

KHATOD[®]

Optical Solutions for LED Lighting

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Test Report

Number: 130000001931

Optics: KCLP1690ST

Source: CREE CXA2530

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1 Light Source Model

| Parameter | Symbol | Value | Unit |
|--------------------------------|--------|---------------------------------|------|
| Lens / Reflector Model | - | KCLP1690ST | - |
| Material (More info on page 9) | - | APEC + Al + Protective Coatings | - |
| Dimensions | - | See page 8 | - |
| Source Model | - | CREE CXA2530 | - |
| Number of Sources | N | 1 | - |
| Driving Current | I_F | - | mA |
| Nominal Flux | Φ | 3000×1 | lm |

2 Measurement Setup

| Parameter | Symbol | Value | Unit |
|----------------------|--------|--------------|------|
| Operator | - | Simone Bassi | - |
| Goniophotometer Type | - | KLX12M | - |
| Measurement Distance | z | 5 | m |
| Room Temperature | T | 25 | °C |
| Date | - | 30-Mar-2013 | - |

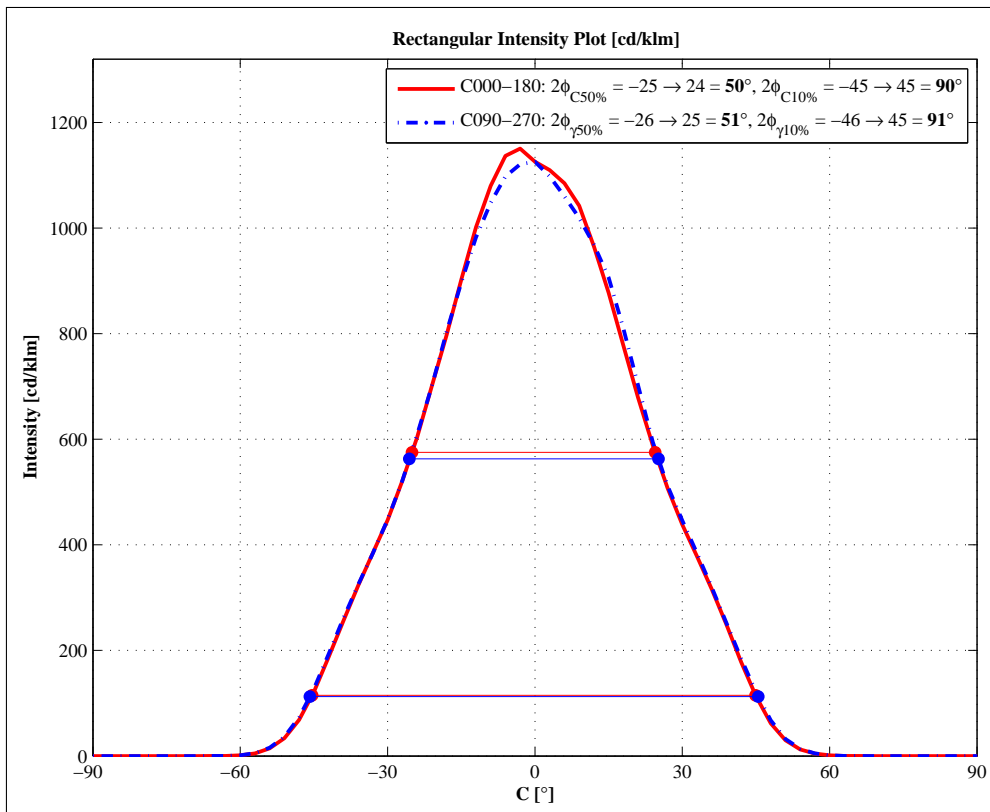
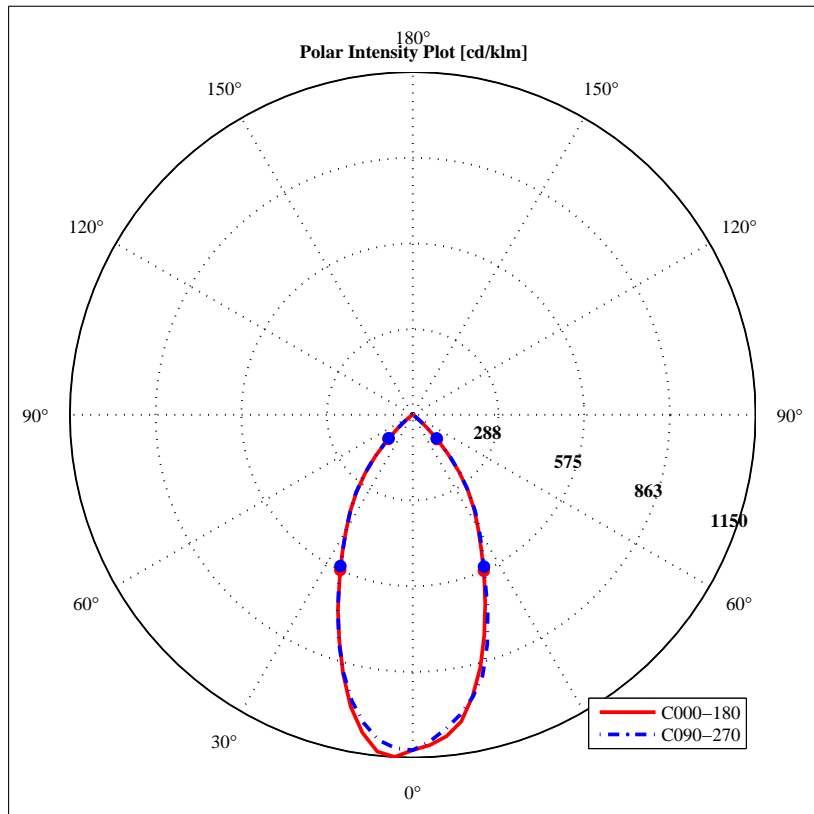
3 Results

