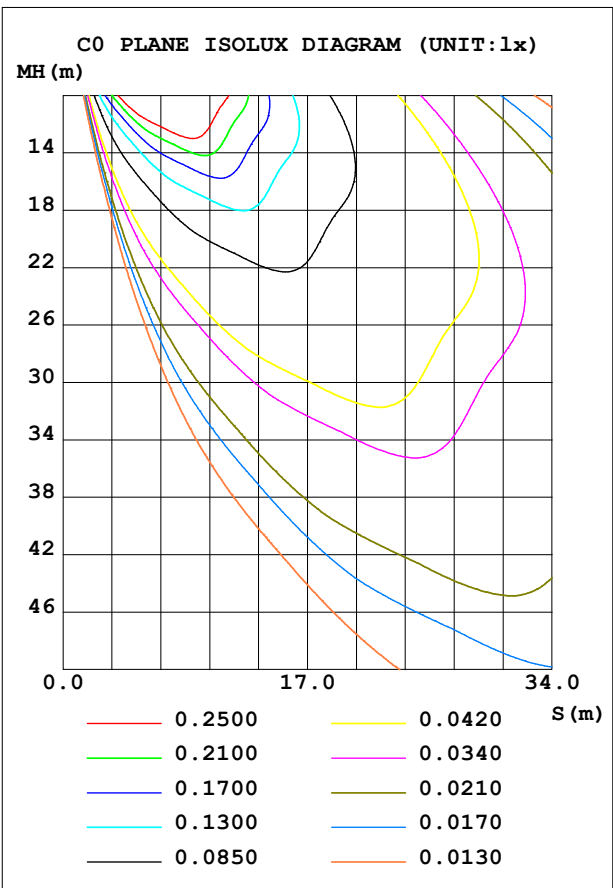
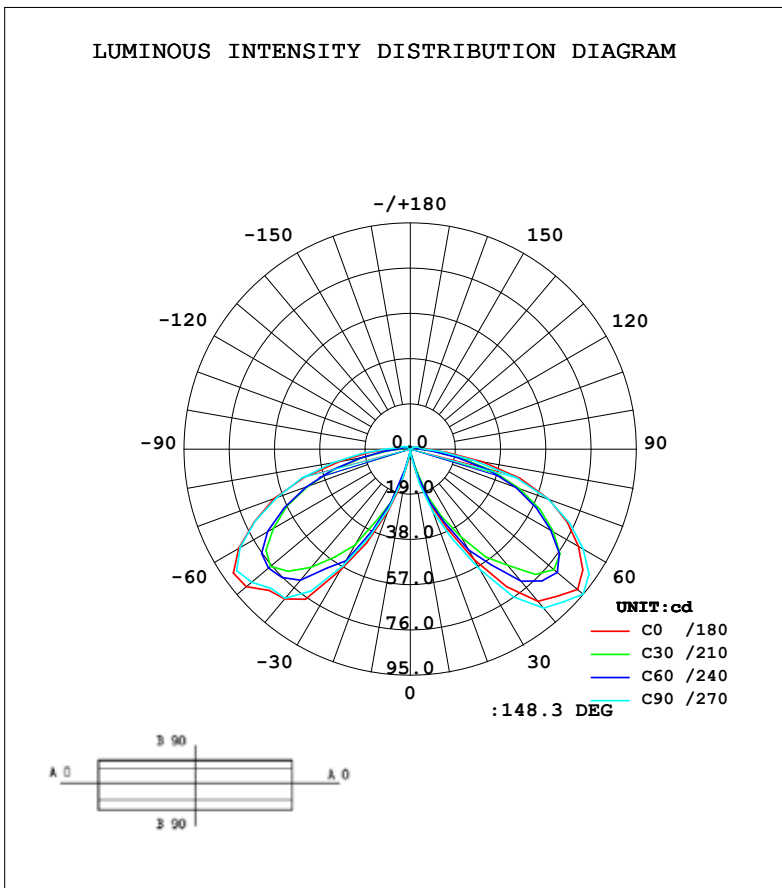


