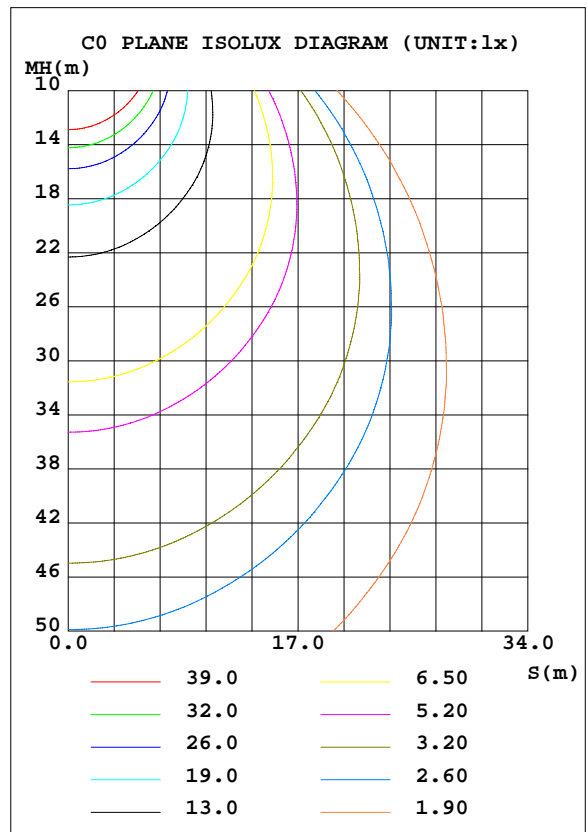
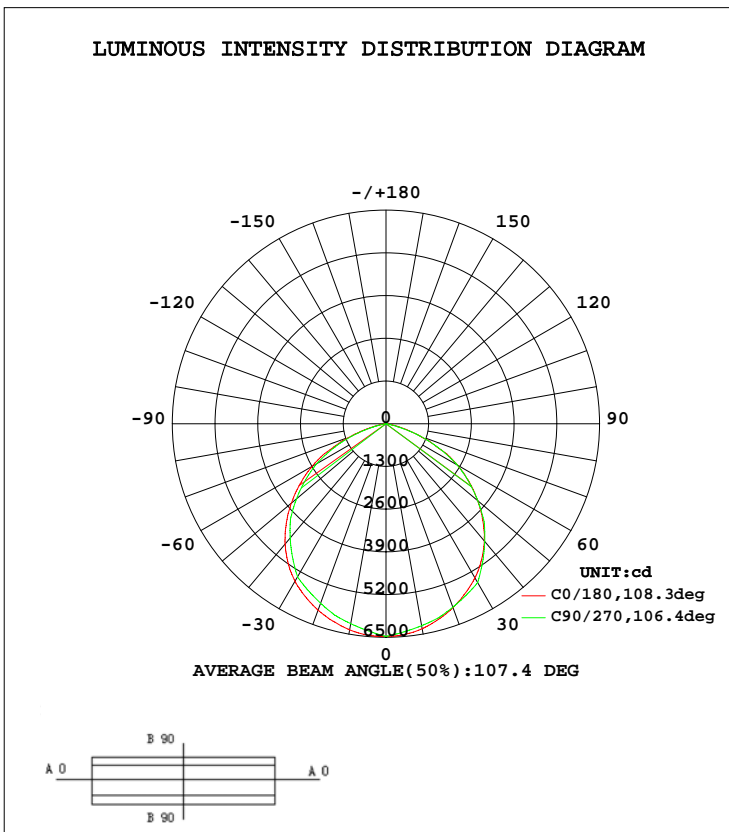


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.18 lm/W			
MODEL	QH-FLTG-150W	Imax(cd)	6474	S/MH(C0/180)	1.27
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	16505	η UP, DN(C0-180)	0.0, 50.3
NOMINAL FLUX(lm)	16505.2	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 49.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.2	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
5	6438	6374	6356	6386	6455	6364	6324	6352	0- 5	153.3	153.3	0.93,0.93
10	6334	6239	6240	6264	6368	6222	6177	6195	5- 10	451.3	604.6	3.66,3.66
15	6164	6072	6124	6114	6221	6051	6030	6010	10- 15	731.2	1336	8.09,8.09
20	5954	5878	5943	5936	6038	5856	5815	5796	15- 20	986.3	2322	14.1,14.1
25	5697	5623	5762	5701	5807	5603	5600	5527	20- 25	1209	3531	21.4,21.4
30	5414	5340	5581	5433	5537	5318	5385	5229	25- 30	1397	4928	29.9,29.9
35	5066	5045	5128	5140	5188	5012	4960	4917	30- 35	1538	6466	39.2,39.2
40	4655	4709	4675	4804	4776	4673	4536	4579	35- 40	1616	8082	49,49