| Parameter | Symbol | Value | Unit |
|---|----------------------|------------|------|
| Total Flux | Φ | 3000 | lm |
| Max Intensity | I_{\max} | 3451 | cd |
| Max Illuminance at 5 m | E_{\max} | 138 | lx |
| C-Viewing Angle at $50\%I_{\max}$ | $2\phi_C$ | 50 | ° |
| γ -Viewing Angle at $50\%I_{\max}$ | $2\phi_\gamma$ | 51 | ° |
| C-Viewing Angle at $10\%I_{\max}$ | $2\phi_{C10\%}$ | 90 | ° |
| γ -Viewing Angle at $10\%I_{\max}$ | $2\phi_{\gamma10\%}$ | 91 | ° |
| General Optical Measurement Tolerance | - | $\pm 10\%$ | - |

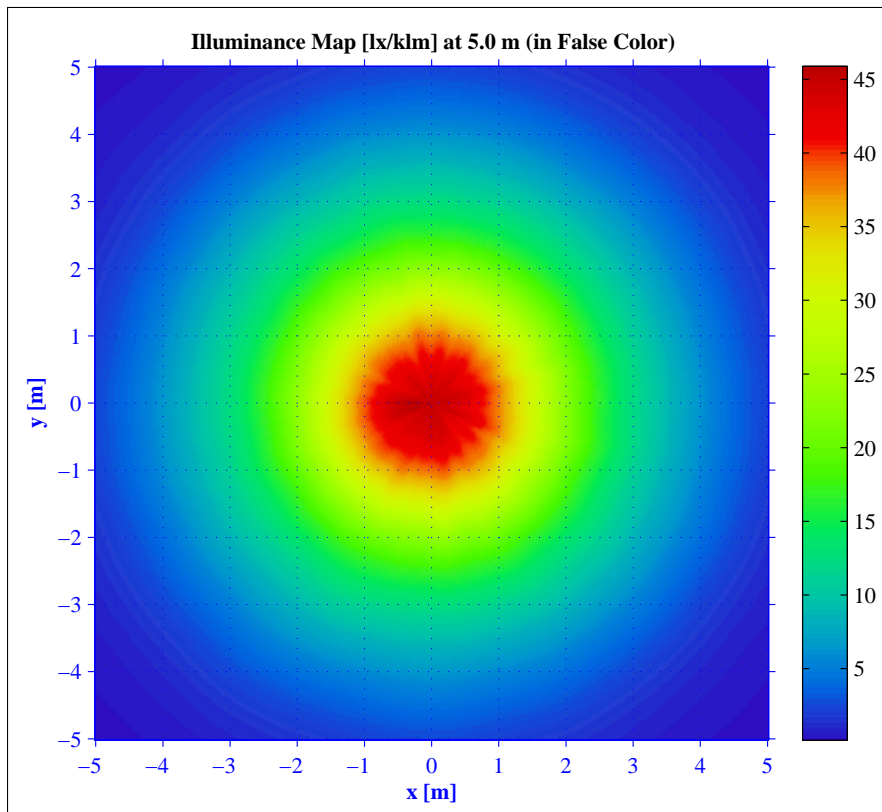
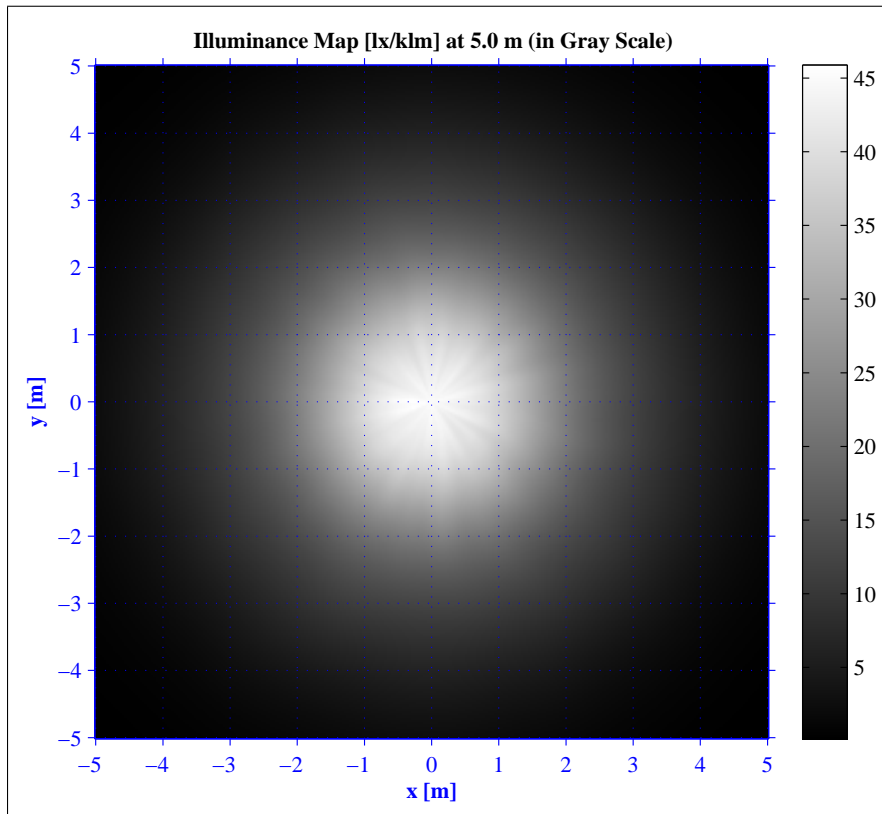
NOTES:

- Intensity (I) and illuminance (E) data are normalized by 1000 lm
- The optical values shown are the result of optical simulations carried out with ASAP and ZEMAX software systems. The optical simulations are carried out on the basis of the typical values provided in the LED manufacturers' official datasheets. The photometric analysis has been carried out on physical samples. On request, by supplying your PCB, we can provide the measurement photometric file.

