

**DESIGN NOTES:**

- THIS DESIGN SCHEME WAS PRODUCED ON ARCH BACKGROUND 14291\_DA010 REV P1 GENERAL ARRANGEMENT PLAN PRODUCED BY NETTLETONTRIBE ARCHITECTS.
- THIS DESIGN SATISFY THE AVERAGE HORIZONTAL ILLUMINANCE AS REQUIRED FOR AUSTRALIAN STANDARDS & THE DESIGN BRIEF.
  - \* CAR PARKS - AS1158.3.1:2020 - PC1 14LUX
  - \* PED ACCESS/CROSSINGS - AS1158.3.1:2020 - PCX 21LUX
  - \* DRIVEWAY & CIRCULATION - AS1158.3.1:2020: PR1 7LUX
  - \* LOADING & UNLOADING - AS1690.5.2012: 40LUX
  - \* LOADING & UNLOADING - AS1690.5.2012: 40LUX
  - \* TRUCK ENTRY/EXIT - DESIGN BRIEF: AVG 40LUX, MIN 20LUX
- A MAINTENANCE FACTORS HAVE BEEN APPLIED THROUGHOUT THE DESIGN IN ACCORDANCE WITH AS 1158.3.1. A MAINTENANCE PLAN SHALL BE ADOPTED TO COMPLY WITH THESE FACTORS.
- OBTRUSIVE LIGHT ANALYSIS HAS BEEN CONDUCTED FOR THIS DESIGN IN ACCORDANCE WITH AS4282-2023.
- THIS DESIGN IS BASED ON THE INFORMATION PROVIDED BY THE CLIENT.
- WORKPLANE HEIGHT IS TAKEN AT 0M FFL EXCEPT FOR AWNINGS, WHERE THE CALCS ARE TAKEN AT 1000MM FFL.
- LIGHT FITTING SIMULATION AND CALCULATION RESULTS ARE BASED ON IES FILES PROVIDED BY THE LIGHTING MANUFACTURER.

Luminaire Schedule						
Symbol	Qty	Label	Description	Tag	LLF	Total Lamp Lumens
○	5	Arkin 80 T90 - 140	DNS NIKKON ARKIN 80W MB90	C1	0.800	11200
○	119	ARKIN 150W MB90 170 HE	DNS NIKKON ARKIN 150W MB90	C2	0.800	25011
□	22	HZZ-150-4B	DNS NIKKON ZEAL II 150W 4B FLOOD	F1	0.800	19370
□	19	HZZ-180-4B	DNS NIKKON ZEAL II 180W 4B FLOOD	F2	0.800	23270
□	6	HZZ-240-4B_1	DNS NIKKON ZEAL II 240W 4B FLOOD	F3	0.800	31070
□	11	HZZ-120-4B	DNS NIKKON ZEAL II 120W 4B POLE	P1	0.800	15470
□	4	HZZ-150-3B	DNS NIKKON ZEAL II 150W 3B POLE	P2	0.800	21934
□	7	HZZ-180-4B_1	DNS NIKKON ZEAL II 180W 4B POLE	P3	0.800	23270
□	6	HZZ-200-3B	DNS NIKKON ZEAL II 200W 3B POLE	P4	0.800	29000
□	11	HZZ-240-4B	DNS NIKKON ZEAL II 240W 4B POLE	P5	0.800	31070
□	33	DU30 T2M	DNS NIKKON DUVAR 30W T2 WALL LIGHT	S1	0.650	4238.4

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		P1    06/03/2025    PRELIMINARY	TP		AIBP STORAGE & DISTRIBUTION WAREHOUSE ADDRESS LUDDENHAM ROAD, ORCHARD HILLS NSW	EXTERNAL LIGHTING
		<b>PAPER</b> <b>PAGES</b> <b>PROJECT NO.</b> <b>DWG NO.</b> <b>REV</b>				
		A3    1/2    CLE-2429    LUX-001    P1				

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UWLR Area Summary		
Label	UWLR	Description
LPDArea_	0.000	

