI-30 and the Platinum RM100-PLT- AI-30)

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MegaPixel

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Panoramic Lighting

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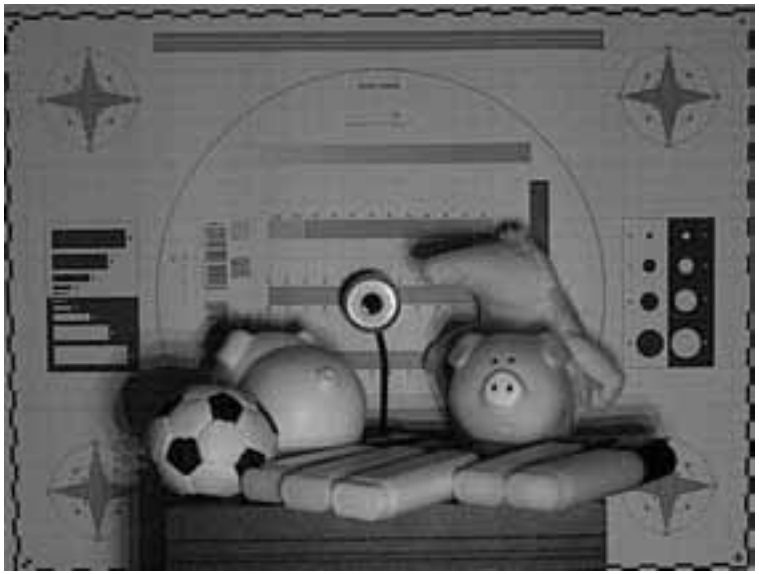
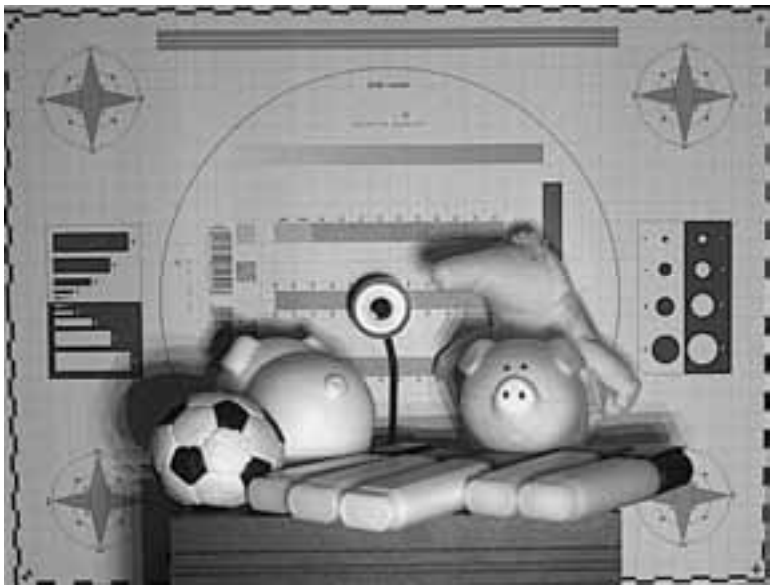
Demos 5 & 6

07:00 RAYMAX	
5th Demo	Long Range demo viewing subject on scene
6th Demo	Different Wavelength Demo

940nm vs 850nm





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LESSONS FROM THE DARK SIDE

TESTING IS CRITICAL (NO SUBSTITUTE FOR GETTING OUT THERE)

The test nights provided a rare opportunity to try out a range of camera, lens and lighting combinations in real life low-light conditions. This is not always possible but in reality there is no substitute for getting out there, and trying your chosen camera lens and lighting combination in real conditions. Many systems set up during day time conditions may fail to achieve effective night-time images.

LESSONS FROM THE DARK SIDE

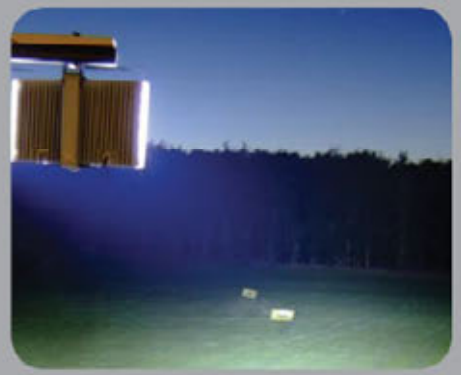
MANAGE THE SWITCH BETWEEN DAY & NIGHT

Some cameras during the night did not switch from Day (Colour) to Night mode (B&W) in response to the lighting situations. The Tavcom test highlighted this real issue perfectly. The solution is using the photocell following contact on Raytec premium PSU to control the camera switching and synchronise this with the lights and light levels. The Volt-free option can be used in conjunction with Raytec lighting controls or the external detector to switch the camera from day to night (or alternatively from night to day when quick start white light is utilised).

