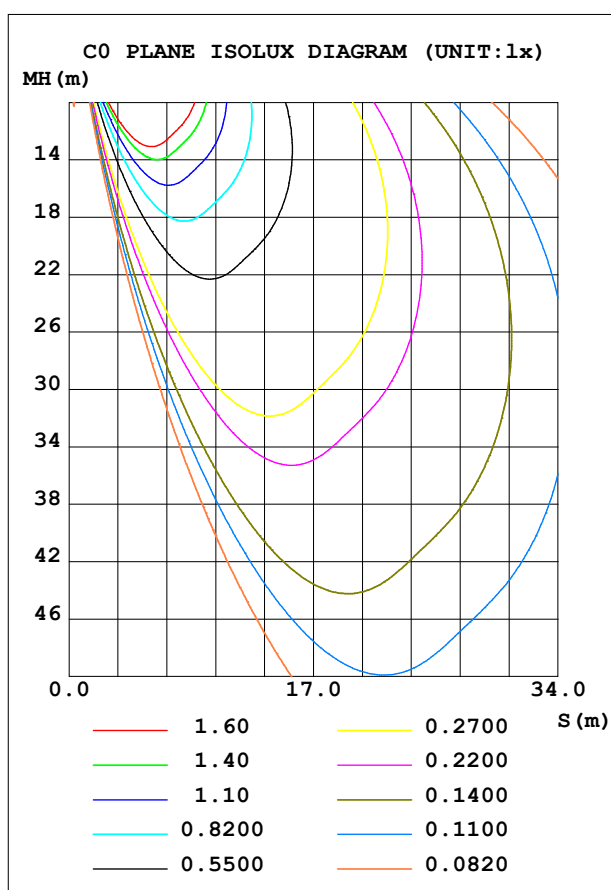
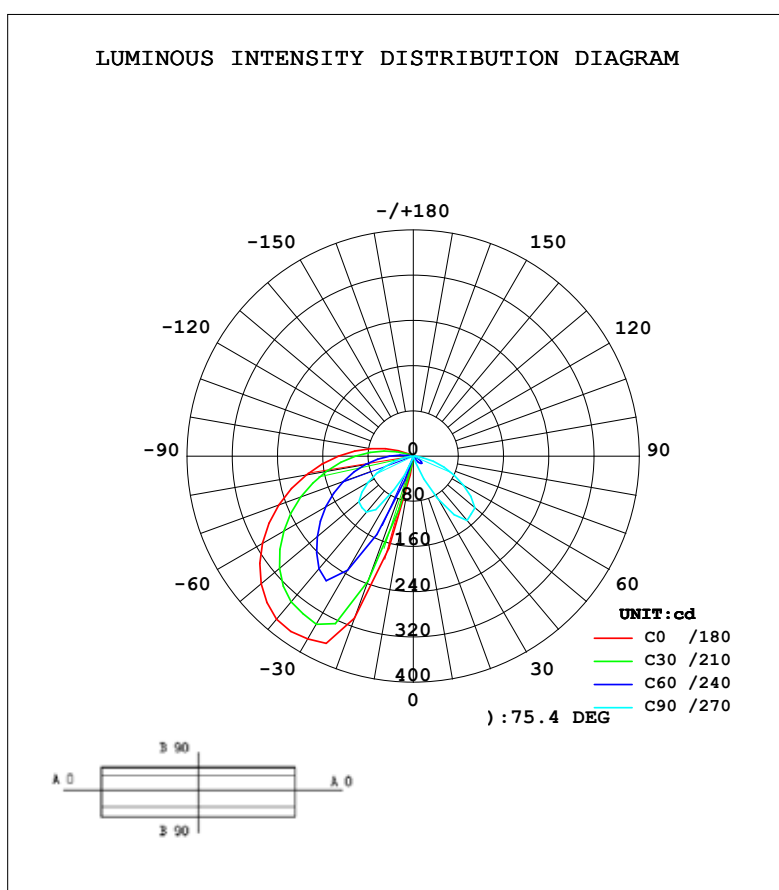


