

Appendix 2. Project Description

2.3. Site Lighting Report (Lighting Reality, 2025)

DATE: 31 October 2025
DESIGNER: Sean Rafferty
PROJECT No: 0114485
PROJECT NAME: Cashla Peaker Plant Planning Report

**LIGHTING
REALITY**

FOR PLANNING

Design in Accordance with EN-13201 and XDS-GFS-14-001-R2

Roads - Class C4

Fuel Compound: Emin 2 Lux

PEK3-ATK-ZZ-ZZ-RP-EE-901300

Layout Report

General Data

Dimensions in Metres Angles in Degrees

Calculation Grids

| ID | Grid Name | X | Y | X' Length | Y' Length | X' Spacing | Y' Spacing |
|----|----------------|-----------|-----------|-----------|-----------|------------|------------|
| 1 | Grid 1 - Roads | 546335.02 | 727879.07 | 539.57 | 513.71 | 2.16 | 2.05 |
| 2 | Grid 2 | 546653.12 | 728111.40 | 75.57 | 39.15 | 1.48 | 1.45 |
| 3 | Grid 3 | 546441.76 | 728103.07 | 91.44 | 122.00 | 1.50 | 1.49 |

Luminaires

Luminaire A Data



| | |
|----------------------|------------------------------------------------------------------------------|
| Supplier | Urbis Schreder |
| Type | AXIA 3.1 5295 Integrated lenses 16 OSLO N SQUARE GIANT@870mA |
| Lamp(s) | 16 OSLO N SQUARE GIANT@870mA WW 727 230V 00-53-397 |
| LampFlux(klm)/Colour | 5.12 WW 2700K/70 |
| File Name | AXIA 3.1 5295 16 OSLO N SQUARE GIANT 870mA WW 727 44W 435822 Integrated I... |
| Maintenance Factor | 0.89 |
| Imax70,80,90(cd/klm) | 711.2, 23.8, 0.0 |
| No. in Project | 51 |

Luminaire B Data



| | |
|----------------------|------------------------------------------------------------------------------|
| Supplier | Urbis Schreder |
| Type | AXIA 3.1 5293 Integrated lenses 16 OSLO N SQUARE GIANT@870mA |
| Lamp(s) | 16 OSLO N SQUARE GIANT@870mA WW 727 230V 00-53-397 |
| LampFlux(klm)/Colour | 5.04 WW 2700K/70 |
| File Name | AXIA 3.1 5293 16 OSLO N SQUARE GIANT 870mA WW 727 44W 439822 Integrated I... |
| Maintenance Factor | 0.89 |
| Imax70,80,90(cd/klm) | 617.9, 19.7, 0.0 |
| No. in Project | 10 |

Luminaire C Data



| | |
|----------------------|------------------------------------------------------------------------------|
| Supplier | Urbis Schreder |
| Type | AXIA 3.1 5384 Integrated lenses 16 OSLO N SQUARE GIANT@870mA |
| Lamp(s) | 16 OSLO N SQUARE GIANT@870mA WW 727 230V 00-53-397 |
| LampFlux(klm)/Colour | 4.93 WW 2700K/70 |
| File Name | AXIA 3.1 5384 16 OSLO N SQUARE GIANT 870mA WW 727 44W 487502 Integrated I... |
| Maintenance Factor | 0.89 |
| Imax70,80,90(cd/klm) | 1031.6, 225.6, 0.0 |
| No. in Project | 6 |

Layout

| ID /Mast | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----------|------|-----------|-----------|--------|--------|------|------|-----------|----------|----------|----------|
| 1 | A | 546767.80 | 728220.96 | 8.00 | 129.00 | 0.00 | 0.00 | 0.50 | | | |
| 2 | A | 546756.07 | 728204.85 | 8.00 | 129.00 | 0.00 | 0.00 | 0.50 | | | |
| 3 | A | 546724.54 | 728170.37 | 8.00 | 128.00 | 0.00 | 0.00 | 0.50 | | | |
| 4 | A | 546704.79 | 728152.71 | 8.00 | 128.00 | 0.00 | 0.00 | 0.50 | | | |
| 5 | A | 546683.48 | 728135.84 | 8.00 | 128.00 | 0.00 | 0.00 | 0.50 | | | |
| 6 | A | 546661.79 | 728119.28 | 8.00 | 128.00 | 0.00 | 0.00 | 0.50 | | | |
| 7 | A | 546638.06 | 728102.94 | 8.00 | 124.00 | 0.00 | 0.00 | 0.50 | | | |
| 8 | A | 546616.45 | 728085.10 | 8.00 | 128.00 | 0.00 | 0.00 | 0.50 | | | |