45	4167	4196	4222	4286	4292	4189	4112	4100	40- 45	1632	9714	58.9,58.9
50	3642	3662	3648	3744	3761	3684	3554	3602	45- 50	1585	11299	68.5,68.5
55	3092	3116	3074	3191	3189	3169	2996	3090	50- 55	1468	12766	77.3,77.3
60	2502	2471	2500	2534	2596	2525	2438	2462	55- 60	1293	14059	85.2,85.2
65	1770	1845	1804	1886	1875	1896	1772	1856	60- 65	1060	15119	91.6,91.6
70	1108	1231	1108	1252	1183	1275	1106	1252	65- 70	763.5	15883	96.2,96.2
75	521.3	618.1	411.9	620.7	565.1	662.0	440.9	649.7	70- 75	444.7	16328	98.9,98.9
80	130.3	94.63	0	87.03	125.5	127.0	0	124.1	75- 80	161.2	16489	99.9,99.9
85	4.518	0	0	0	4.826	0	0	0	80- 85	16.10	16505	100,100
90	1.635	0	0	0	2.884	0	0	0	85- 90	0.3044	16505	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

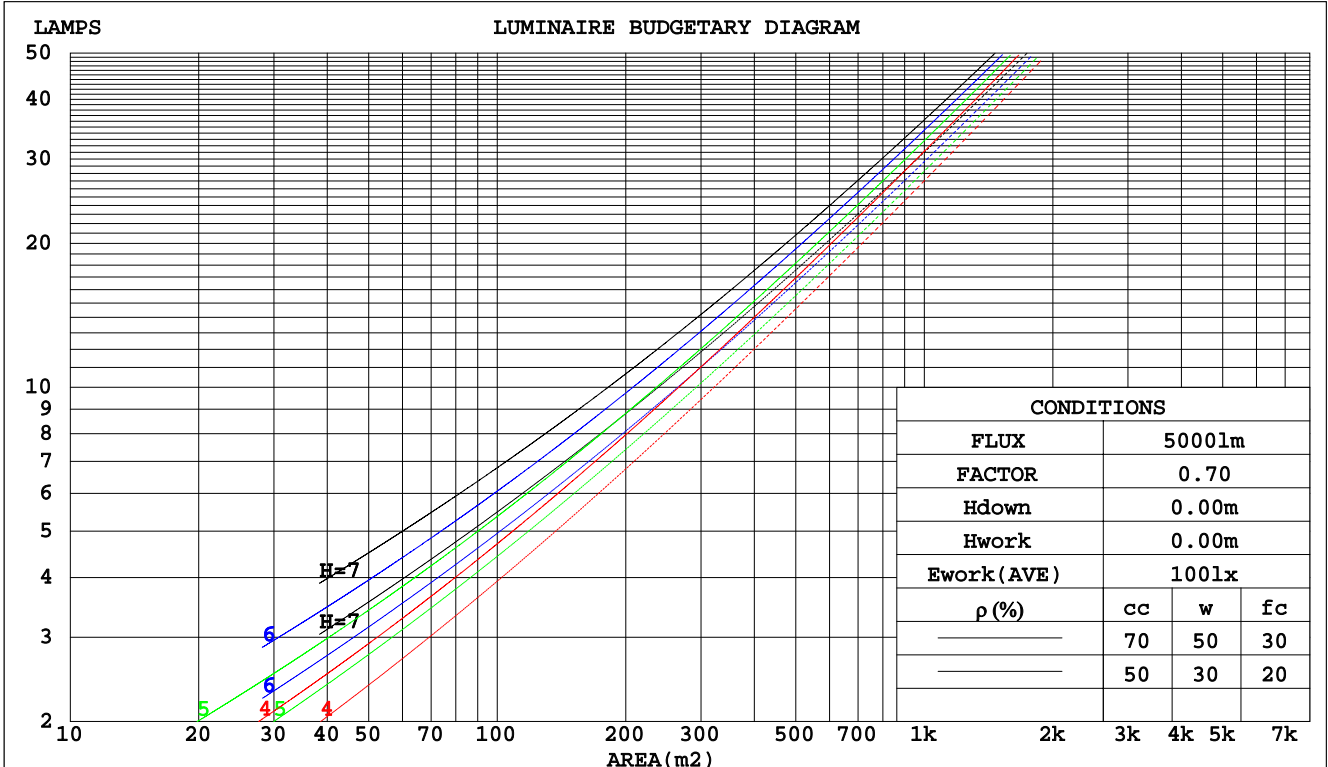
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.06	1.02	.99	1.04	1.00	.97	.99	.97	.94	.96	.93	.91	.92	.90	.89	.87
2.0	.93	.87	.82	.91	.86	.81	.88	.83	.79	.85	.81	.77	.82	.78	.75	.73
3.0	.82	.75	.69	.81	.74	.68	.78	.72	.67	.75	.70	.66	.73	.68	.65	.62
4.0	.73	.65	.58	.72	.64	.58	.69	.63	.57	.67	.61	.57	.65	.60	.56	.54