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.1V I:0.1856A P:19.90W PF:0.4465 Lamp Flux:321.5x1 lm		
NAME: FL88010	TYPE:	WEIGHT:
DIMENSION:	SPECIFICATION:	SERIAL No.:
MANUFACTURER: Famco	SURFACE:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL FL88010		Imax (cd)	94.83	S/MH (C0/180)	10.19
NOMINAL POWER (W)	20	EFFICIENCY (%)	100.0	S/MH (C90/270)	10.74
RATED VOLTAGE (V)	240	TOTAL FLUX (lm)	321.54	η UP (C0-180)	2.1
NOMINAL FLUX (lm)	321.54	CIE CLASS	DIRECT	η DN (C0-180)	48.0
LAMPS INSIDE	1	η up (%)	3.9	η UP (C180-360)	1.8
TEST VOLTAGE (V)	240.0	η down (%)	96.1	η DN (C180-360)	48.1



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:Chris Dumesny
 Test Date:2014-10-22

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System:EVERFINE GO-2000A SYSTEM V1.0.210
 Humidity:65%
 Test Distance:5.000m [K=1.0000]
 Remarks: FL88010
 20W LED Garden Bollard
 PC = LED Centre

ZONAL FLUX DIAGRAM

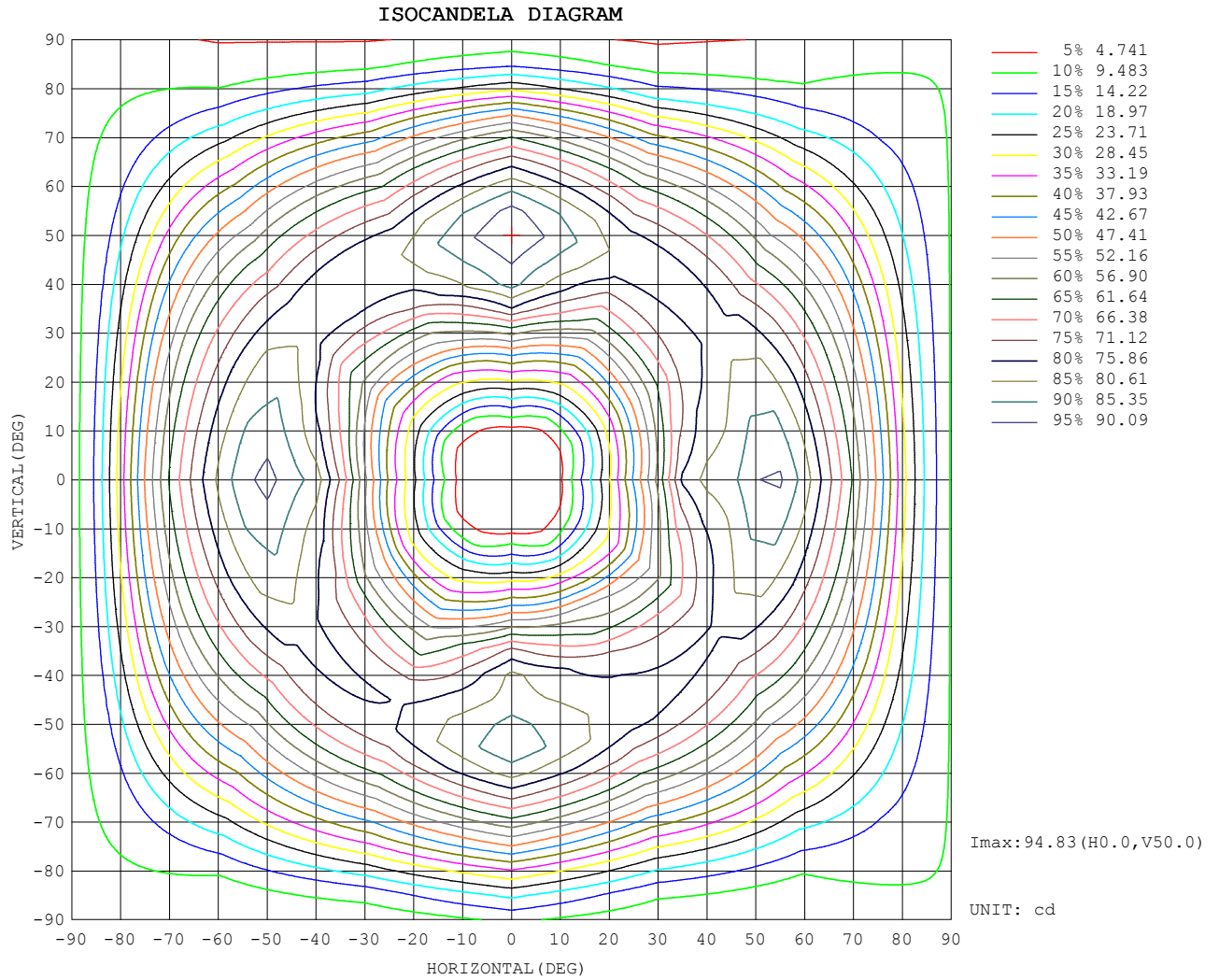
ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%
10	3.948	1.953	2.690	1.328	2.228	1.462	3.152	1.952	0- 10	0.0372	0.0372	0.01
20	27.96	23.59	26.59	20.99	24.75	21.89	27.85	23.87	10- 20	3.109	3.146	0.98
30	58.48	50.36	56.45	44.80	53.46	45.61	57.99	48.78	20- 30	16.64	19.79	6.15