Layout Continued

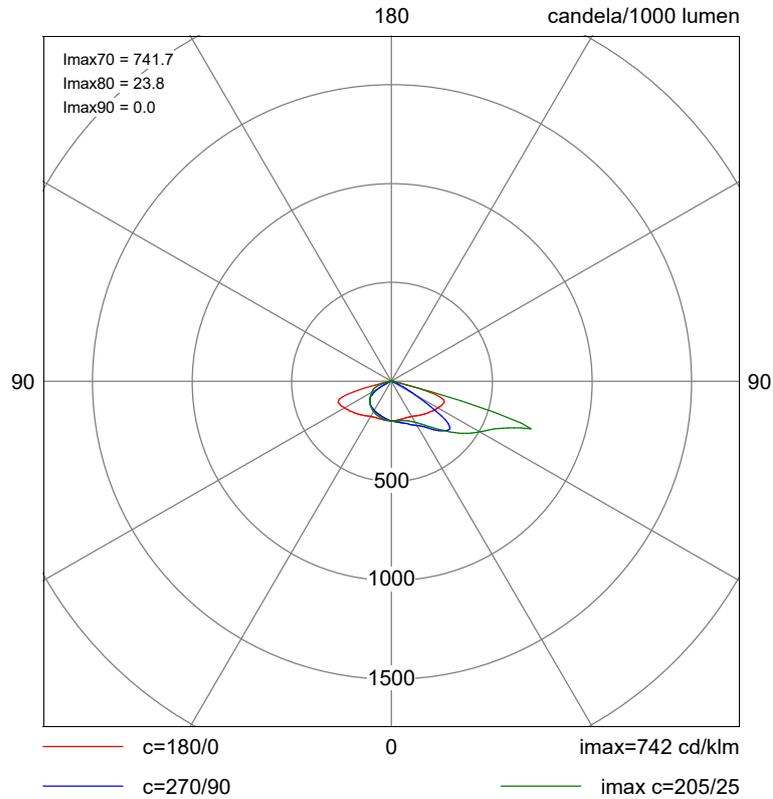
| ID /Mast | Type | X | Y | Height | Angle | Tilt | Cant | Out- reach | Target X | Target Y | Target Z |
|-------------|------|-----------|-----------|--------|--------|------|------|---------------|-------------|-------------|-------------|
| 9 | A | 546737.08 | 728225.18 | 8.00 | 230.00 | 0.00 | 0.00 | 0.50 | | | |
| 10 | A | 546732.95 | 728190.29 | 8.00 | 311.00 | 0.00 | 0.00 | 0.50 | | | |
| 11 | A | 546575.33 | 728048.04 | 8.00 | 128.00 | 0.00 | 0.00 | 0.50 | | | |
| 12 | A | 546546.82 | 728046.56 | 8.00 | 71.00 | 0.00 | 0.00 | 0.50 | | | |
| 14 | A | 546531.80 | 728067.18 | 8.00 | 317.00 | 0.00 | 0.00 | 0.50 | | | |
| 16 | A | 546550.20 | 728078.61 | 8.00 | 138.00 | 0.00 | 0.00 | 0.50 | | | |
| 17 | A | 546509.77 | 728041.29 | 8.00 | 321.00 | 0.00 | 0.00 | 0.50 | | | |
| 16 | A | 546498.45 | 728043.13 | 8.00 | 237.00 | 0.00 | 0.00 | 0.50 | | | |
| 17 | A | 546408.31 | 728026.12 | 8.00 | 14.00 | 0.00 | 0.00 | 0.50 | | | |
| 20 | A | 546717.38 | 728242.22 | 8.00 | 235.00 | 0.00 | 0.00 | 0.50 | | | |
| 21 | A | 546673.17 | 728279.45 | 8.00 | 227.00 | 0.00 | 0.00 | 0.50 | | | |
| 22 | A | 546695.97 | 728260.30 | 8.00 | 234.00 | 0.00 | 0.00 | 0.50 | | | |
| 24 | A | 546683.48 | 728236.71 | 8.00 | 143.00 | 0.00 | 0.00 | 0.50 | | | |
| 25 | A | 546648.90 | 728300.27 | 8.00 | 227.00 | 0.00 | 0.00 | 0.50 | | | |
| 26 | A | 546626.77 | 728318.37 | 8.00 | 227.00 | 0.00 | 0.00 | 0.50 | | | |
| 27 | A | 546602.56 | 728338.95 | 8.00 | 227.00 | 0.00 | 0.00 | 0.50 | | | |
| 29 | A | 546661.07 | 728221.26 | 8.00 | 317.00 | 0.00 | 0.00 | 0.50 | | | |
| 30 | A | 546640.92 | 728197.57 | 8.00 | 317.00 | 0.00 | 0.00 | 0.50 | | | |
| 31 | A | 546621.51 | 728174.53 | 8.00 | 321.00 | 0.00 | 0.00 | 0.50 | | | |
| 33 | A | 546608.48 | 728147.42 | 8.00 | 138.00 | 0.00 | 0.00 | 0.50 | | | |
| 34 | A | 546593.12 | 728129.42 | 8.00 | 140.00 | 0.00 | 0.00 | 0.50 | | | |
| 35 | A | 546576.57 | 728109.50 | 8.00 | 140.00 | 0.00 | 0.00 | 0.50 | | | |
| 36 | A | 546563.12 | 728093.32 | 8.00 | 140.00 | 0.00 | 0.00 | 0.50 | | | |
| 37 | A | 546569.28 | 728351.10 | 8.00 | 254.00 | 0.00 | 0.00 | 0.50 | | | |
| 38 | A | 546540.37 | 728357.14 | 8.00 | 255.00 | 0.00 | 0.00 | 0.50 | | | |
| 39 | A | 546510.88 | 728354.70 | 8.00 | 295.00 | 0.00 | 0.00 | 0.50 | | | |
| 40 | A | 546494.81 | 728331.72 | 8.00 | 326.00 | 0.00 | 0.00 | 0.50 | | | |
| 41 | A | 546488.95 | 728308.46 | 8.00 | 343.00 | 0.00 | 0.00 | 0.50 | | | |
| 43 | A | 546484.39 | 728289.71 | 8.00 | 343.00 | 0.00 | 0.00 | 0.50 | | | |
| 44 | A | 546479.76 | 728268.57 | 8.00 | 341.00 | 0.00 | 0.00 | 0.50 | | | |
| 39/11 | B | 546514.21 | 728057.41 | 20.00 | 153.00 | 0.00 | 0.00 | 1.00 | | | |
| 48 | A | 546472.54 | 728241.63 | 8.00 | 343.00 | 0.00 | 0.00 | 0.50 | | | |
| 49 | A | 546465.42 | 728213.15 | 8.00 | 343.00 | 0.00 | 0.00 | 0.50 | | | |
| 50 | A | 546459.22 | 728185.40 | 8.00 | 343.00 | 0.00 | 0.00 | 0.50 | | | |
| 51 | A | 546449.15 | 728158.71 | 8.00 | 343.00 | 0.00 | 0.00 | 0.50 | | | |
| 52 | A | 546440.54 | 728133.53 | 8.00 | 337.00 | 0.00 | 0.00 | 0.50 | | | |