5.0	.66	.57	.51	.64	.56	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.47
6.0	.59	.50	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.47	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.43	.38	.49	.43	.38	.36
8.0	.49	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.34	.45	.39	.34	.32
9.0	.45	.37	.31	.44	.37	.31	.43	.36	.31	.42	.36	.31	.41	.35	.31	.29
10.0	.41	.34	.29	.41	.33	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.271	.154	.049	.264	.151	.048	.251	.144	.046	.239	.138	.044	.228	.132	.043	
2.0	.265	.145	.045	.259	.143	.044	.248	.138	.043	.237	.133	.042	.227	.129	.041	
3.0	.251	.134	.040	.246	.131	.040	.235	.128	.039	.226	.124	.038	.217	.120	.037	
4.0	.235	.122	.036	.230	.121	.036	.221	.117	.035	.213	.114	.034	.205	.112	.034	
5.0	.220	.112	.032	.215	.111	.032	.207	.108	.032	.200	.106	.031	.193	.103	.031	
6.0	.205	.103	.029	.201	.102	.029	.194	.100	.029	.188	.098	.029	.182	.096	.028	
7.0	.192	.095	.027	.189	.094	.027	.182	.092	.027	.176	.090	.026	.171	.089	.026	
8.0	.180	.088	.025	.177	.087	.025	.172	.086	.024	.166	.084	.024	.161	.083	.024	
9.0	.170	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.023	.152	.077	.022	
10.0	.160	.077	.021	.157	.076	.021	.153	.075	.021	.149	.074	.021	.144	.073	.021	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.178	.156	.137	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.169	.132	.101	.144	.114	.088	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.098	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
4.0	.153	.101	.060	.132	.087	.052	.090	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.042	.087	.054	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.115	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm										
NAME: LED FLOOD LIGHT					TYPE:IP65			WEIGHT:3.5		
SPEC.:PHILIPS 3030					DIM.:			SERIAL No.:		
MFR.: QINHAN LIGHTING					SUR.:			PROTECTION ANGLE:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	26.7	28.2	27.0	28.3	28.6	26.8	28.2	27.0	28.4	28.6
3H	27.6	28.9	27.9	29.1	29.4	27.7	29.0	28.0	29.2	29.5
4H	27.7	29.0	28.0	29.2	29.5	27.8	29.0	28.1	29.3	29.5
