



External Lighting - Ramps Option 2

Installation : Christie TIF Wards, Manchester

Project number : 30735

Customer : Liz Clarke

Processed by : DC

Date : 09.04.2024

Project description:

MF = individually calculated based on E4 environmental zone / 10 year install.

Spectre WR mounting height modified to 2.9m AFFL.

Design modified to attain 100lx minimum point on the ramps as per BS8300-1.

Sirocco Midi to be wall mounted at 4m AFFL below curtain glazing, supplied with wall bracket.

GR Disability Glare Table Index;

GR 10-20 Unnoticeable

GR 30-40 Noticeable

GR 40-50 Just Admissible

GR 60-70 Disturbing

GR 80-90 Unbearable

CDM 2015 - Designers Risk Assessment:

Throughout the design process, consideration has been made for the installation, maintenance, use and decommissioning phases of the project. By adopting a best practice approach, it is judged that any inherent risks associated with the design of lighting systems are suitably mitigated. Through this process, no unusual or significant risks have been identified.

However, it should still be noted that:

- Installation of lighting and any associated systems may involve working at height. Contractor to prepare appropriate Risk assessment and method statements to establish safe method of works.
- Installation of electrical services to lighting. Contractor to prepare appropriate Risk assessment and method statements to establish safe method of works. Only demonstrably competent and qualified personnel to undertake electrical installation and testing.
- Installation of lighting equipment should adhere to the product specific installation details provided in order to ensure compliance with the requirements of BS EN 60598.

Lighting Design Calculations:

The information contained within this document may not necessarily convey all the required details, as such should be read in conjunction with all other documentation and/or drawings provided as part of Whitecroft Lighting's design submissions.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

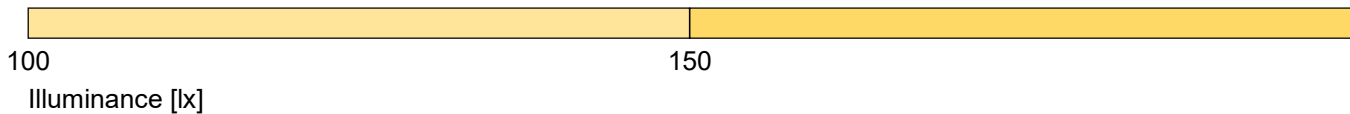
This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.



1 Exterior 1 - Option 2

1.1 Summary, Exterior 1 - Option 2

1.1.1 Result overview, Perimeter Ramps 1



General

Calculation algorithm used
Height of evaluation surface
Maintenance factor

Average indirect fraction
0.00 m
see luminaires / maintenance plan

Total luminous flux
Total power
Total power per area (691.12 m²)
Upward light ratio (ULR)

43862 lm
364 W
0.53 W/m²
0.01

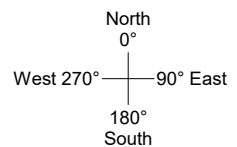
Illuminance

Average illuminance	Em	144 lx
Minimum illuminance	Emin	101 lx
Maximum illuminance	Emax	193 lx
Uniformity Uo	Emin/Em	1:1.43 (0.7)
Diversity Ud	Emin/Emax	1:1.92 (0.52)

Observer GR

Lve = 0.37 cd/m², Ehav(MF:1.0) = 165 lx, ρ = 20 %

No.	Description	Position	Max GR	Direction
1	GR 1	26.1 m/13.5 m/1.6 m	44.4	6° (-2°)



Type No. Make

Whitecroft Lighting

1 9 x


Order No. : SPRAH14K
Luminaire name : SPECTRE WR
Equipment : 1 x LED 27 W / 2850 lm
Maintenance factor: 0.67

The ULR value has been calculated without obstruction by other objects.

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1 Exterior 1 - Option 2

1.1 Summary, Exterior 1 - Option 2

1.1.1 Result overview, Perimeter Ramps 1

3	3 x	Order No.	: BLY234KSRB
		Luminaire name	: KOLO BOLLARD
		Equipment	: 1 x LED 13 W / 1500 lm
		Maintenance factor:	0.83
13	1 x	Order No.	: SIMDH34KGA
		Luminaire name	: SIROCCO MIDI - AREA OPTIC
		Equipment	: 1 x LED 100 W / 13712 lm
		Maintenance factor:	0.87



1.1 Summary, Exterior 1 - Option 2
1.1.2 Result overview, Perimeter Ramps 2



General

Calculation algorithm used : Average indirect fraction
Height of evaluation surface : 0.00 m
Maintenance factor : see luminaires / maintenance plan