Layout Continued

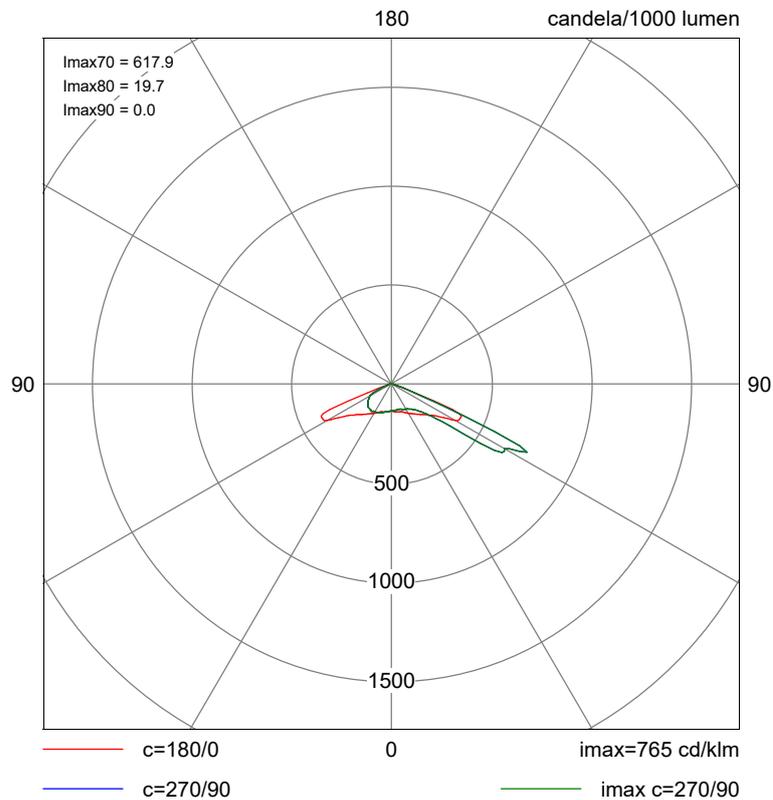
| ID /Mast | Type | X | Y | Height | Angle | Tilt | Cant | Out-reach | Target X | Target Y | Target Z |
|----------|------|-----------|-----------|--------|--------|------|------|-----------|----------|----------|----------|
| 53 | A | 546428.18 | 728108.74 | 8.00 | 330.00 | 0.00 | 0.00 | 0.50 | | | |
| 54 | A | 546414.13 | 728083.83 | 8.00 | 331.00 | 0.00 | 0.00 | 0.50 | | | |
| 55 | A | 546406.65 | 728057.97 | 8.00 | 335.00 | 0.00 | 0.00 | 0.50 | | | |
| 48 | A | 546423.70 | 727999.55 | 8.00 | 41.00 | 0.00 | 0.00 | 0.50 | | | |
| 49/11 | B | 546514.21 | 728057.41 | 20.00 | 50.00 | 0.00 | 0.00 | 1.00 | | | |
| 50/12 | B | 546542.30 | 728109.39 | 20.00 | 192.00 | 0.00 | 0.00 | 1.00 | | | |
| 51/12 | B | 546542.30 | 728109.39 | 20.00 | 89.00 | 0.00 | 0.00 | 1.00 | | | |
| 52/10 | B | 546461.39 | 728102.52 | 20.00 | 20.00 | 0.00 | 0.00 | 1.00 | | | |
| 53/10 | B | 546461.39 | 728102.52 | 20.00 | 320.00 | 0.00 | 0.00 | 1.00 | | | |
| 64 | A | 546677.37 | 728196.02 | 8.00 | 47.00 | 0.00 | 0.00 | 1.00 | | | |
| 66 | A | 546594.83 | 728066.37 | 8.00 | 131.00 | 0.00 | 0.00 | 0.50 | | | |
| 78 | C | 546675.59 | 728184.29 | 8.00 | 270.00 | 0.00 | 0.00 | 1.00 | | | |
| 79 | C | 546699.93 | 728162.89 | 8.00 | 180.00 | 0.00 | 0.00 | 1.00 | | | |
| 80 | C | 546635.98 | 728137.62 | 8.00 | 9.00 | 0.00 | 0.00 | 1.00 | | | |
| 81 | C | 546655.15 | 728126.12 | 8.00 | 126.00 | 0.00 | 0.00 | 1.00 | | | |
| 82 | C | 546678.32 | 728144.91 | 8.00 | 135.00 | 0.00 | 0.00 | 1.00 | | | |
| 83 | C | 546657.75 | 728163.57 | 8.00 | 312.00 | 0.00 | 0.00 | 1.00 | | | |
| 79/15 | B | 546537.27 | 728164.52 | 20.00 | 320.00 | 0.00 | 0.00 | 1.00 | | | |
| 80/15 | B | 546537.27 | 728164.52 | 20.00 | 230.00 | 0.00 | 0.00 | 1.00 | | | |
| 91 | A | 546431.51 | 728011.24 | 8.00 | 320.00 | 0.00 | 0.00 | 0.50 | | | |
| 92 | A | 546689.01 | 728208.12 | 8.00 | 230.00 | 0.00 | 0.00 | 0.50 | | | |
| 85/3 | B | 546492.21 | 728141.26 | 20.00 | 355.00 | 0.00 | 0.00 | 1.00 | | | |
| 86/3 | B | 546492.21 | 728141.26 | 20.00 | 295.00 | 0.00 | 0.00 | 1.00 | | | |