6H	27.7	28.9	28.0	29.1	29.4	27.7	28.9	28.0	29.2	29.4
8H	27.6	28.8	28.0	29.0	29.3	27.6	28.8	28.0	29.1	29.4
12H	27.6	28.7	27.9	29.0	29.3	27.6	28.7	27.9	29.0	29.3
4H 2H	27.2	28.4	27.5	28.7	28.9	27.2	28.5	27.5	28.7	29.0
3H	28.2	29.3	28.5	29.6	29.9	28.3	29.4	28.6	29.7	30.0
4H	28.4	29.3	28.7	29.7	30.0	28.4	29.4	28.8	29.7	30.1
6H	28.3	29.2	28.7	29.6	29.9	28.4	29.2	28.8	29.6	29.9
8H	28.3	29.1	28.7	29.5	29.9	28.3	29.1	28.7	29.5	29.9
12H	28.3	29.0	28.7	29.4	29.8	28.3	29.0	28.7	29.4	29.8
8H 4H	28.4	29.2	28.8	29.6	30.0	28.4	29.3	28.8	29.6	30.0
6H	28.4	29.1	28.9	29.5	29.9	28.4	29.1	28.8	29.5	29.9
8H	28.4	29.0	28.8	29.4	29.8	28.4	28.9	28.8	29.4	29.8
12H	28.3	28.8	28.8	29.3	29.8	28.3	28.8	28.8	29.3	29.7
12H 4H	28.4	29.1	28.8	29.5	29.9	28.4	29.1	28.8	29.5	29.9
6H	28.4	29.0	28.8	29.4	29.8	28.4	29.0	28.8	29.4	29.8
8H	28.3	28.8	28.8	29.3	29.8	28.3	28.8	28.8	29.3	29.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				
1.5H	+ 0.3 / - 0.4					+ 0.3 / - 0.5				
2.0H	+ 0.5 / - 0.5					+ 0.5 / - 0.5				