Total luminous flux : 43862 lm
Total power : 364 W
Total power per area (691.12 m²) : 0.53 W/m²
Upward light ratio (ULR) : 0.01

Illuminance

Average illuminance	Em	136 lx
Minimum illuminance	Emin	102 lx
Maximum illuminance	Emax	247 lx
Uniformity Uo	Emin/Em	1:1.33 (0.75)
Diversity Ud	Emin/Emax	1:2.41 (0.41)

Type No. \ Make

Whitecroft Lighting
1 9 x

Order No. : SPRAH14K
Luminaire name : SPECTRE WR
Equipment : 1 x LED 27 W / 2850 lm
Maintenance factor: 0.67

3 3 x

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Luminaire name : KOLO BOLLARD
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The ULR value has been calculated without obstruction by other objects.

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1.1 Summary, Exterior 1 - Option 2

1.1.2 Result overview, Perimeter Ramps 2

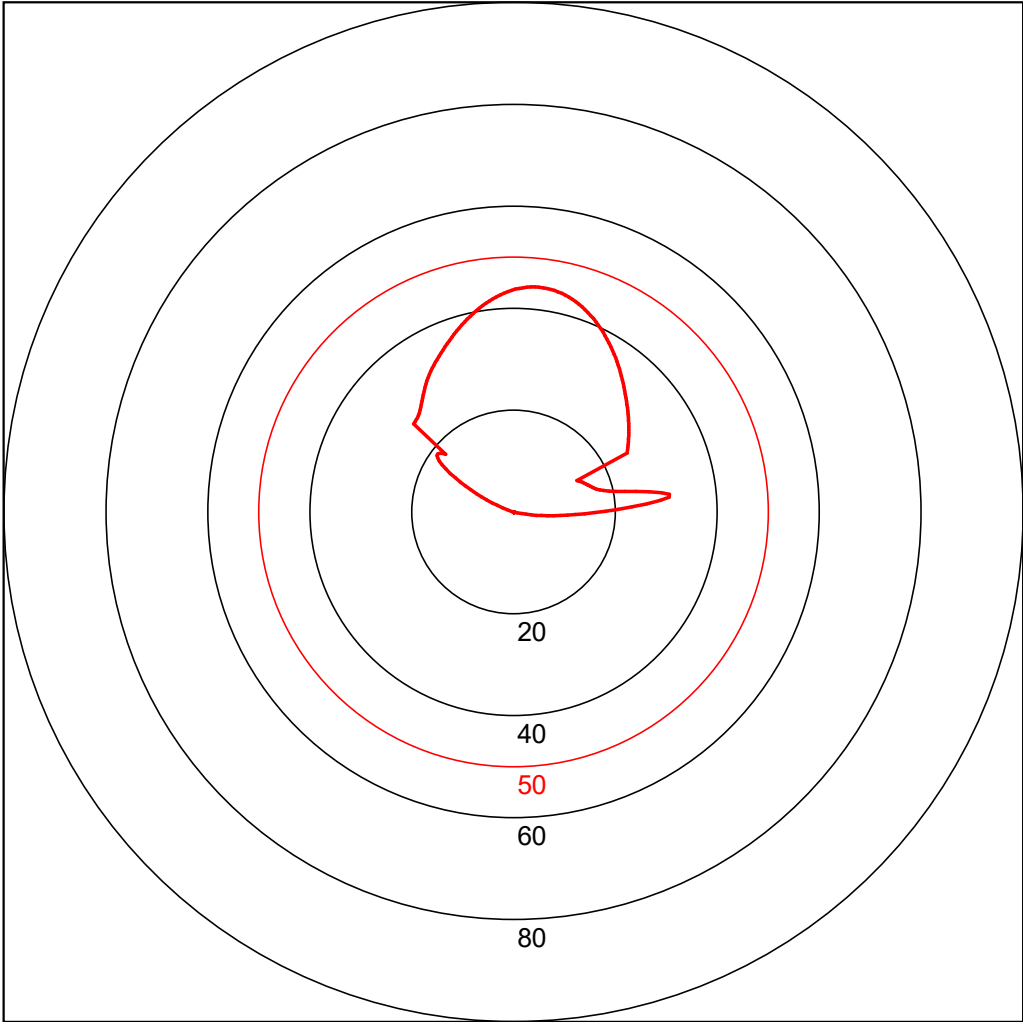
13	1 x	Order No.	: SIMDH34KGA
		Luminaire name	: SIROCCO MIDI - AREA OPTIC
		Equipment	: 1 x LED 100 W / 13712 lm
		Maintenance factor:	0.87



