

# McArdle Doyle

Chartered Engineers  
Architectural Services  
& Project Managers

## Lighting Assessment Report

**P2224**  
**Jones Oil,**  
**Depot & Service Station,**  
**Greenhills Road, Tallaght**  
**Dublin 24, D24 HN28**

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## Preamble

This document relates to the proposed external lighting services works for the refurbishment of Jones Service Station and Depot, Greenhills Road, Tallaght, South County Co. Dublin

We set out our response following on from South County Dublin Councils request for further information as described in Item 6B Planning Ref: SD22A/0329 of the FI that requires the following items to be carried out to assess the impact of the proposed new development.

## Roads and Access

B Prior to commencement a Public Lighting Design for the development shall be submitted for agreement to the Planning Authority: Reason to ensure Traffic Safety

## Proposal

We attach a copy of drawing; *Proposed External Lighting Scheme* - No. P2224.C14 Rev - and technical information of the luminaires on which the design is based which have zero upward lighting output.

We used AG132 Software package to assess the scheme output for this project

The software also calculates Threshold Increment TI (glare to drivers) for the main public thoroughfare; Greenhills Road which is compliant.

AG132 also assesses Obtrusive Light Compliance to CIE 150:2003 Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, on adjacent properties.

While not a requirement mentioned in the FI as this is an industrial estate, but we also assessed obtrusive lighting at the site boundary and the scheme is compliant with CIE 150 in that regard

We note the compound will operate during typical working hours and will not operate at night

The proposed scheme is compliant with CIE 150:2003 as indicated

## Attachments

Drawing *Proposed External Lighting Scheme*, -No. P2224.C14 Rev -

Revision	Date	Prepared By	Approved By
-	25.11.2022	P Carmody	Ronnie McArdle

## Appendix A Type X1 Luminaire



AS32C/LED/88W/GA2/4K/SV/G/U76

IK08 IP66

Project Name/Ref.: Jones Oil Tallaght

Luminaire Ref.: X1

Date: Dec 2022

### Electrical Characteristics

Circuit Watts (CW):	88W
Electrical Class:	Class I
LED CCT:	4,000K
LED CRI:	>70
Luminaire Lumens (LL):	11,178 Lm
Luminaire Efficacy:	127 LM/W
Lumen Maintenance:	Projected L90 after 100,000 hours
Driver Output:	Constant Current with AM Dimming
Power Factor:	0.95/0.90 (Full Load/Half Load)
Operational Voltage:	220 - 240V AC
Operating Frequency:	50/60Hz
Inrush Current:	57A/210uS (Apk/50%uS)
Running Current:	0.383A
Surge Protection (Com/Dif):	8kV/6kV (10kV/6kV on request)
Photocell Socket:	None
Constant Light Output:	(Enabled)
Part Night Dimming:	Disabled
Driver Manuf./Range:	OSRAM 4DIM 200W

### Mechanical Characteristics

Housing Material:	Die-cast Aluminium
Lens/Cover Material:	PMMA/Toughened Safety Glass
Housing Finish:	Chromate-free Pretreat, Polyester Powder
Housing Colours:	RAL 9006 Light Grey, RAL 9017 Black
Ingress Protection:	IP66
Weight:	8Kg
Windage:	0.059 m <sup>2</sup>
Impact Resistance:	IK10
Mounting Methods:	Post Top 60/76mm, Side: 34/42/60/76mm
Mounting Inclination:	-10°, -5°, 0°, 5° & 10°
Photometric Centre:	350mm to Module Centre
Ambient Temperature:	-20°C to 40°C