Polar Diagrams

Luminaire A AXIA 3.1 5295 Integrated lenses 16 OSLON SQUARE GIANT@870mA

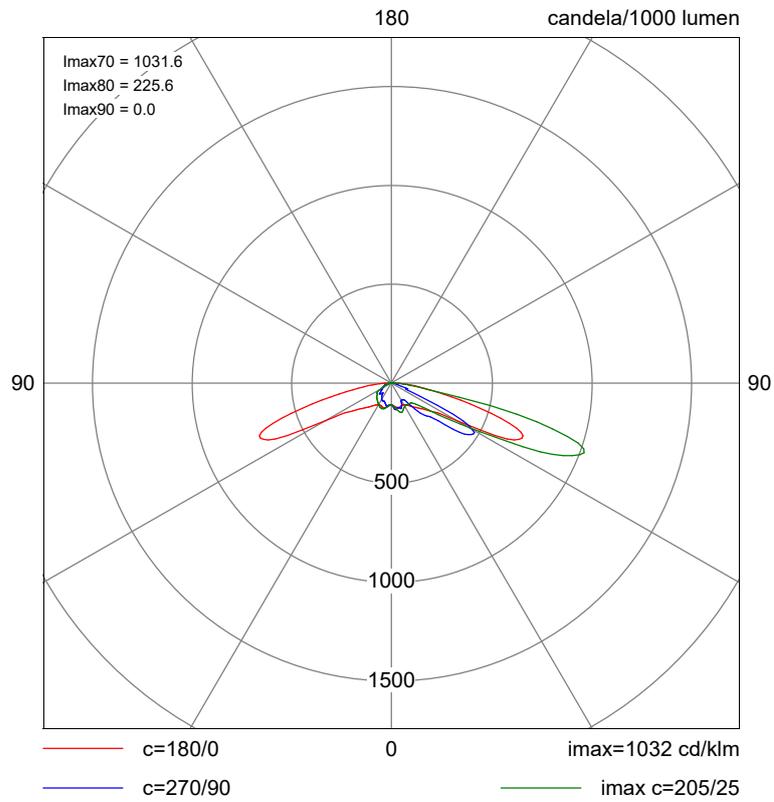


Luminaire B AXIA 3.1 5293 Integrated lenses 16 OSLON SQUARE GIANT@870mA



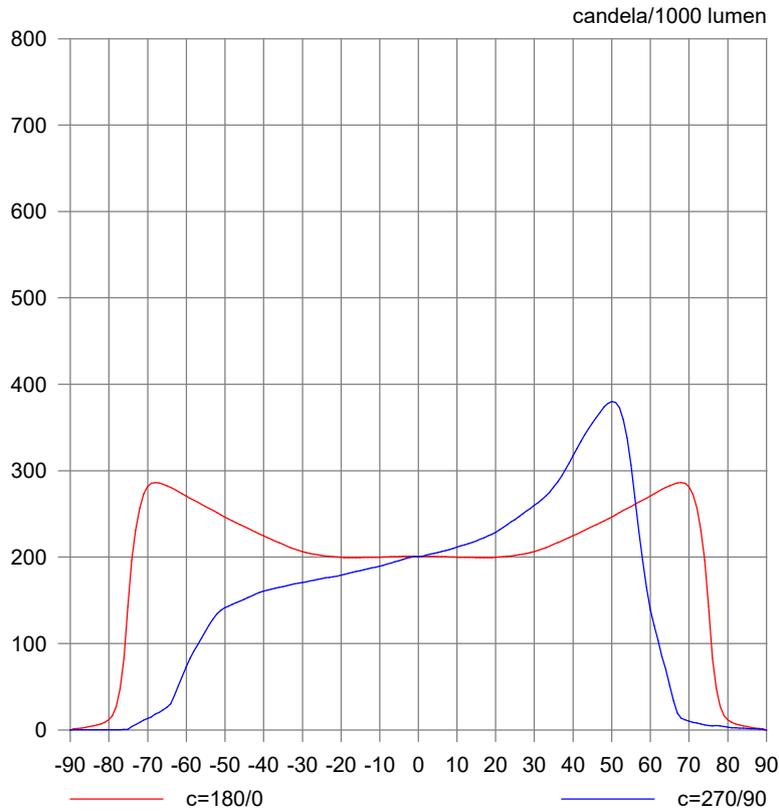