40	82.19	68.34	81.87	64.97	83.41	68.05	87.24	69.30	30- 40	39.69	59.48	18.50
50	89.95	77.22	86.91	76.65	91.75	79.67	94.83	78.17	40- 50	60.81	120.3	37.41
60	83.29	67.77	82.55	68.20	81.51	68.67	83.84	67.51	50- 60	72.12	192.4	59.84
70	60.88	46.42	59.84	47.68	62.10	48.12	61.79	46.40	60- 70	62.66	255.1	79.33
80	30.31	20.78	32.74	23.01	30.89	20.82	27.27	19.00	70- 80	40.80	295.9	92.01
90	9.050	5.194	10.51	5.182	6.858	4.410	6.244	4.643	80- 90	13.15	309.0	96.10
100	4.431	3.153	4.710	3.057	4.068	2.898	3.974	2.961	90-100	4.605	313.6	97.54
110	3.199	2.236	3.234	2.071	2.862	1.935	2.911	2.056	100-110	3.035	316.7	98.48
120	1.886	1.358	2.010	1.278	1.785	1.243	1.654	1.262	110-120	1.859	318.5	99.06
130	1.219	0.9471	1.324	0.8801	1.101	0.8411	0.9775	0.8690	120-130	1.073	319.6	99.39
140	0.6925	1.034	0.7172	0.8331	0.6451	0.8681	0.6652	0.9243	130-140	0.6481	320.2	99.59
150	0.6603	1.258	0.6887	0.9702	0.6256	0.8392	0.5905	1.016	140-150	0.5405	320.8	99.76
160	0.8268	1.174	1.100	0.9676	0.5893	1.003	0.5417	1.112	150-160	0.4578	321.2	99.90
170	0.9050	0.7476	1.017	0.6904	0.6210	0.6160	0.5754	0.6516	160-170	0.2665	321.5	99.99
180	0.3935	0.3897	0.3935	0.3894	0.4002	0.3907	0.3823	0.3927	170-180	0.0419	321.5	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:2014-10-22