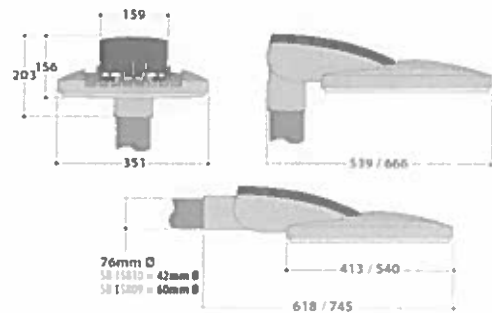
### Warranty

Luminaire, LEDs & Driver:	10 Years
Country of Manufacture:	UK

### Photometric File

AS\_32LED\_88W\_CLO\_GA2\_4K\_FG.lvs

### Dimensions



DG AS32 10102 1

Luminaire Type X1 Aspect 88W GA2

## Appendix B Type X2 Luminaire



AS32C/LED/44W/GA2/4K/SV/G/U76

IK08 CE IP66

Project Name/Ref.: Jones Oil, Tallaght

Luminaire Ref.: X2

Date: Dec 2022

### Electrical Characteristics

Circuit Watts (CW):	44W
Electrical Class:	Class I
LED CCT:	4,000K
LED CRI:	> 70
Luminaire Lumens (LL):	6,099 Lm
Luminaire Efficacy:	139LM/CW
Lumen Maintenance:	Projected L90 after 100,000 hours
Driver Output:	Constant Current with AM Dimming
Power Factor	0.95/0.90 (Full Load/Half Load)
Operational Voltage:	220 - 240V AC
Operating Frequency:	50/60Hz
Inrush Current:	57A/210uS (Apk/50%uS)
Running Current:	0.191A
Surge Protection (Com/Dif):	8kV/6kV (10kV/6kV on request)
Photocell Socket:	None
Constant Light Output:	(Enabled)
Part Night Dimming:	Disabled
Driver Manuf./Range:	OSRAM 4DIM 200W

### Mechanical Characteristics

Housing Material:	Die-cast Aluminium
Lens/Cover Material:	PMMA/Toughened Safety Glass
Housing Finish:	Chromate-free Pretreat, Polyester Powder
Housing Colours:	RAL 9006 Light Grey, RAL 9017 Black
Ingress Protection:	IP66
Weight:	8Kg
Windage:	0.059 m <sup>2</sup>
Impact Resistance:	IK10
Mounting Methods:	Post Top 60/76mm, Side: 34/42/60/76mm
Mounting Inclination:	-10°, -5°, 0°, 5° & 10°
Photometric Centre:	350mm to Module Centre
Ambient Temperature:	-20°C to 40°C