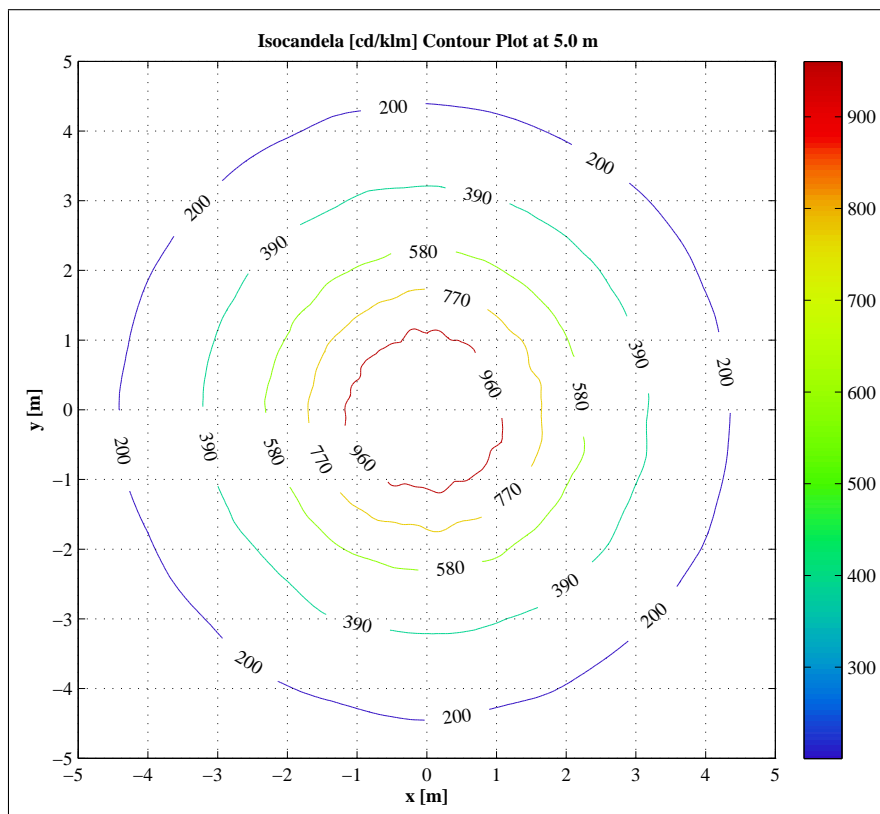
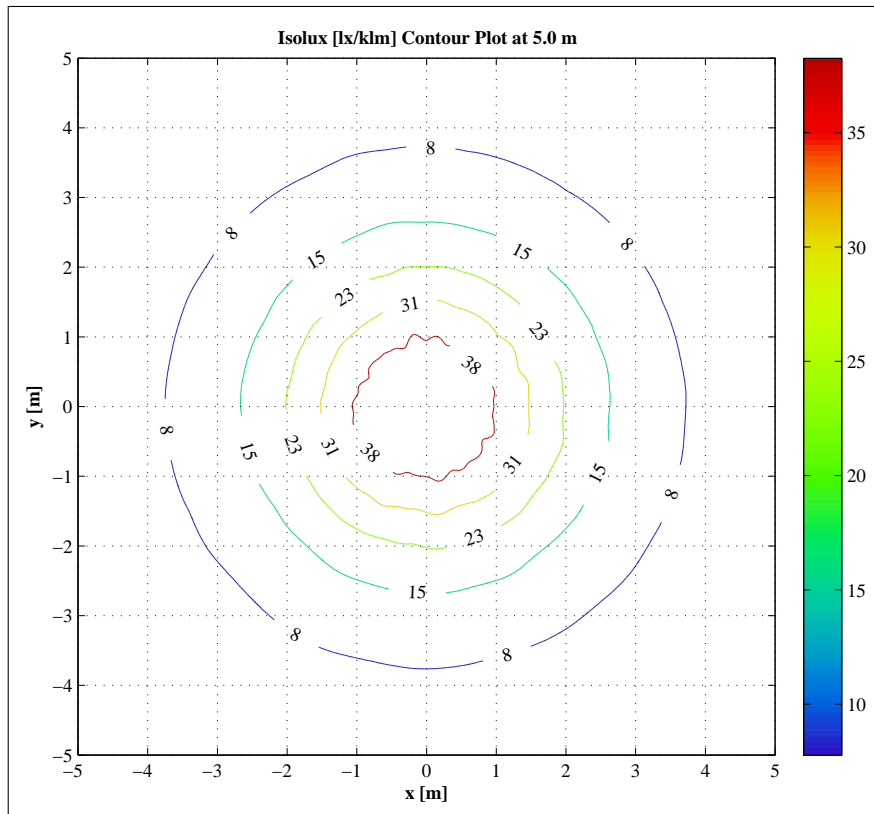
4 Intensity Plot