Polar Diagrams Continued

Luminaire C AXIA 3.1 5384 Integrated lenses 16 OSLO SQUARE GIANT@870mA

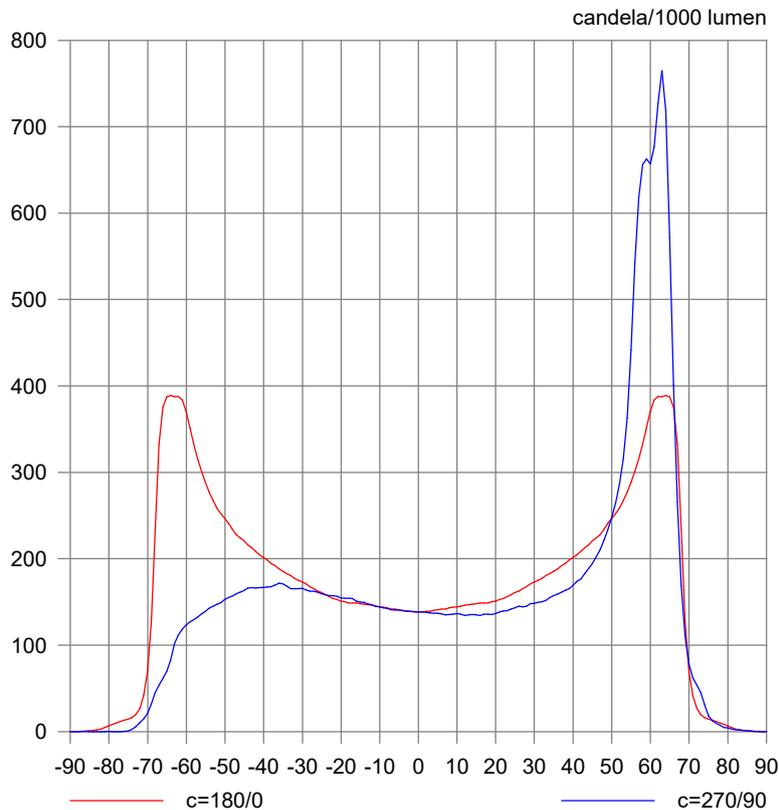


Cartesian Diagrams

Luminaire A AXIA 3.1 5295 Integrated lenses 16 OSLO SQUARE GIANT@870mA