Calculation Summary								
Project: External Lighting								
Label	CalcType	Units	Avg	Max	Min	Min/Avg	Min/Max	Max/Avg
Awning - East	Illuminance	Lux	213.96	293	122	0.57	0.42	1.37
Awning 1 - North	Illuminance	Lux	189.55	275	119	0.63	0.43	1.45
Awning 1 - South	Illuminance	Lux	161.51	200	90	0.56	0.45	1.24
Awning 2 - North	Illuminance	Lux	188.66	296	83	0.44	0.28	1.57
Awning 2 - South	Illuminance	Lux	169.57	202	114	0.67	0.56	1.19
Awning 3 - North	Illuminance	Lux	205.65	331	95	0.46	0.29	1.61
Awning 4 - North	Illuminance	Lux	197.50	211	163	0.83	0.77	1.07
Car Park - East	Illuminance	Lux	22.37	50	7	0.31	0.14	2.24
Car Park - East_Vert	Illuminance	Lux	23.32	31	15	0.64	0.48	1.33
Driveway - East	Illuminance	Lux	20.65	43	12	0.58	0.28	2.08
Driveway - West	Illuminance	Lux	24.01	113	11	0.46	0.10	4.71
Driveway 1 - South	Illuminance	Lux	32.23	68	10	0.31	0.15	2.11
Driveway 2 - South	Illuminance	Lux	40.26	115	21	0.52	0.18	2.86
Hardstand - East	Illuminance	Lux	47.39	130	13	0.27	0.10	2.74
Hardstand - North	Illuminance	Lux	46.41	209	14	0.30	0.07	4.50
Hardstand - South	Illuminance	Lux	47.90	161	19	0.40	0.12	3.36
HRV Parking - South	Illuminance	Lux	39.10	131	27	0.69	0.21	3.35
HRV Parking - West	Illuminance	Lux	23.78	34	16	0.67	0.47	1.43
PCD - 1	Illuminance	Lux	28.33	30	26	0.92	0.87	1.06
PCD - 2	Illuminance	Lux	35.50	39	33	0.93	0.85	1.10
PCD - 3	Illuminance	Lux	37.83	41	35	0.93	0.85	1.08
Ped Pathway - East	Illuminance	Lux	27.97	39	18	0.64	0.46	1.39
Ped Pathway - North	Illuminance	Lux	21.02	88	9	0.43	0.10	4.19
Ped Pathway - South	Illuminance	Lux	41.37	100	25	0.60	0.25	2.42
Truck Entry	Illuminance	Lux	43.33	60	26	0.60	0.43	1.38
Truck Exit	Illuminance	Lux	42.62	54	27	0.63	0.50	1.27
Truck Parking - North	Illuminance	Lux	16.20	78	7	0.43	0.09	4.81

Calculation Summary							
Project: Compliance							
Label	CalcType	Units	Avg	Max	Min	Min/Avg	Min/Max
ObtrusiveLight_East_Cd_Seg1	Obtrusive - Cd	N.A.	546.48	4693	93	0.17	0.02
ObtrusiveLight_East_Ill_Seg1	Obtrusive - Ill	Lux	0.78	8	0	0.00	0.00
ObtrusiveLight_North_Cd_Seg1	Obtrusive - Cd	N.A.	631.02	1576	52	0.08	0.03
ObtrusiveLight_North_Ill_Seg1	Obtrusive - Ill	Lux	1.33	6	0	0.00	0.00
ObtrusiveLight_South_Cd_Seg1	Obtrusive - Cd	N.A.	776.11	1736	59	0.08	0.03
ObtrusiveLight_South_Ill_Seg1	Obtrusive - Ill	Lux	1.85	8	0	0.00	0.00
ObtrusiveLight_TI_East_1	Obtrusive - TI	%	0.34	2	0	0.00	0.00
ObtrusiveLight_TI_East_2	Obtrusive - TI	%	0.11	1	0	0.00	0.00
ObtrusiveLight_West_Cd_Seg1	Obtrusive - Cd	N.A.	503.37	1203	69	0.14	0.06
ObtrusiveLight_West_Ill_Seg1	Obtrusive - Ill	Lux	0.66	2	0	0.00	0.00

### Obtrusive Light - Compliance Report

AS/NZS 4282:2023, A3 - Medium District Brightness, Non-Curfew L1  
 Filename: External Lighting Calc  
 6/03/2025 9:38:50 AM

#### Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (4):

Calculation Label	Test Results	Max. Illum.
ObtrusiveLight_South_Ill_Seg1	PASS	8
ObtrusiveLight_North_Ill_Seg1	PASS	6
ObtrusiveLight_West_Ill_Seg1	PASS	2
ObtrusiveLight_East_Ill_Seg1	PASS	8

#### Luminous Intensity (Cd) At Vertical Planes

Maximum Allowable Value: 12500 Cd

Calculations Tested (4):

Calculation Label	Test Results
ObtrusiveLight_South_Cd_Seg1	PASS
ObtrusiveLight_North_Cd_Seg1	PASS
ObtrusiveLight_West_Cd_Seg1	PASS
ObtrusiveLight_East_Cd_Seg1	PASS