# LUMINAIRE PHOTOMETRIC TEST REPORT

Test: U:239.8V I:0.2017A P:21.85W PF:0.4518 Lamp Flux:684.3x1 lm		
NAME: FL88011	TYPE:	WEIGHT:
DIMENSION:	SPECIFICATION:	SERIAL No.:
MANUFACTURER: Famco	SURFACE:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL FL88011		Imax (cd)	378.5	S/MH (C0/180)	0.13
NOMINAL POWER (W)	22	EFFICIENCY (%)	100.0	S/MH (C90/270)	8.45
RATED VOLTAGE (V)	240	TOTAL FLUX (lm)	684.27	$\eta$ UP (C0-180)	4.3
NOMINAL FLUX (lm)	684.27	CIE CLASS	DIRECT	$\eta$ DN (C0-180)	55.9
LAMPS INSIDE	1	$\eta$ up (%)	6.5	$\eta$ UP (C180-360)	2.3
TEST VOLTAGE (V)	240.1	$\eta$ down (%)	93.5	$\eta$ DN (C180-360)	37.6



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25DEG  
 Operators: Chris Dumesny  
 Test Date: 2014-10-24

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 5.0DEG  
 Test System: EVERFINE GO-2000A SYSTEM V1.0.210  
 Humidity: 65%  
 Test Distance: 5.000m [K=1.0000]  
 Remarks: FL88011  
 23W LED Garden Bollard Square  
 PC = LED Centre