CIE Pub.117 Corrected 16505 lm Total Lamp Luminous Flux. (8log(F/F0) = 9.7)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	48	42	59	48	42	58	48	41	35
0.80	70	59	52	69	59	52	67	58	51	45
1.00	79	68	61	78	68	61	75	69	61	54
1.25	86	76	70	85	76	69	82	74	68	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	98	90	84	96	89	83	92	86	82	74
2.50	101	94	89	99	93	88	95	90	86	78
3.00	104	98	93	102	97	92	98	94	90	82
4.00	108	103	99	106	101	97	102	98	95	86
5.00	110	106	102	108	104	101	103	100	98	89
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

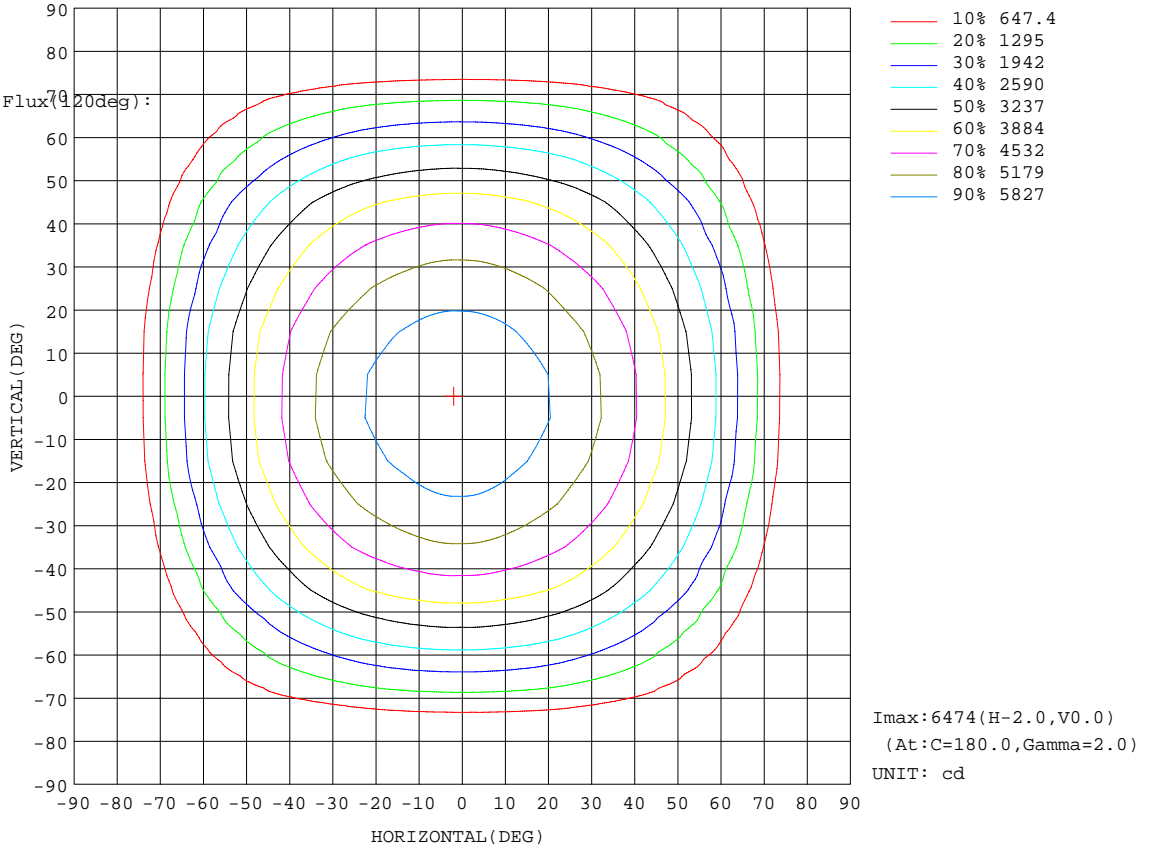
Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

9714 lm
 %lum = 58.9%
 %lamp = 58.9%

Conical surface Flux(70deg):

14059 lm
 %lum = 85.2%
 %lamp = 85.2%

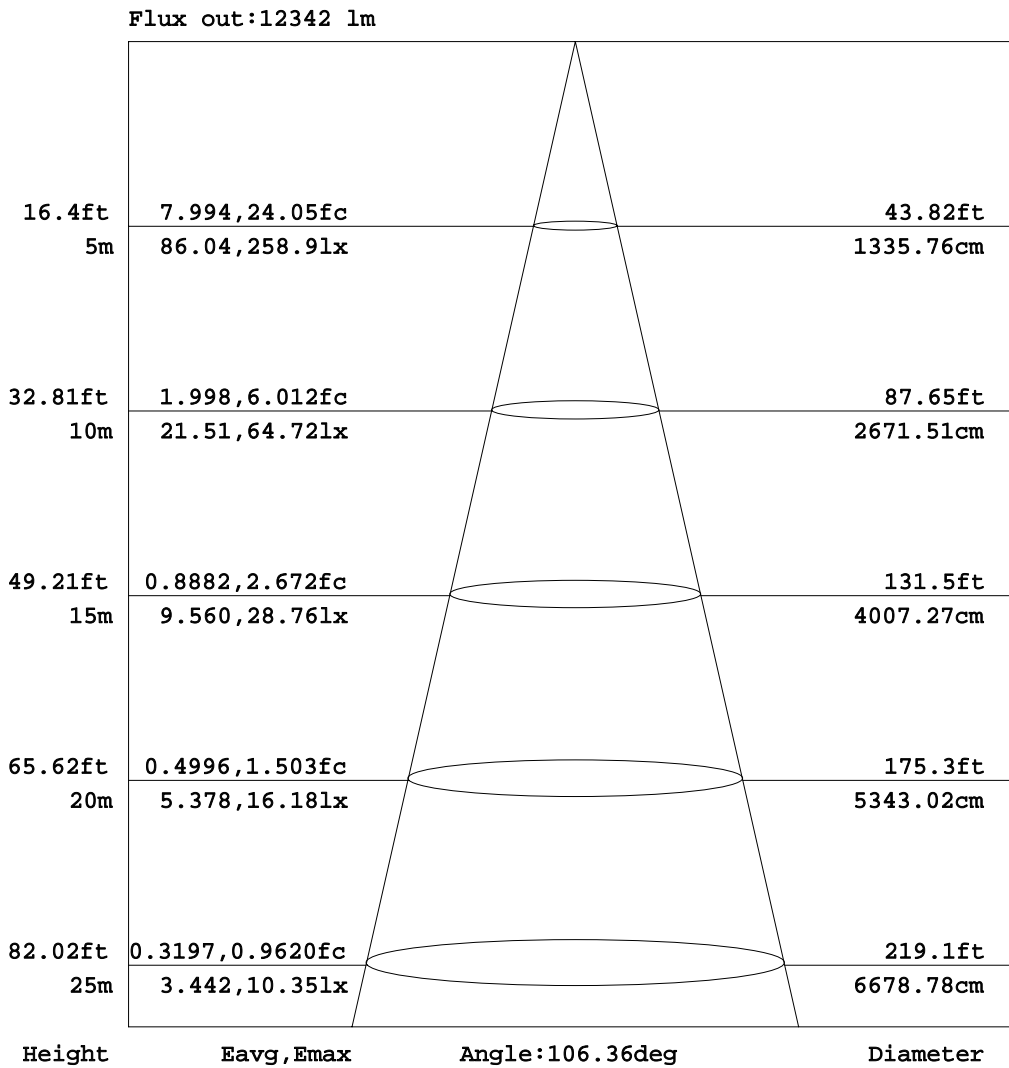


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

AAI Figure

Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:



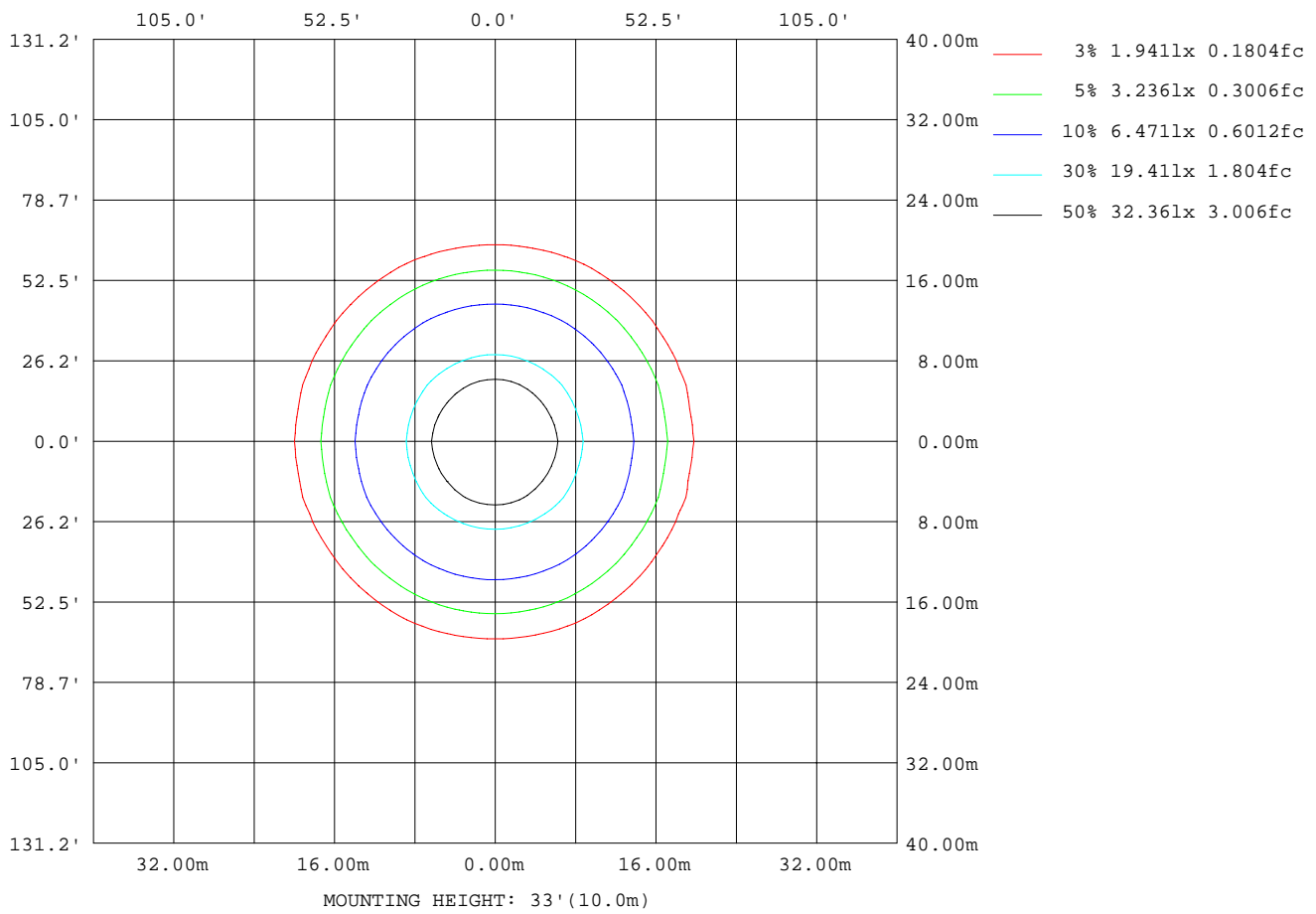
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

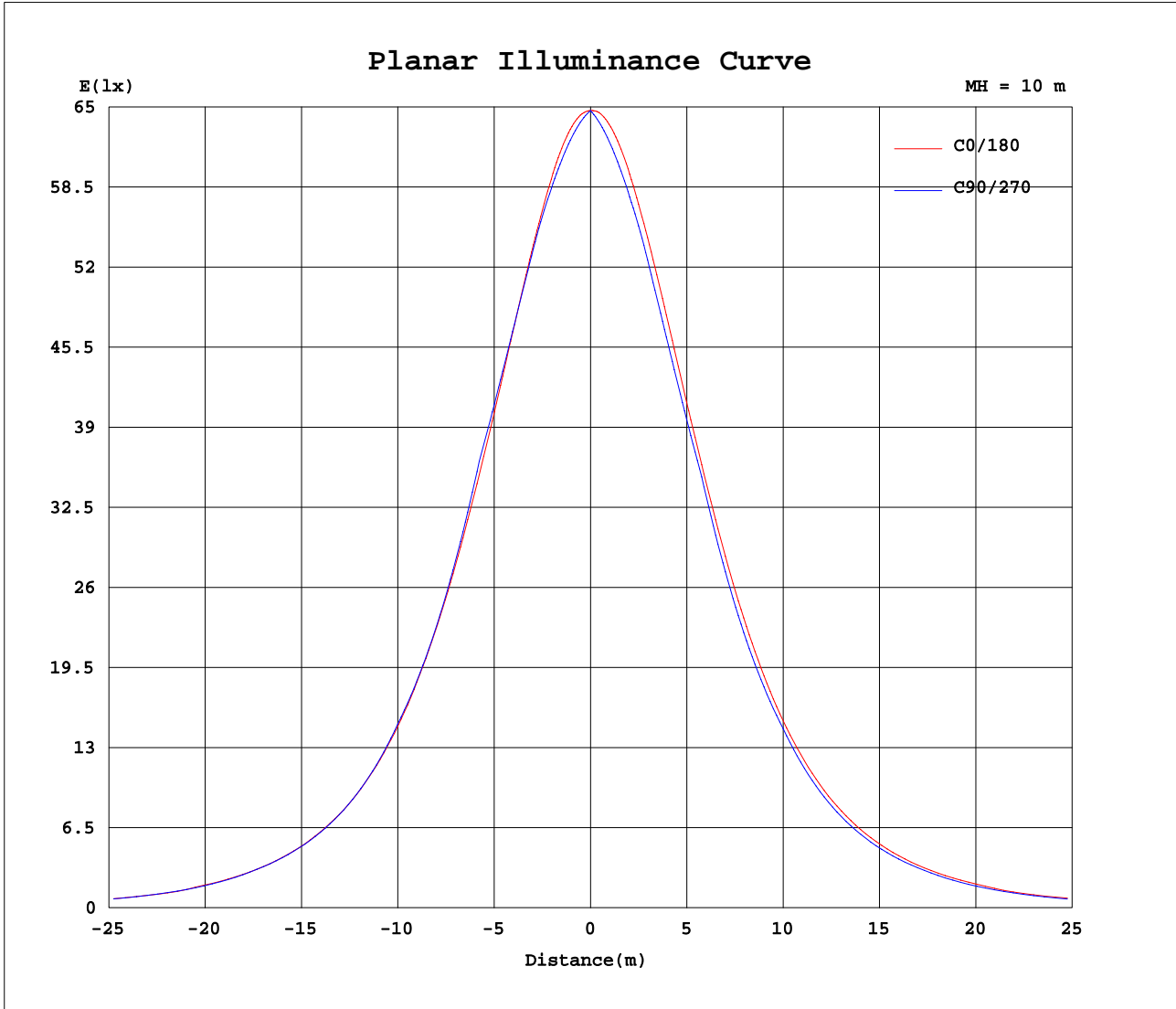
Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity: 65.0%
 Test Distance: 8.000m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.0V I:0.7010A P:149.8W PF:0.9710 Lamp Flux:16505.2x1 lm		
NAME: LED FLOOD LIGHT	TYPE:IP65	WEIGHT:3.5
SPEC.:PHILIPS 3030	DIM.:	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: cd

C(DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471	6471
5	6431	6419	6408	6398	6389	6380	6372	6364	6358	6352	6346	6341	6336	6332	6328	6326	6324	6324	6325
10	6322	6302	6284	6268	6254	6242	6231	6222	6215	6208	6202	6198	6193	6190	6185	6180	6177	6176	6177
15	6156	6129	6106	6087	6073	6062	6056	6051	6048	6046	6044	6044	6043	6042	6039	6034	6030	6028	6029
20	5958	5927	5903	5885	5873	5865	5860	5856	5850	5842	5837	5833	5830	5828	5826	5821	5815	5814	5812
25	5716	5685	5664	5651	5645	5645	5620	5603	5593	5585	5585	5592	5599	5603	5607	5606	5600	5597	5591
30	5441	5413	5397	5391	5373	5343	5325	5318	5316	5321	5328	5341	5360	5375	5385	5390	5385	5381	5368
35	5097	5082	5083	5069	5039	5020	5012	5012	5024	5043	5020	4998	4985	4979	4974	4969	4960	4959	4954