1 Exterior 1 - Option 2

1.2 Calculation results, Exterior 1 - Option 2

1.2.1 Glare rating - GR 1



Lve = 0.37 cd/m², Ehav(MF:1.0) = 170 lx, ρ = 20 %

No.	Description	Position	Max GR	Direction
1	GR 1	26.1 m/13.5 m/1.6 m	44.4	6° (270° West)

North

0°

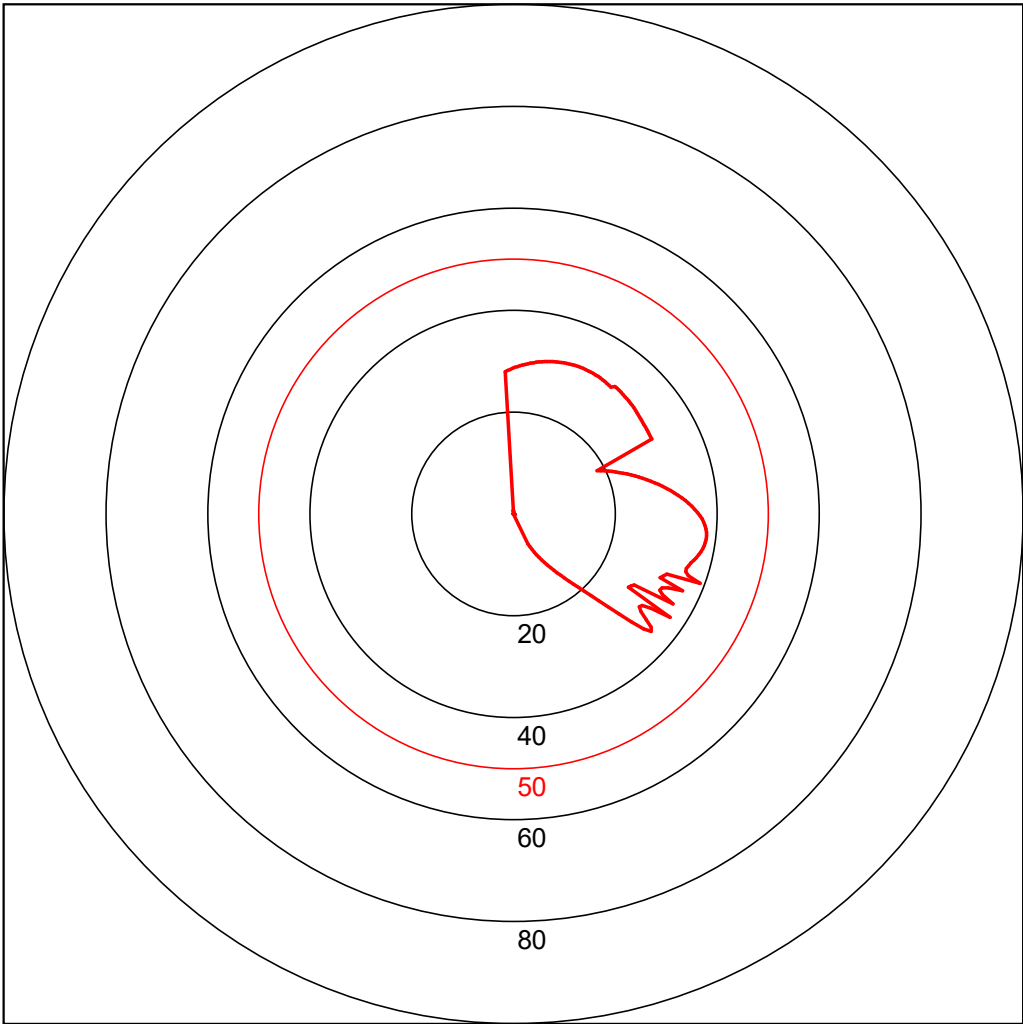
90° East

180° South



1.2 Calculation results, Exterior 1 - Option 2

1.2.2 Glare rating - GR 2



Lve = 0.37 cd/m², Ehav(MF:1.0) = 170 lx, ρ = 20 %

No.	Description	Position	Max GR	Direction
2	GR 2	16.6 m/21.2 m/1.6 m	39	110° (270° West)

North
0°

90° East

180° South