## ZONAL FLUX DIAGRAM

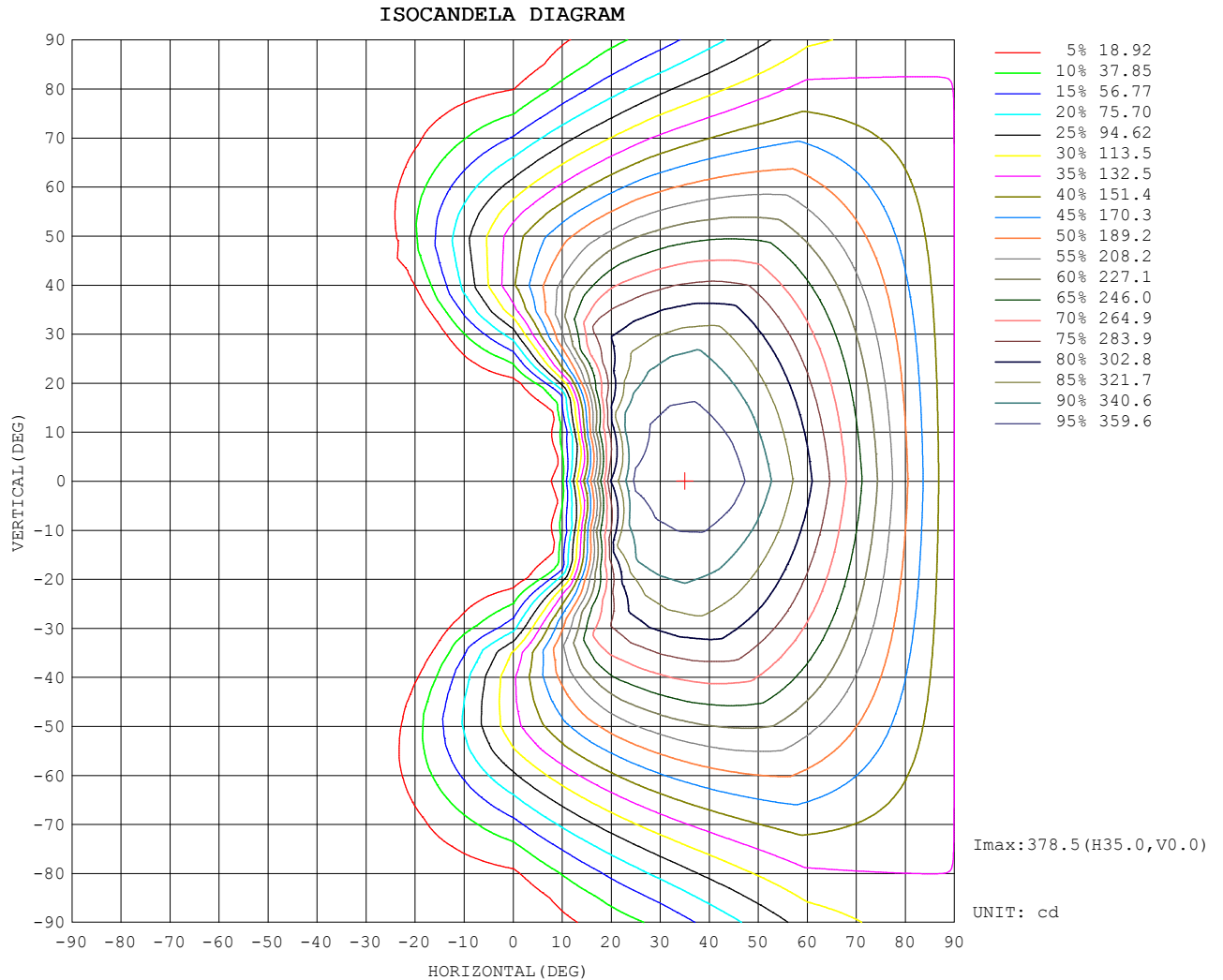
**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%
10	33.86	8.152	0.3120	0.2699	0.2601	0.2650	0.4082	7.089	0- 10	0.0406	0.0406	0.01
20	304.9	140.3	8.157	0.4065	0.2629	0.5368	12.42	147.1	10- 20	8.805	8.846	1.29
30	373.2	288.2	69.36	1.537	0.2744	1.887	86.35	304.7	20- 30	55.61	64.45	9.42
40	376.3	298.4	129.2	5.710	0.3316	7.372	148.7	314.3	30- 40	98.77	163.2	23.85
50	351.4	265.4	125.7	8.410	0.4225	10.16	142.6	282.7	40- 50	119.0	282.2	41.25
60	308.0	221.6	91.83	5.814	0.5778	6.784	102.5	237.7	50- 60	120.6	402.9	58.87
70	253.0	172.0	51.25	0.9193	0.6593	0.7521	57.98	185.3	60- 70	104.8	507.6	74.18
80	192.4	121.0	15.79	0.6716	0.6900	0.6174	18.24	130.8	70- 80	79.70	587.3	85.83
90	132.4	72.55	0.6350	0.7301	0.8007	0.6418	0.5224	79.07	80- 90	52.38	639.7	93.49
100	76.76	30.87	0.6762	0.7292	0.8137	0.6520	0.6013	33.59	90-100	29.11	668.8	97.74
110	28.31	7.058	0.6880	0.7013	0.7647	0.6283	0.6535	7.303	100-110	11.08	679.9	99.36
120	2.803	1.469	0.7091	0.6920	0.7227	0.6219	0.6652	1.396	110-120	1.917	681.8	99.64
130	1.601	0.8934	0.7054	0.6866	0.7379	0.6435	0.6664	0.8135	120-130	0.8357	682.6	99.76
140	1.115	0.6998	0.7027	0.6848	0.7544	0.6597	0.6676	0.6923	130-140	0.5824	683.2	99.85
150	0.8173	0.6839	0.7075	0.7037	0.7604	0.6682	0.6689	0.6889	140-150	0.4447	683.7	99.91
160	0.7604	0.7049	0.7123	0.7316	0.7827	0.7138	0.6744	0.6701	150-160	0.3263	684.0	99.96
170	0.7447	0.7237	0.7452	0.7503	0.8186	0.7671	0.7109	0.6930	160-170	0.2077	684.2	99.99
180	0.7855	0.7545	0.7470	0.7173	0.7937	0.7640	0.7465	0.7157	170-180	0.0713	684.3	100.00
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:Chris Dumesny  
 Test Date:2014-10-24

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 5.0DEG  
 Test System:EVERFINE GO-2000A SYSTEM V1.0.210  
 Humidity:65%  
 Test Distance:5.000m [K=1.0000]  
 Remarks: FL88011  
 23W LED Garden Bollard Square  
 PC = LED Centre