#### Threshold Increment (TI)

Maximum Allowable Value: 20 %

Calculations Tested (2):

Calculation Label	Adaptation Luminance	Test Results
ObtrusiveLight_TI_East_2	1	PASS
ObtrusiveLight_TI_East_1	1	PASS

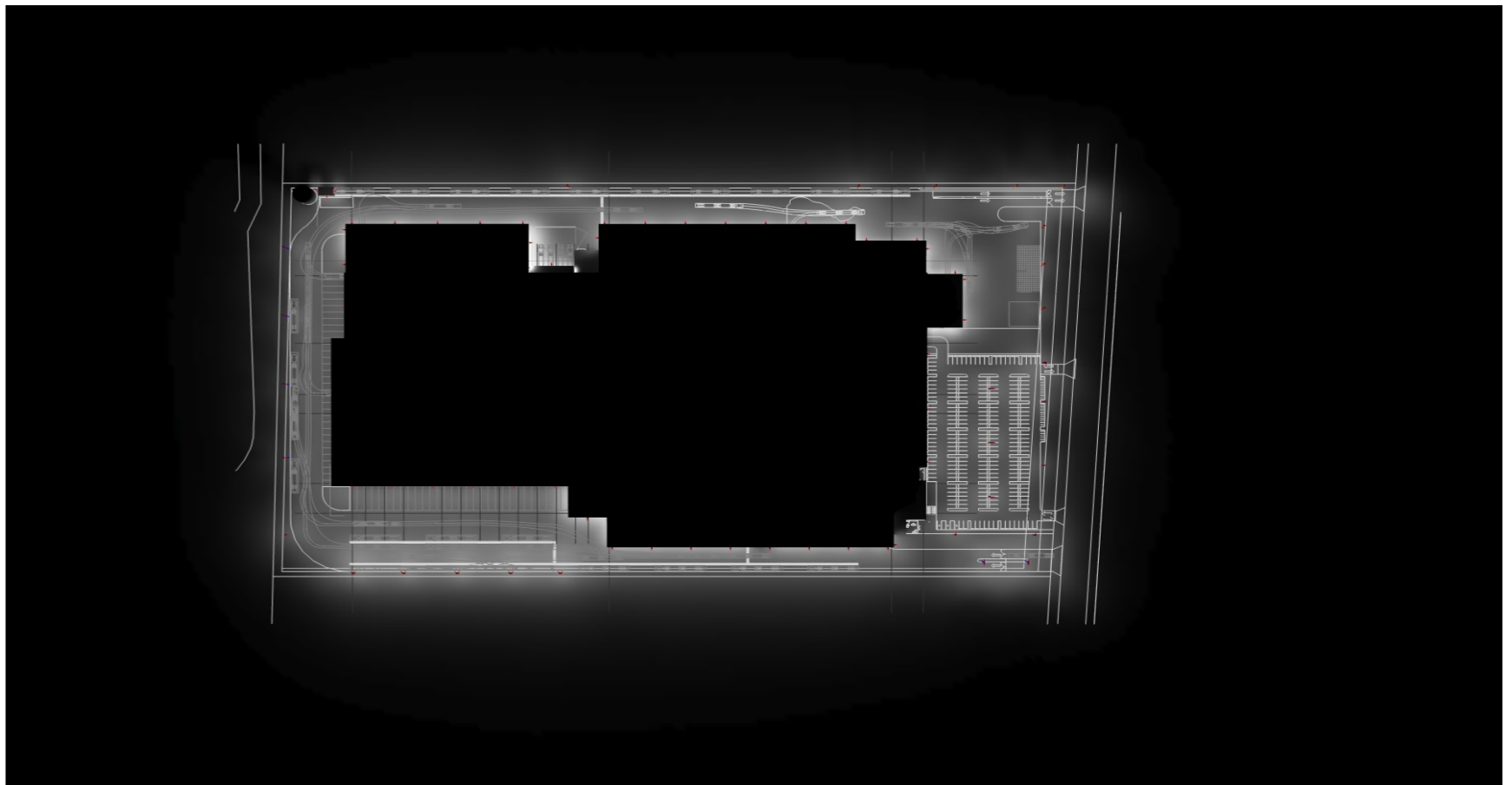
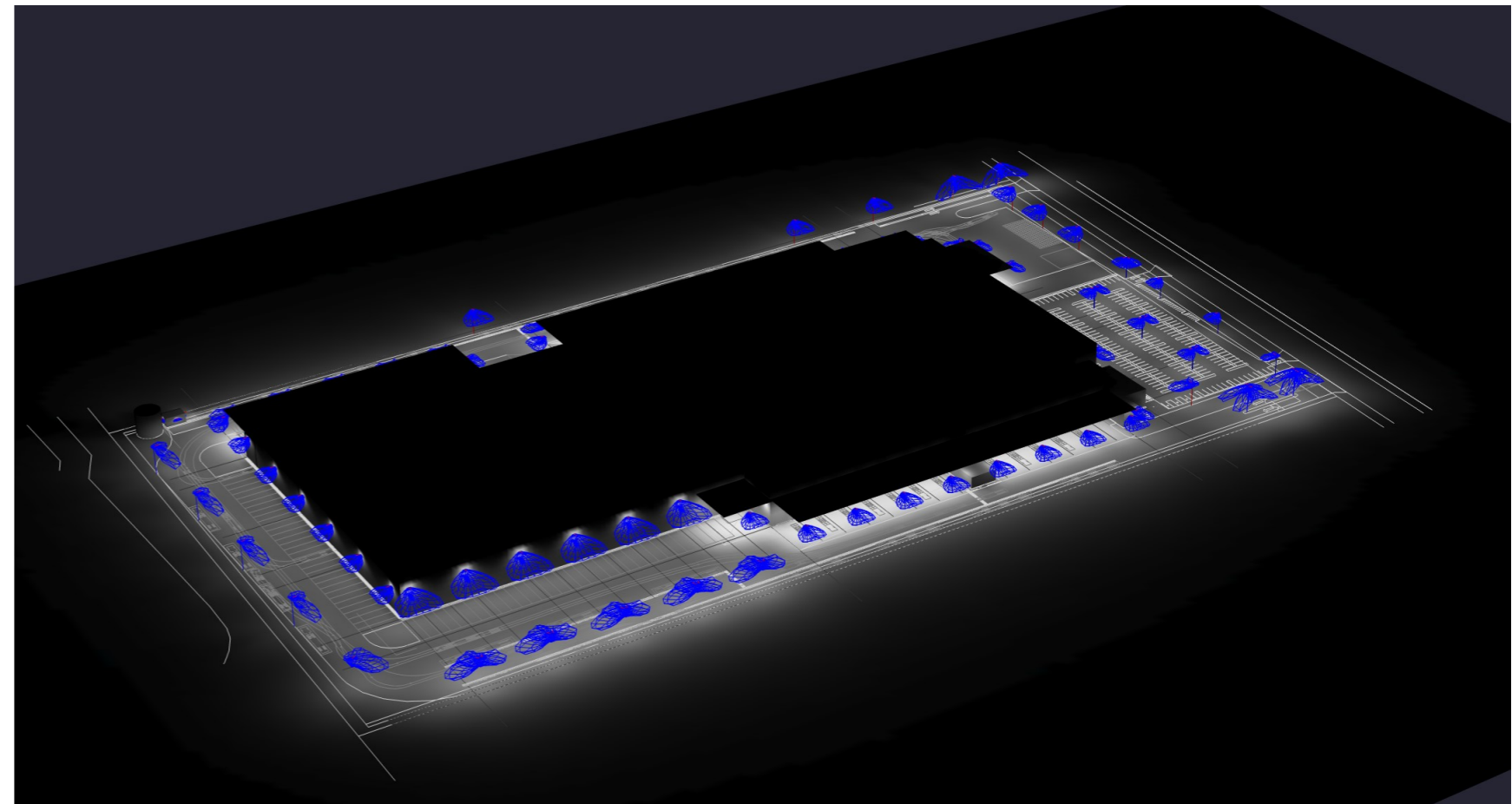
#### Upward Waste Light Ratio (UWLR)

Maximum Allowable Value: 2.0 %

Calculated UWLR: 0.0 %  
 Test Results: PASS

#### DESIGN NOTES:

- OBSTRUSIVE CALCULATIONS PER AS4282:2023 CAT A3 MEDIUM DISTRICT BRIGHTNESS
- OBSTRUSIVE CALCS TAKEN FROM 3M TO 14M. ROADWAY TI CALCS AT 1.5 WITH A WINDSHIELD CUTOFF ANGLE OF 20DEG.



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		C-LEVEL PTY LTD SUITE 4 / 852-854 OLD PRINCES HWY, SUTHERLAND NSW 2232 P: 02 9545 2348 E: admin@c-level.com.au W: c-level.com.au	PAPER A3 PAGES 2/2 PROJECT NO. CLE-2429 DWG NO. LUX-001 REV P1			