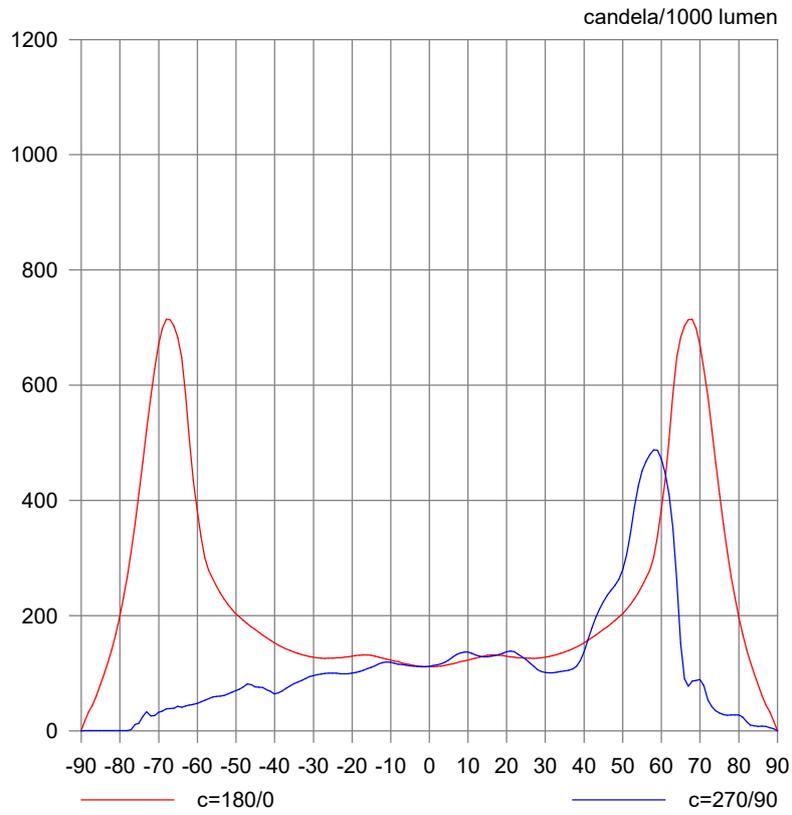


Luminaire B AXIA 3.1 5293 Integrated lenses 16 OSLO SQUARE GIANT@870mA



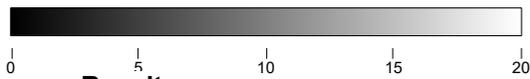
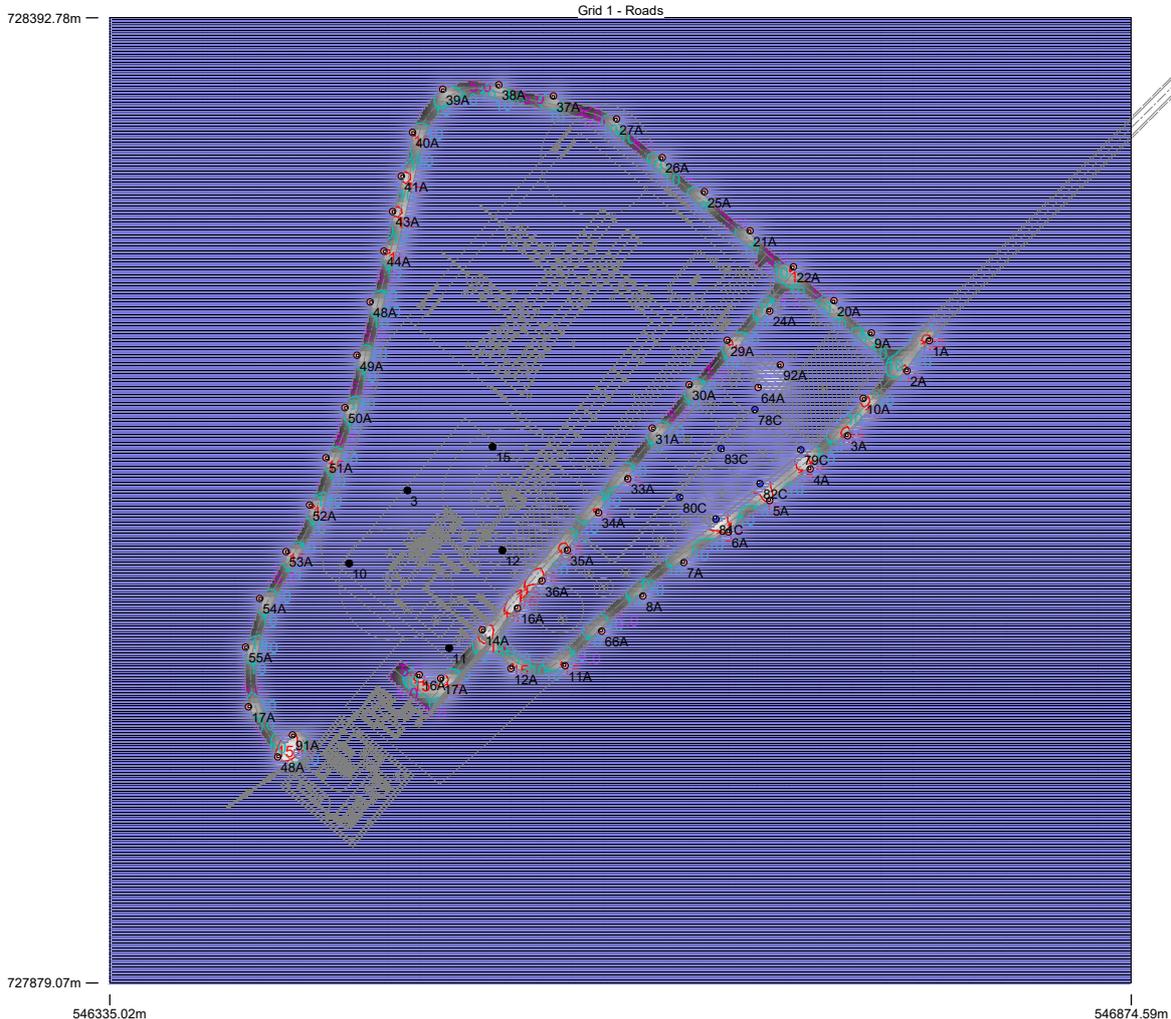
Cartesian Diagrams Continued