LESSONS FROM THE DARK SIDE

DEDICATED LIGHTING IS CRITICALLY IMPORTANT

Whilst ambient lighting and street lighting can provide light to the camera, it is often uneven with poor colour rendition and long start up times, and importantly is not dedicated to the CCTV camera. As a result the images are often not useable or fit-for-purpose. The floodlights from the test night demonstrated this very clearly, highlighting the fact that 4000W of non-directed light was less effective than 40W of directed RAYLUX lighting.



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LESSONS FROM THE DARK SIDE

SO WHAT WAS OUR OVERALL CONCLUSION?

Image quality is naturally important and on the night attendees witnessed images from at least 20 different cameras from a wide selection of manufacturers. Almost all the cameras had the ability to produce effective CCTV images with the correct illumination. Many people will have judged some images to be better than others and undoubtedly one or two models may well have stood out from the crowd in either White Light and Infra Red performance – but before you make your choice, a second critical factor comes into play: support.

- Dedicated lighting is critically important
- Support can be equally important

VOYAGER

07:30 ANPR	
1st Demo	Typical CCTV camera
2nd Demo	Voyager 2 Camera
3rd Demo	Car on scene with lights on/off

VOYAGER 2

LPR HARDWARE

Dedicated Webinar to be scheduled in May 2009

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WHAT'S THE FUSS?

Speed

Headlights

Lighting Conditions

Weather Conditions

Number Plates

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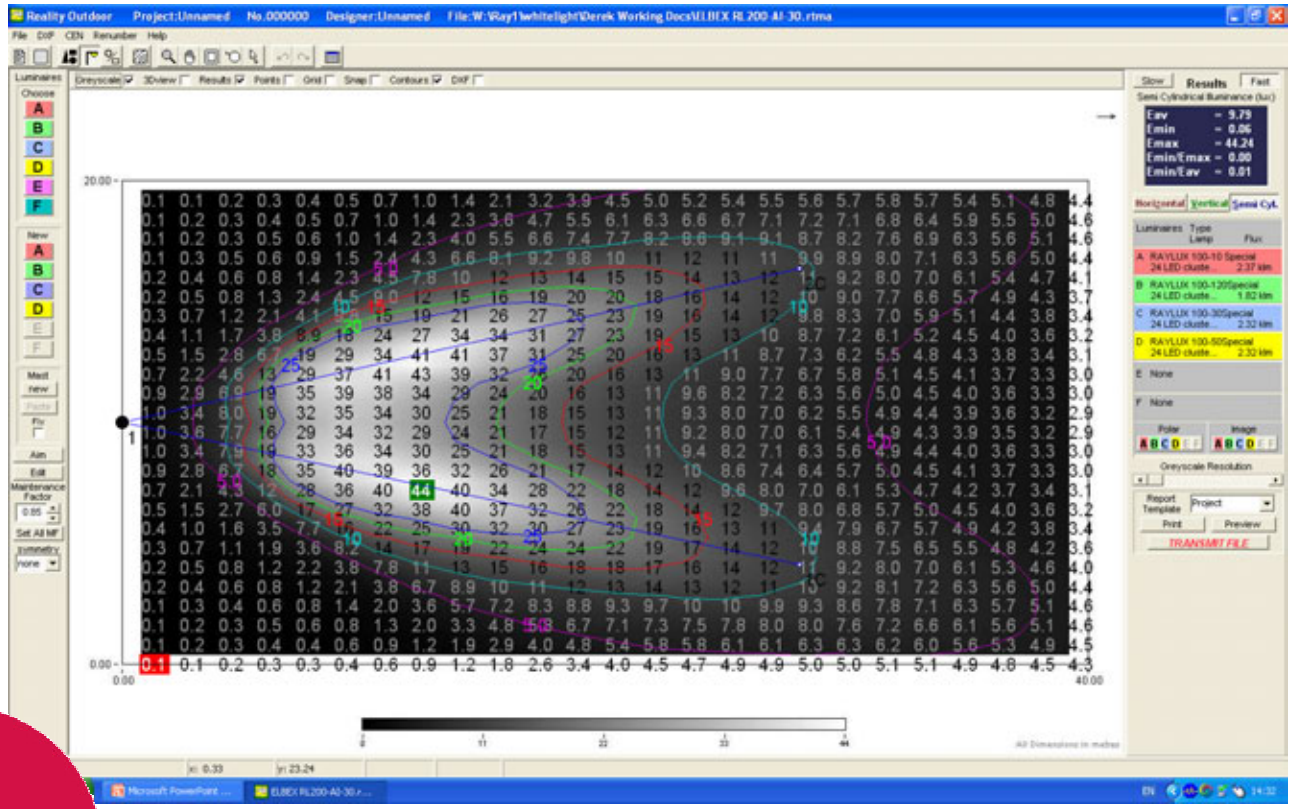
Traditional Camera

ND05 LCN

Tools and Help



FREE LIGHTING DESIGN SERVICE

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Tools and Help

- The Raytec Product Guide
  - Includes “How to Specify CCTV lighting”
- The Complete Guide to CCTV Lighting
- Technical Support Team

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New 2009 Website

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Questions

- Click on Participant panel (bottom right)
- Select Raise Hand
- Once a question slot becomes available we will activate your speech function

- Thank You