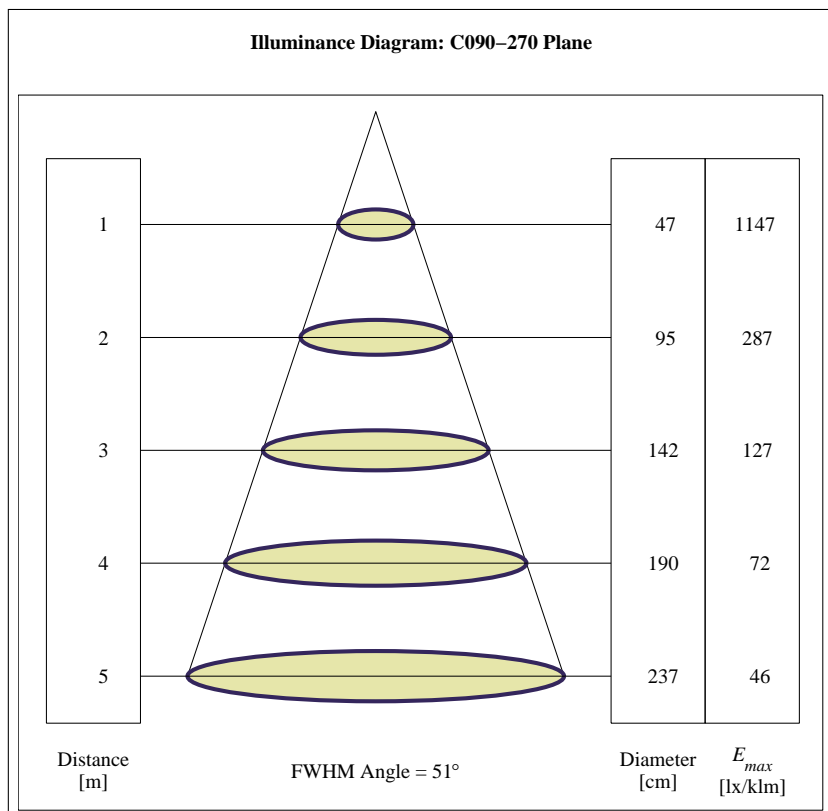
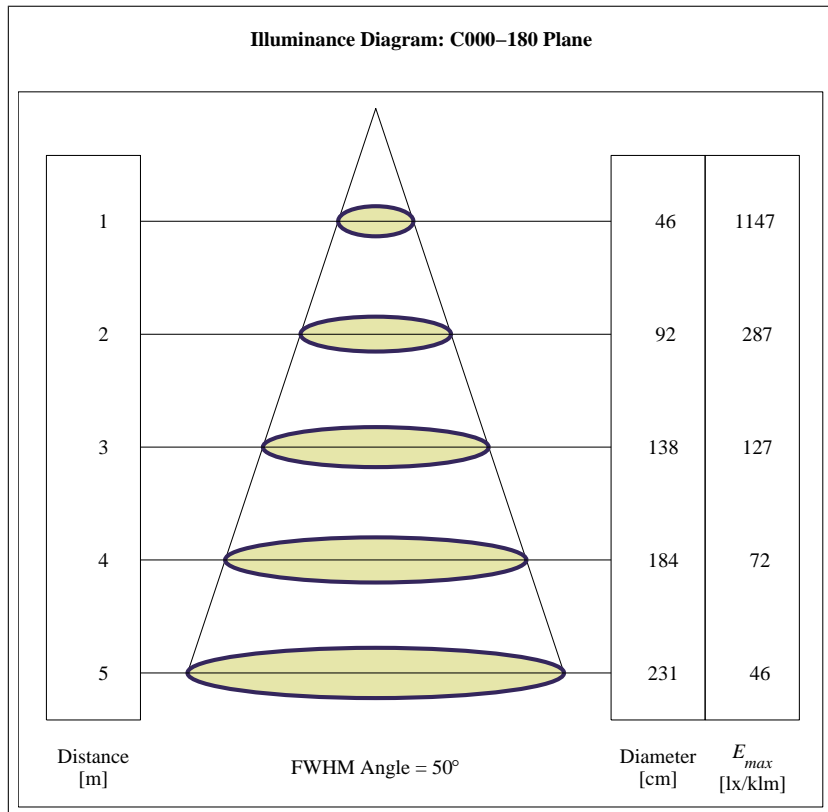
5 Illuminance Map