Luminaire C AXIA 3.1 5384 Integrated lenses 16 OSLO SQUARE GIANT@870mA



Horizontal Illuminance (lux)

Grid 1 - Roads

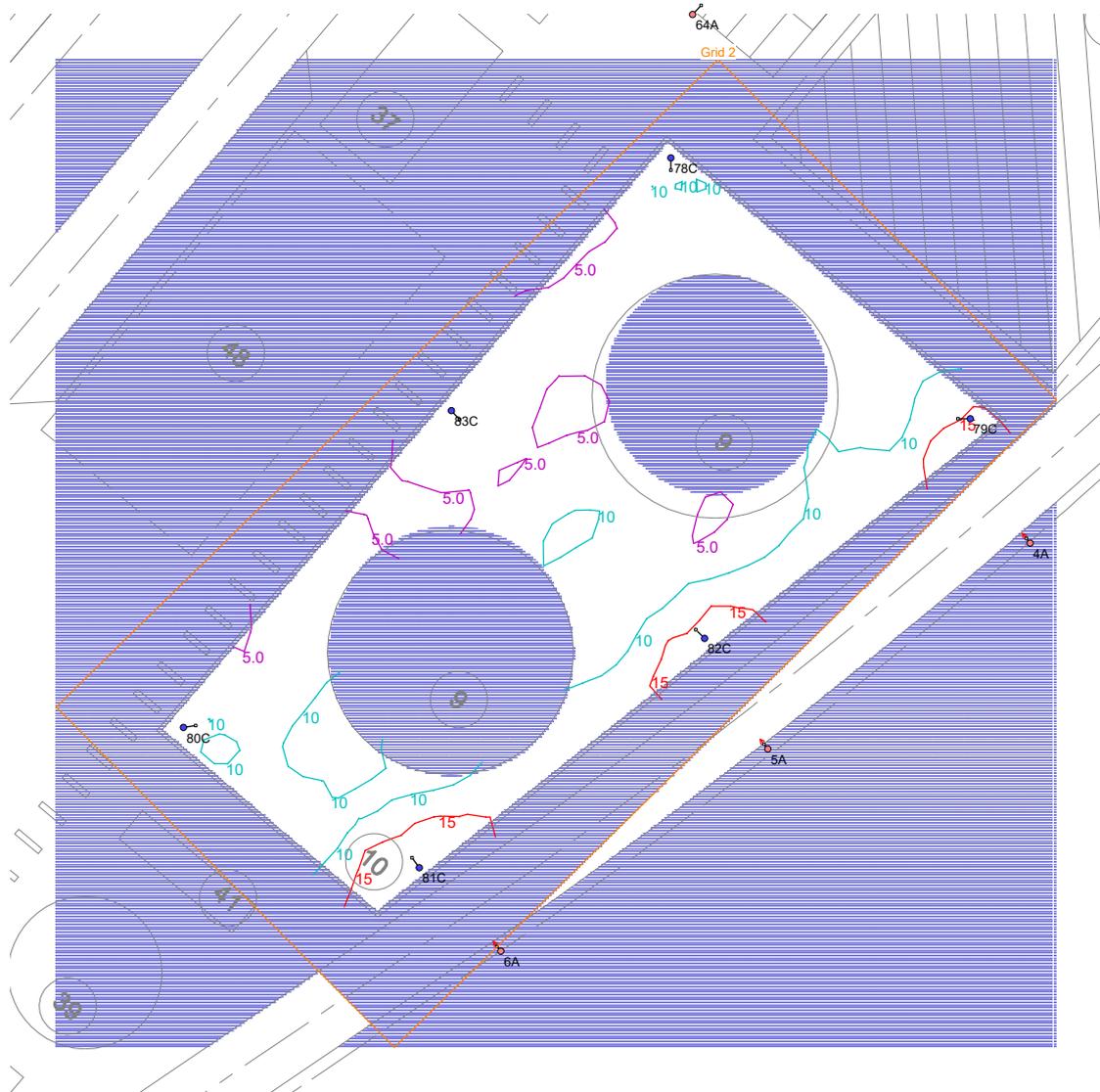


Results

| | |
|-----------|-------|
| Eav | 10.75 |
| Emin | 4.26 |
| Emax | 19.04 |
| Emin/Emax | 0.22 |
| Emin/Eav | 0.40 |
| | |