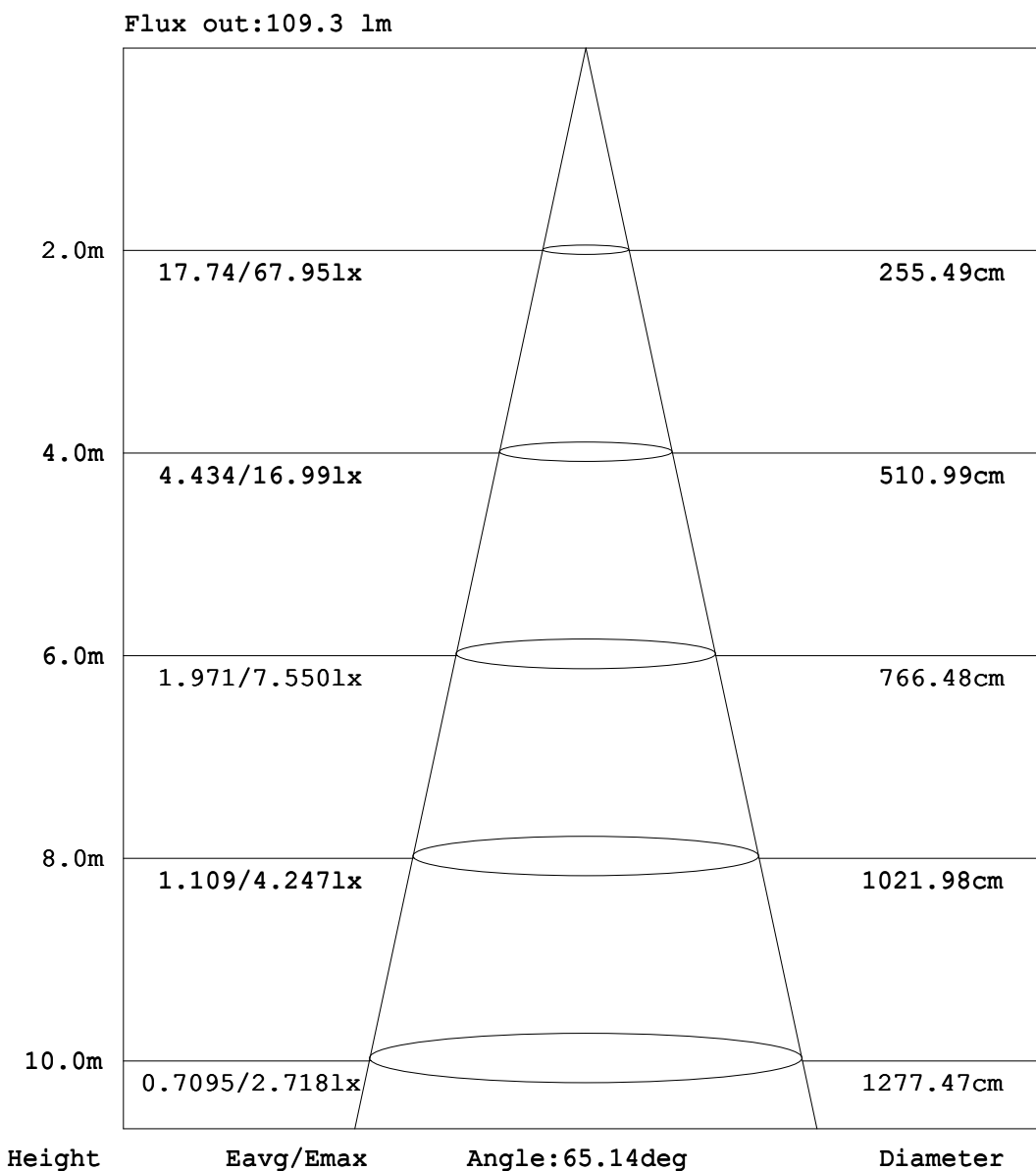
# ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25DEG  
 Operators: Chris Dumesny  
 Test Date: 2014-10-24

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 5.0DEG  
 Test System: EVERFINE GO-2000A SYSTEM V1.0.210  
 Humidity: 65%  
 Test Distance: 5.000m [K=1.0000]  
 Remarks: FL88011  
 23W LED Garden Bollard Square  
 PC = LED Centre

## AAI Figure



**Note:** The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25DEG  
 Operators: Chris Dumesny  
 Test Date: 2014-10-24

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 5.0DEG  
 Test System: EVERFINE GO-2000A SYSTEM V1.0.210  
 Humidity: 65%  
 Test Distance: 5.000m [K=1.0000]  
 Remarks: **FL88011**  
 23W LED Garden Bollard Square  
 PC = LED Centre

# LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	0.27	0.26	0.27	0.26	0.28	0.26	0.27	0.26	0.27	0.26	0.28	0.26						
5	1.30	0.78	0.28	0.26	0.28	0.23	0.27	0.27	0.27	0.26	0.33	0.57						
10	33.9	15.3	0.98	0.31	0.28	0.26	0.26	0.27	0.26	0.41	1.12	13.1						
15	169	94.5	5.75	1.37	0.28	0.27	0.26	0.27	0.32	1.83	6.60	92.4						
20	305	235	45.6	8.16	0.53	0.28	0.26	0.27	0.80	12.4	55.4	239						
25	365	327	153	37.7	1.36	0.29	0.27	0.29	1.89	45.0	175	335						
30	373	343	233	69.4	2.79	0.28	0.27	0.30	3.47	86.3	256	353						
35	378	341	269	116	5.36	0.29	0.31	0.32	6.95	127	289	354						
40	376	337	260	129	11.1	0.34	0.33	0.33	14.4	149	277	352						
45	367	326	242	129	15.0	0.34	0.37	0.35	18.3	145	260	342						
50	351	309	222	126	16.4	0.40	0.42	0.40	19.9	143	240	325						
55	331	288	201	112	14.4	0.49	0.49	0.44	17.9	124	219	304						
60	308	265	179	91.8	11.1	0.56	0.58	0.49	13.1	102	196	280						
65	282	239	156	71.4	6.02	0.64	0.62	0.55	6.52	80.1	171	253						
70	253	212	132	51.3	1.17	0.67	0.66	0.60	0.91	58.0	146	225						
75	223	184	108	32.4	0.67	0.65	0.65	0.65	0.53	36.9	120	196						
80	192	156	85.5	15.8	0.66	0.68	0.69	0.67	0.56	18.2	95.3	166						
85	162	129	63.4	4.33	0.67	0.74	0.76	0.68	0.60	4.95	71.2	138						
90	132	103	42.6	0.63	0.68	0.78	0.80	0.70	0.59	0.52	48.5	110						
95	104	77.1	23.7	0.64	0.68	0.79	0.81	0.70	0.60	0.56	27.7	83.0						
100	76.8	53.1	8.65	0.68	0.68	0.78	0.81	0.70	0.61	0.60	9.37	57.8						
105	51.4	30.9	2.08	0.68	0.67	0.77	0.80	0.68	0.62	0.64	1.79	34.7						
110	28.3	12.7	1.43	0.69	0.67	0.73	0.76	0.66	0.60	0.65	1.36	13.2						
115	10.3	2.74	1.33	0.70	0.67	0.70	0.73	0.65	0.62	0.67	1.22	2.80						
120	2.80	1.78	1.15	0.71	0.68	0.70	0.72	0.64	0.60	0.67	1.02	1.77						
125	2.08	1.34	0.96	0.71	0.67	0.70	0.73	0.64	0.61	0.67	0.78	1.27						
130	1.60	1.05	0.73	0.71	0.67	0.70	0.74	0.65	0.64	0.67	0.64	0.98						
135	1.29	0.84	0.66	0.70	0.67	0.70	0.76	0.65	0.66	0.67	0.60	0.83						
140	1.11	0.74	0.66	0.70	0.67	0.70	0.75	0.66	0.66	0.67	0.62	0.76						
145	0.90	0.72	0.67	0.71	0.70	0.70	0.75	0.66	0.64	0.67	0.65	0.72						
150	0.82	0.71	0.66	0.71	0.69	0.71	0.76	0.67	0.67	0.67	0.68	0.69						
155	0.78	0.71	0.66	0.71	0.70	0.72	0.76	0.70	0.67	0.68	0.66	0.70						
160	0.76	0.72	0.69	0.71	0.72	0.74	0.78	0.73	0.70	0.67	0.65	0.69						
165	0.75	0.72	0.71	0.73	0.74	0.76	0.81	0.78	0.73	0.69	0.66	0.70						
170	0.74	0.73	0.72	0.75	0.74	0.76	0.82	0.79	0.74	0.71	0.68	0.70						
175	0.76	0.73	0.75	0.75	0.72	0.76	0.81	0.78	0.76	0.74	0.70	0.70						
180	0.79	0.77	0.74	0.75	0.71	0.72	0.79	0.77	0.75	0.75	0.71	0.72						

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 Test System: EVERFINE GO-2000A SYSTEM V1.0.210  
 Humidity: 65%  
 Test Distance: 5.000m [K=1.0000]  
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