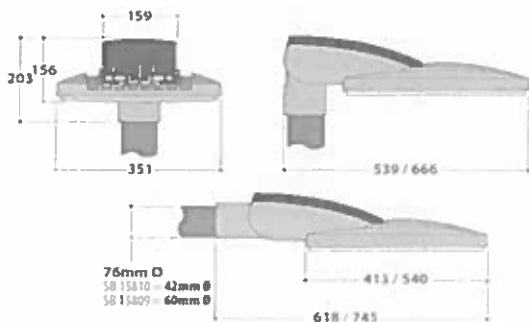
### Warranty

Luminaire, LEDs & Driver: 10 Years  
Country of Manufacture: UK

### Photometric File



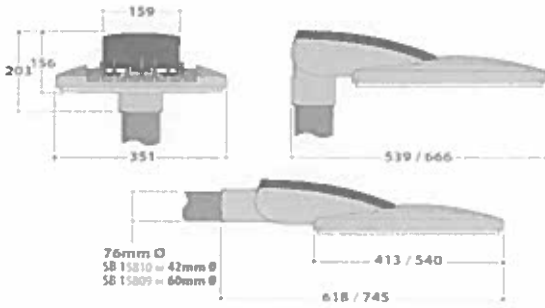
AS\_32LED\_44W\_CLO\_GA2\_4K\_FG.ies

### Dimensions



Luminaire Type X2 Aspect 44W GA2

## Appendix C Type X3 Luminaire

	<b>AS32C/LED/44W/GR8/4K/SV/G/U76</b> IK08  CE IP66	
Project Name/Ref.: <b>Jones Oil, Tallaght</b>	Luminaire Ref.: <b>X3</b>	Date: <b>Dec 2022</b>
<b>Electrical Characteristics</b>		
Circuit Watts (CW):	44W	
Electrical Class:	Class I	
LED CCT:	4,000K	
LED CRI:	>70	
Luminaire Lumens (LL):	6,323 Lm	
Luminaire Efficacy:	144LL/CW	
Lumen Maintenance:	Projected L90 after 100,000 hours	
Driver Output:	Constant Current with AM Dimming	
Power Factor	0.95/0.90 (Full Load/Half Load)	
Operational Voltage:	220 - 240V AC	
Operating Frequency:	50/60Hz	
Inrush Current:	57A/210uS (Apk/50%uS)	
Running Current:	0.191A	
Surge Protection (Com/Dif):	8kV/6kV (10kV/6kV on request)	
Photocell Socket:	None	
Constant Light Output:	(Enabled)	
Part Night Dimming:	Disabled	
Driver Manuf./Range:	OSRAM 4DIM 200W	
<b>Mechanical Characteristics</b>		
Housing Material:	Die-cast Aluminium	
Lens/Cover Material:	PMMA/Toughened Safety Glass	
Housing Finish:	Chromate-free Pretreat. Polyester Powder	
Housing Colours:	RAL 9006 Light Grey, RAL 9017 Black	
Ingress Protection:	IP66	
Weight:	8Kg	
Windage:	0.059 m <sup>2</sup>	
Impact Resistance:	IK10	
Mounting Methods:	Post Top 60/76mm, Side: 34/42/60/76mm	
Mounting Inclination:	-10°, -5°, 0°, 5° & 10°	
Photometric Centre:	350mm to Module Centre	
Ambient Temperature:	-20°C to 40°C	
<b>Dimensions</b>		
		
<b>Warranty</b>		
Luminaire, LEDs & Driver:		10 Years
Country of Manufacture:		UK
<b>Photometric File</b> AS_32LED_44W_CLO_GR8_4K_FG.lvs		
<h3>Luminaire Type X3 Aspect 44 GR8</h3>		



## Appendix D Type X4 Luminaire

REALTA

Favitta Design Registration Number: 3024955

HIGH PERFORMANCE LIGHTING SOLUTIONS TO ADDRESS LIGHT POLLUTION AND ENERGY CONSUMPTION

IP66
IK10++ / IK10 / IK06
UK CA
CE

**SPECIFICATION**

- Graphite full polyester powder finish. Silver option
- Strong high-pressure die-cast LM2 aluminium body
- High efficiency prismatic polycarbonate or borosilicate glass front refractor
- Wide distribution (8W) or area distribution (20W, 34W and 42W) options
- Highly specular, multi-faceted injection moulded vacuum metallised reflector on wide distribution versions
- Excellent distribution with less than 2% upward light component
- Optional photocell control
- Smart External versions with intelligent lighting control for use up to 8 metres mounting height
- SmartScan wireless technology removes the need for control cabling. Ideal for retro fit
- Fitted with 4000K LEDs

SmartScan Configurations

S

E

S

Find out more at [www.shorbar.com/smartscan](http://www.shorbar.com/smartscan)

**RANGE**

	LED	WIDE DISTRIBUTION	AREA DISTRIBUTION	APPROX. kg
SMART EXTERNAL	<b>IK10 Polycarbonate Cover</b>			
	8W	RL 190695S		3.9
	20W		RL 191185S	4.0
	34W		RL 191135S	4.0
	42W		RL 191125S	4.0
STANDARD	<b>IK10++ Polycarbonate Cover</b>			
	8W	RL 19071L		3.8
	20W		RL 19116L	3.9
	34W		RL 19117L	3.9
	42W		RL 19118L	3.9
	<b>IK06 Glass Cover</b>			
	8W	RL 19073L		4.6

**CIRCUIT TYPE -**  
SMART EXTERNAL SS - SmartScan  
STANDARD L - non-dimming (LED)

**SILVER OPTION** - add suffix SV3 e.g. RL 190695SV3 etc.  
**EMERGENCY VERSION** - prefix catalogue number with  
 ERL - Emergency / TRL - AutoTest (Not available when selecting the 'SS' suffix)  
 WRL - SmartScan  
 e.g. WRL 190695S etc.  
 Add 0.4kg to weights listed

Photometrics, Accessories, Options and Dimensions pages 3 and 4

Luminaire Type X4      Realta 20 W