Horizontal Illuminance (lux)

Grid 2

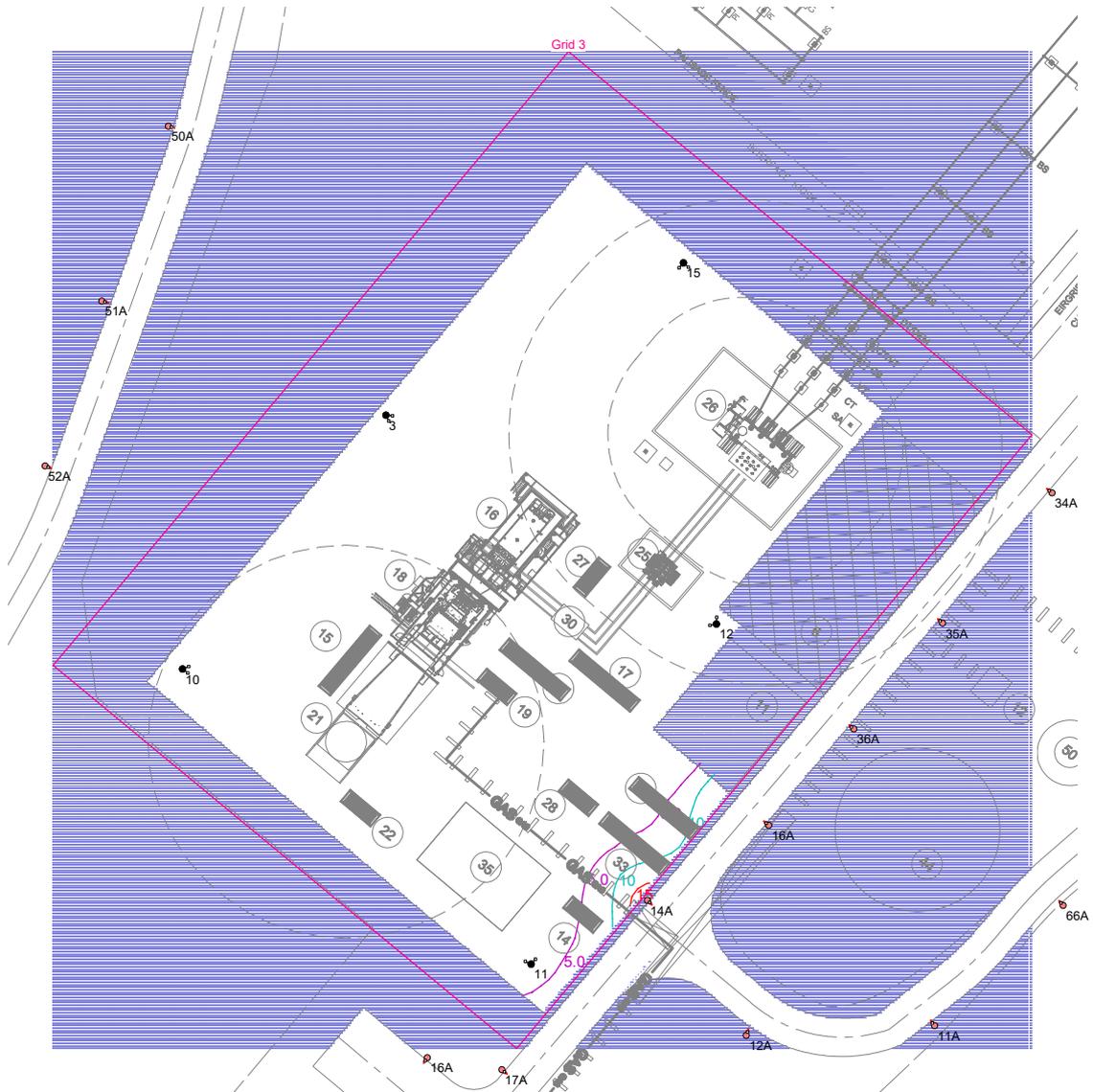


Results

| | |
|-----------|-------|
| Eav | 8.93 |
| Emin | 3.80 |
| Emax | 19.93 |
| Emin/Emax | 0.19 |
| Emin/Eav | 0.43 |
| | |

Horizontal Illuminance (lux)

Grid 3



Results

| | |
|-----------|-------|
| Eav | 3.63 |
| Emin | 1.96 |
| Emax | 16.16 |
| Emin/Emax | 0.12 |
| Emin/Eav | 0.54 |
| | |