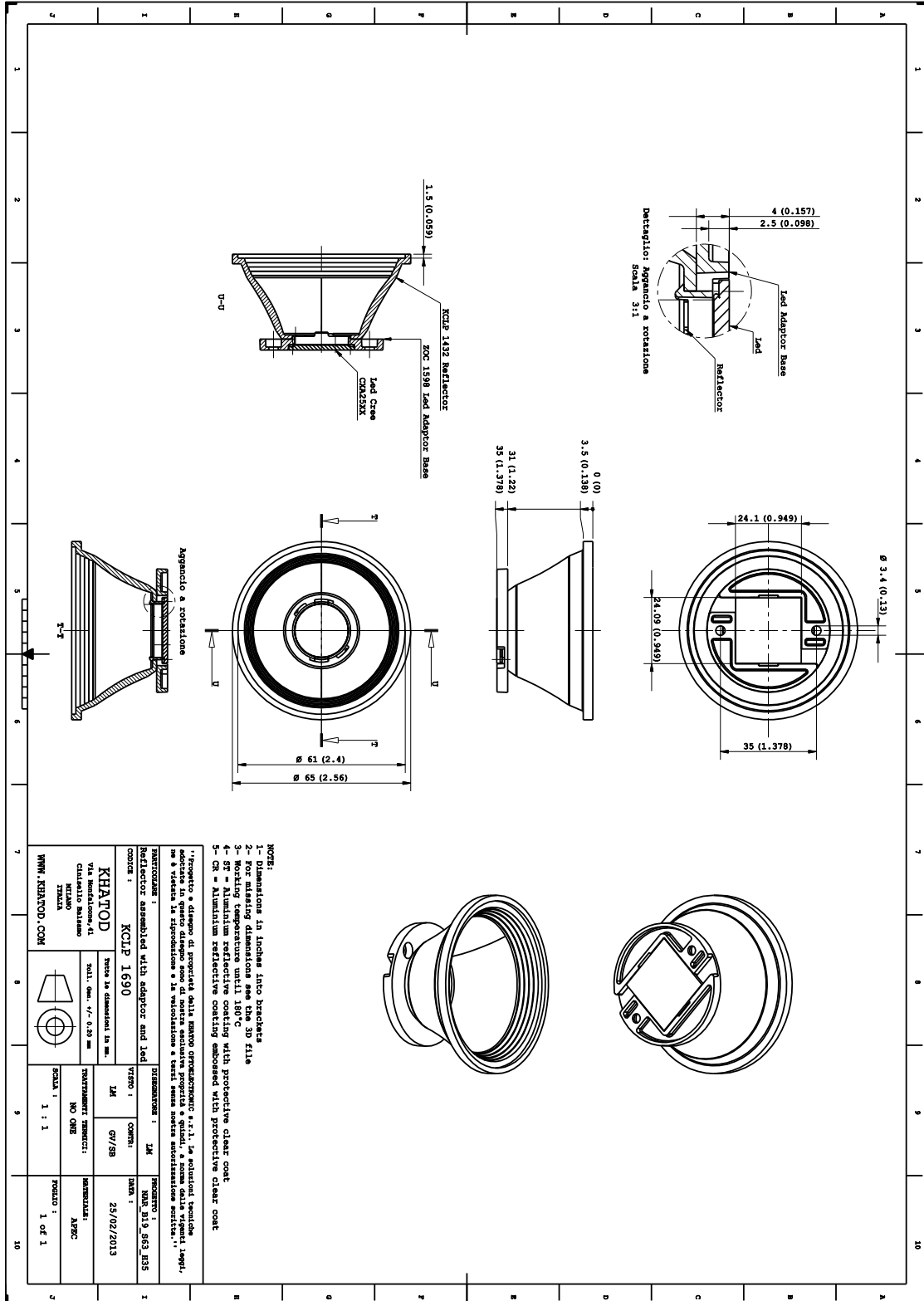
6 Isolux / Isocandela Plots



7 Illuminance Diagram



8 Drawing



9 Materials

| Material | T _{op} | T _{stg} |
|--|-----------------|------------------|
| PMMA | -40°...85°C | -40°...85°C |
| PC | -40°...120°C | -40°...120°C |
| PC + Aluminum Coating with protective Clear Coat | -40°...120°C | -40°...120°C |
| APEC + Aluminum Coating with protective Clear Coat | -40°...180°C | -40°...180°C |
| ABS | -35°...70°C | -35°...70°C |

10 Use and Maintenance

- DO NOT HANDLE OR INSTALL LENSES WITHOUT WEARING GLOVES, SKIN OILS MAY DAMAGE LENS OR LIGHT TRANSMISSION;
- CLEAN LENSES WITH MILD SOAP AND WATER AND A SOFT CLOTH;
- DO NOT USE ANY COMMERCIAL CLEANING SOLVENTS ON LENSES.

11 Disclaimer

Please note that flow lines and weld lines on the external surfaces of the lenses are acceptable if the optical performance of the lens is within the specification described in the section Results on page 3. Should you require further information, please contact Khatod for advice. All lens testing must be subject to identical conditions as Khatod test condition.

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