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
Test System:EVERFINE GO-2000A SYSTEM V1.0.210
Humidity:65%
Test Distance:5.000m [K=1.0000]
Remarks: FL88010
20W LED Garden Bollard
PC = LED Centre

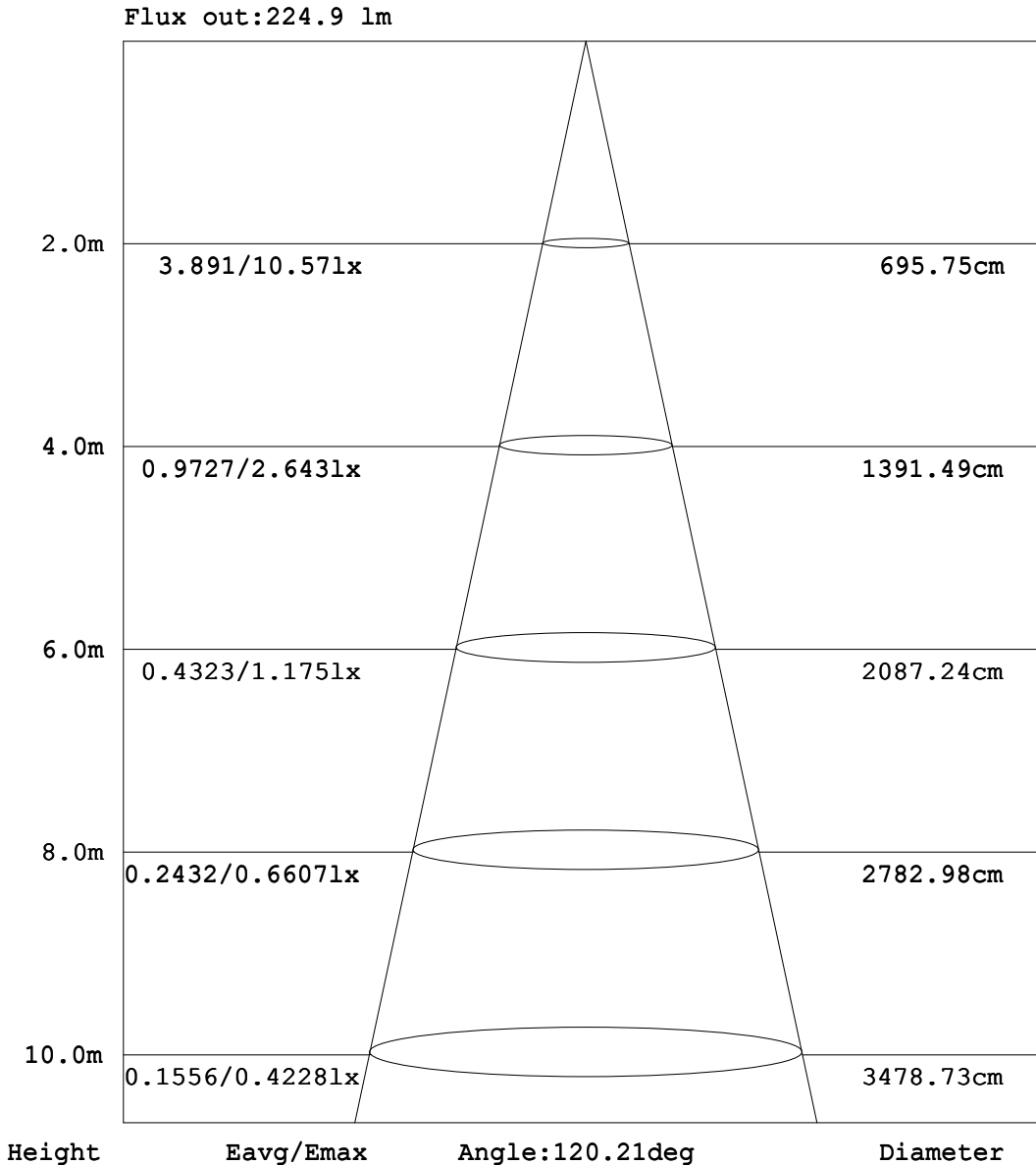
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators: Chris Dumesny
 Test Date: 2014-10-22

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System: EVERFINE GO-2000A SYSTEM V1.0.210
 Humidity: 65%
 Test Distance: 5.000m [K=1.0000]
 Remarks: FL88010
 20W LED Garden Bollard
 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: 2014-10-22

γ Range: 0 - 180DEG
 γ Interval: 5.0DEG
 Test System: EVERFINE GO-2000A SYSTEM V1.0.210
 Humidity: 65%
 Test Distance: 5.000m [K=1.0000]
 Remarks: FL88010
 20W LED Garden Bollard
 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	0.25	0.21	0.21	0.24	0.25	0.26	0.25	0.21	0.21	0.24	0.25	0.26						
5	0.49	0.46	0.38	0.43	0.33	0.35	0.39	0.31	0.36	0.42	0.37	0.38						
10	3.95	2.35	1.56	2.69	1.39	1.27	2.23	1.29	1.64	3.15	1.73	2.18						
15	16.1	11.3	8.95	13.6	8.69	7.34	12.1	7.37	10.2	15.0	10.3	10.7						
20	28.0	23.6	23.6	26.6	22.1	19.9	24.8	20.4	23.4	27.8	24.3	23.5						
25	43.5	32.3	38.0	40.5	31.4	30.8	37.0	31.4	34.0	41.5	34.2	37.0						
30	58.5	46.6	54.1	56.5	42.9	46.7	53.5	42.3	48.9	58.0	46.6	51.0						
35	76.9	55.4	61.0	72.8	54.5	56.4	70.6	55.4	59.5	75.7	58.4	61.6						
40	82.2	64.8	71.9	81.9	61.8	68.2	83.4	63.6	72.5	87.2	67.3	71.3						
45	83.9	72.5	76.3	82.7	71.2	74.1	87.5	74.4	78.3	90.8	75.4	75.1						
50	89.9	76.7	77.8	86.9	75.7	77.6	91.8	78.7	80.6	94.8	78.8	77.5						
55	90.7	74.0	76.3	89.1	75.6	74.9	88.5	76.9	76.4	91.6	75.9	74.7						
60	83.3	66.4	69.1	82.6	69.0	67.4	81.5	69.4	68.0	83.8	68.2	66.8						
65	72.3	57.5	58.4	71.9	59.1	57.7	72.7	60.1	58.4	74.0	58.5	57.1						
70	60.9	46.0	46.8	59.8	48.4	46.9	62.1	48.9	47.4	61.8	46.6	46.2						
75	46.2	33.4	33.9	47.2	36.8	34.7	47.8	35.9	34.4	46.0	32.6	33.9						
80	30.3	20.1	21.4	32.7	24.2	21.8	30.9	21.7	19.9	27.3	17.6	20.4						
85	17.6	9.75	10.9	20.1	12.1	9.94	15.1	9.51	8.95	12.9	7.81	9.92						
90	9.05	4.83	5.56	10.5	5.61	4.75	6.86	4.40	4.42	6.24	4.12	5.16						
95	5.65	3.61	4.02	6.34	3.83	3.58	4.94	3.43	3.42	4.78	3.33	3.73						
100	4.43	3.00	3.30	4.71	3.09	3.03	4.07	2.87	2.93	3.97	2.86	3.07						
105	3.76	2.48	2.80	3.89	2.52	2.51	3.41	2.41	2.38	3.33	2.38	2.56						
110	3.20	2.11	2.36	3.23	2.10	2.05	2.86	1.97	1.90	2.91	1.94	2.17						
115	2.47	1.60	1.87	2.80	1.62	1.60	2.26	1.50	1.49	2.17	1.46	1.63						
120	1.89	1.27	1.44	2.01	1.31	1.25	1.79	1.22	1.26	1.65	1.21	1.32						
125	1.47	1.12	1.23	1.56	1.02	1.09	1.39	1.04	1.00	1.32	0.97	1.13						
130	1.22	0.95	0.94	1.32	0.83	0.93	1.10	0.92	0.76	0.98	0.75	0.99						
135	0.86	0.91	0.83	0.92	0.82	0.85	0.75	0.91	0.75	0.72	0.76	0.96						
140	0.69	1.09	0.97	0.72	0.81	0.86	0.65	0.87	0.86	0.67	0.85	1.00						
145	0.67	1.12	1.11	0.65	0.79	0.95	0.68	0.80	1.05	0.63	0.95	0.94						
150	0.66	1.15	1.36	0.69	0.83	1.11	0.63	0.84	0.84	0.59	1.13	0.90						
155	0.69	1.42	1.33	0.86	1.02	1.00	0.58	1.08	0.91	0.55	1.25	1.16						
160	0.83	1.34	1.01	1.10	1.18	0.75	0.59	0.99	1.02	0.54	0.93	1.30						
165	1.11	1.20	0.98	1.44	1.23	0.67	0.62	0.73	0.78	0.60	0.68	1.24						
170	0.91	0.71	0.78	1.02	0.80	0.58	0.62	0.60	0.64	0.58	0.52	0.78						
175	0.45	0.43	0.43	0.44	0.43	0.45	0.49	0.44	0.43	0.44	0.41	0.42						
180	0.39	0.38	0.40	0.39	0.39	0.39	0.40	0.39	0.39	0.38	0.39	0.40						

C Range: 0 - 360DEG
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γ Range: 0 - 180DEG
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 Test System: EVERFINE GO-2000A SYSTEM V1.0.210
 Humidity: 65%
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 20W LED Garden Bollard
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