40	4694	4696	4695	4659	4648	4654	4673	4673	4631	4602	4579	4564	4553	4548	4547	4544	4536	4534	4526
45	4222	4248	4214	4203	4217	4247	4213	4189	4169	4153	4140	4128	4123	4118	4121	4119	4112	4109	4099
50	3713	3718	3693	3704	3725	3700	3687	3684	3691	3700	3675	3633	3606	3584	3571	3562	3554	3554	3551
55	3177	3148	3146	3161	3135	3133	3146	3169	3133	3108	3086	3060	3038	3022	3010	3002	2996	2996	2993
60	2583	2563	2587	2551	2550	2564	2543	2525	2508	2496	2492	2483	2470	2459	2451	2442	2438	2439	2436
65	1909	1942	1906	1945	1939	1897	1904	1896	1889	1884	1872	1856	1830	1808	1790	1776	1772	1776	1781
70	1194	1212	1194	1221	1247	1240	1272	1275	1255	1232	1215	1191	1162	1140	1122	1109	1106	1112	1120
75	559	578	598	597	614	656	659	662	624	593	559	531	497	473	453	441	441	447	459
80	139	150	163	196	203	176	131	127	121	110	91.1	70.9	47.7	28.1	12.8	3.25	0.00	3.29	13.0
85	4.72	10.9	4.18	2.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2016-01-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.287
 Humidity:65.0%
 Test Distance:8.000m [K=1.0000]
 Remarks:

