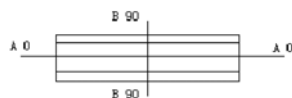
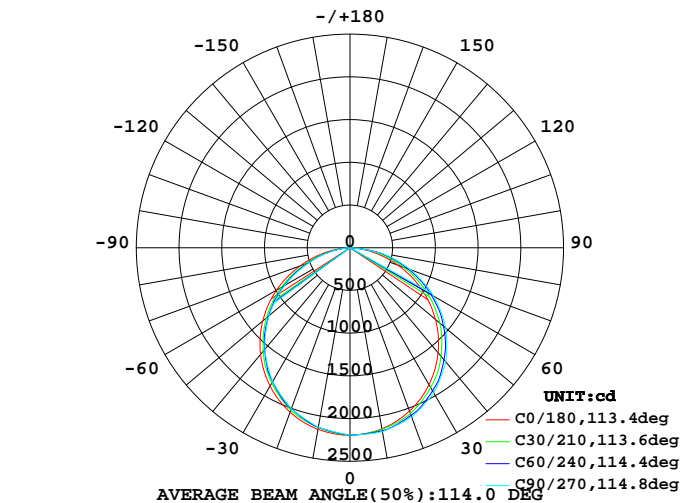


## LUMINAIRE PHOTOMETRIC TEST REPORT

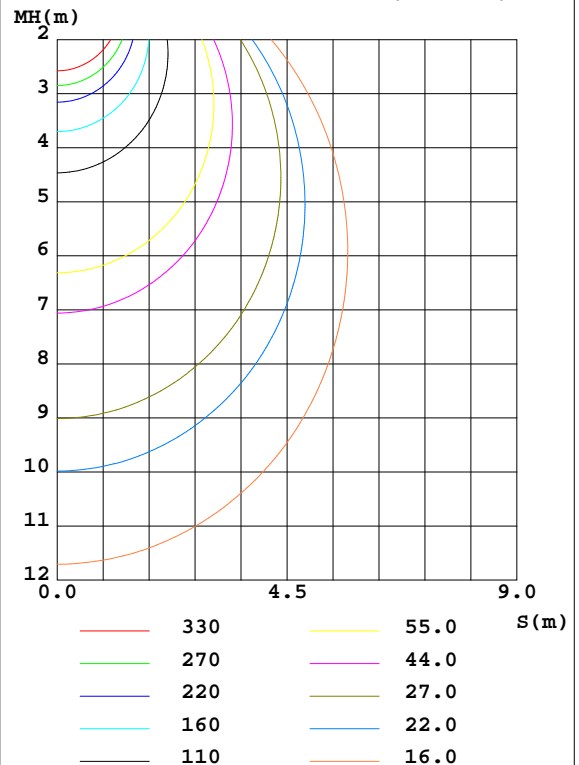
Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 92.45 lm/W			
MODEL	6012 72W	I <sub>max</sub> (cd)	2194	S/MH(C0/180)	1.27
NOMINAL POWER(W)	72	LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	100-240	TOTAL FLUX(lm)	6345.3	η UP,DN(C0-180)	0.0,52.9
NOMINAL FLUX(lm)	6345.33	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.5	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



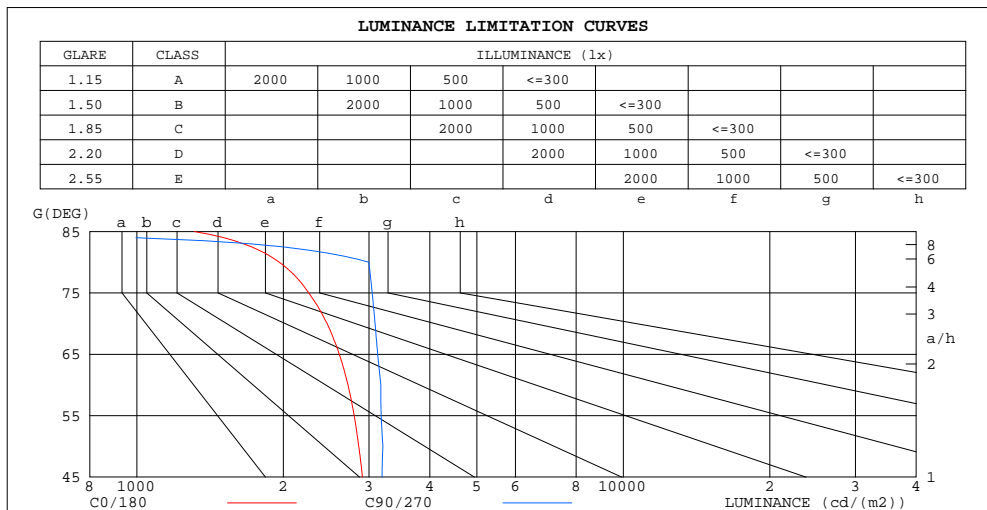
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25DEG  
Operators:HJC  
Test Date:2016-03-02

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:25%  
Test Distance:7.150m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\%lum, lamp$
5	2182	2184	2189	2187	2185	2168	2162	2165	0- 5	52.20	52.20	0.82,0.82
10	2151	2166	2186	2171	2158	2133	2133	2129	5- 10	154.8	207.0	3.26,3.26
15	2102	2134	2147	2141	2113	2085	2069	2079	10- 15	252.6	459.7	7.24,7.24
20	2035	2074	2109	2082	2049	2010	2005	2001	15- 20	342.0	801.6	12.6,12.6
25	1952	2004	2036	2016	1968	1925	1907	1914	20- 25	420.4	1222	19.3,19.3
30	1851	1915	1963	1927	1870	1821	1809	1808	25- 30	484.8	1707	26.9,26.9
35	1734	1807	1854	1821	1757	1699	1681	1685	30- 35	533.6	2240	35.3,35.3
40	1605	1692	1745	1707	1629	1569	1552	1556	35- 40	564.3	2805	44.2,44.2
45	1462	1551	1605	1566	1487	1417	1394	1401	40- 45	576.6	3381	53.3,53.3
50	1306	1407	1465	1424	1333	1263	1236	1245	45- 50	569.2	3951	62.3,62.3
55	1141	1240	1296	1256	1169	1085	1059	1069	50- 55	542.8	4493	70.8,70.8
60	965.7	1072	1128	1086	993.9	908.2	881.3	892.3	55- 60	497.7	4991	78.7,78.7
65	783.3	886.7	939.5	900.5	808.6	722.1	691.9	706.8	60- 65	436.2	5427	85.5,85.5
70	598.5	700.7	751.1	713.1	620.4	536.9	502.4	524.0	65- 70	359.9	5787	91.2,91.2
75	415.3	514.5	560.5	522.2	434.7	353.0	340.7	344.8	70- 75	274.5	6062	95.5,95.5
80	242.2	337.8	370.0	342.4	260.2	200.7	178.9	194.5	75- 80	186.1	6248	98.5,98.5
85	81.28	97.17	0	98.52	89.37	47.51	0	45.34	80- 85	89.06	6337	99.9,99.9
90	1.861	0	0	0	1.354	0	0	0	85- 90	8.533	6345	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		



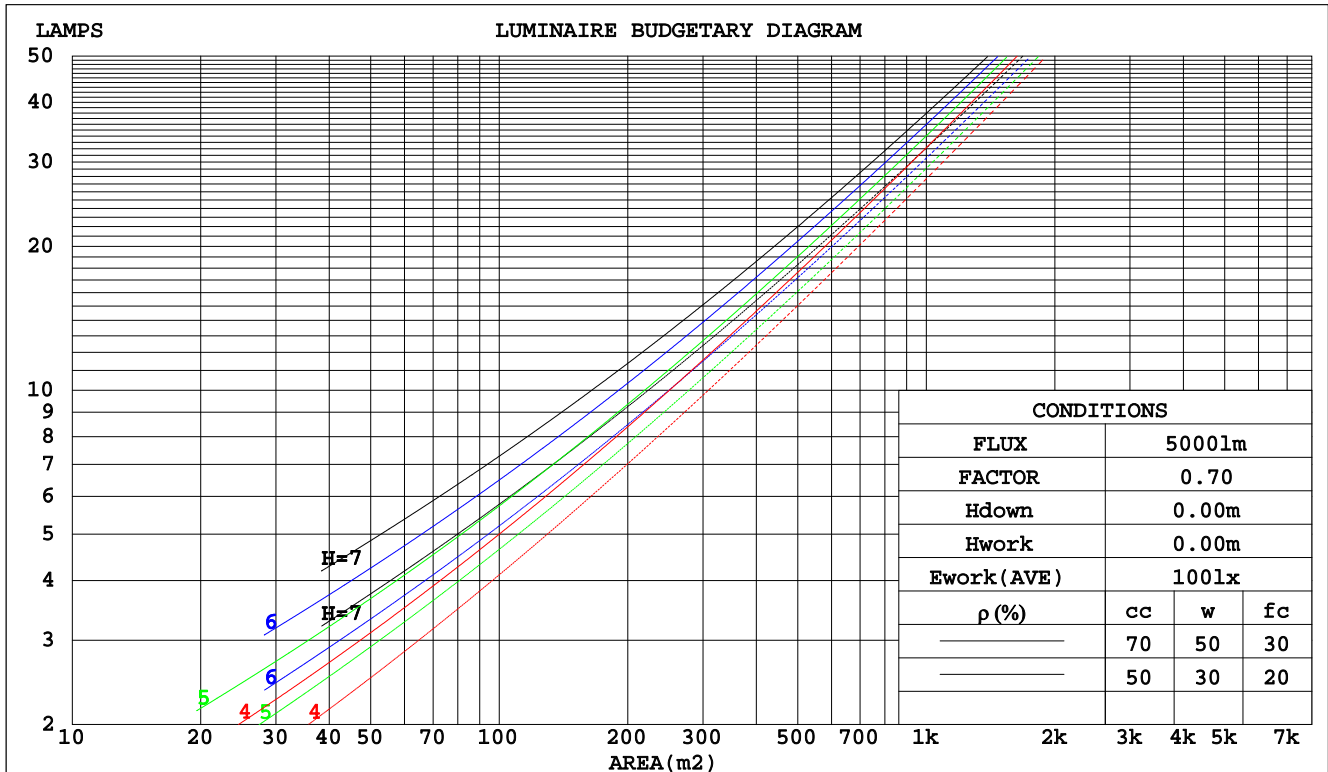
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators: HJC  
Test Date: 2016-03-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 25%  
Test Distance: 7.150m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding 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	1.04	.00	.96	1.02	.98	.94	.97	.94	.91	.93	.91	.88	.90	.88	.86	.84
2.0	.90	.84	.78	.89	.82	.77	.85	.80	.75	.82	.77	.73	.79	.75	.72	.69
3.0	.79	.71	.64	.78	.70	.64	.75	.68	.63	.72	.66	.62	.69	.65	.61	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.58	.53	.62	.56	.52	.50
5.0	.63	.53	.47	.61	.53	.47	.59	.52	.46	.57	.51	.45	.55	.50	.45	.43
6.0	.56	.47	.41	.55	.47	.41	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.36	.47	.40	.35	.46	.40	.35	.33
8.0	.46	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.34	.29	.40	.33	.28	.39	.33	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25DEG  
 Operators: HJC  
 Test Date: 2016-03-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity: 25%  
 Test Distance: 7.150m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm					
NAME: Panel			TYPE:		WEIGHT:
SPEC.:6012			DIM.:		SERIAL No.:
MFR.:			SUR.:1.195*0.595		Shielding 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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.308	.175	.056	.301	.172	.055	.288	.165	.053	.276	.159	.051	.265	.153	.049	
2.0	.292	.160	.049	.286	.157	.048	.274	.152	.047	.263	.148	.046	.253	.143	.045	
3.0	.271	.144	.043	.265	.142	.043	.255	.138	.042	.245	.134	.041	.236	.131	.040	
4.0	.250	.130	.038	.245	.128	.038	.236	.125	.037	.227	.122	.037	.219	.119	.036	
5.0	.231	.118	.034	.227	.116	.034	.219	.114	.034	.211	.111	.033	.204	.109	.033	
6.0	.214	.107	.031	.210	.106	.031	.203	.104	.030	.196	.102	.030	.190	.100	.030	
7.0	.199	.099	.028	.196	.098	.028	.189	.096	.028	.183	.094	.027	.178	.092	.027	
8.0	.186	.091	.026	.183	.090	.025	.177	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.174	.084	.024	.172	.084	.023	.167	.082	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.152	.076	.022	.148	.075	.021	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.134	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.148	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.051	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.128	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:HJC  
 Test Date:2016-03-02

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:25%  
 Test Distance:7.150m [K=1.0000]  
 Remarks:

## UGR(Unified Glare Rating) Table

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm											
NAME: Panel					TYPE:			WEIGHT:			
SPEC.:6012					DIM.:			SERIAL No.:			
MFR.:					SUR.:1.195*0.595			Shielding 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	2H	16.7	18.2	16.9	18.4	18.6	17.3	18.8	17.5	19.0	19.2
	3H	18.2	19.6	18.5	19.8	20.1	19.0	20.4	19.3	20.6	20.9
	4H	18.8	20.1	19.1	20.4	20.6	19.8	21.1	20.1	21.4	21.6
	6H	19.2	20.4	19.5	20.7	21.0	20.4	21.6	20.7	21.9	22.2
	8H	19.2	20.5	19.6	20.7	21.0	20.5	21.7	20.9	22.0	22.3
	12H	19.3	20.4	19.6	20.7	21.0	20.5	21.7	20.8	22.0	22.3
4H	2H	17.4	18.8	17.7	19.0	19.3	17.9	19.2	18.2	19.5	19.7
	3H	19.1	20.3	19.5	20.6	20.9	19.8	21.0	20.2	21.3	21.6
	4H	19.9	20.9	20.2	21.3	21.6	20.7	21.8	21.1	22.1	22.4
	6H	20.4	21.3	20.8	21.7	22.0	21.5	22.4	21.9	22.8	23.2
	8H	20.5	21.4	20.9	21.8	22.1	21.7	22.5	22.1	22.9	23.3
	12H	20.6	21.4	21.0	21.8	22.2	21.7	22.5	22.1	22.9	23.3
8H	4H	20.3	21.1	20.7	21.5	21.9	21.0	21.9	21.4	22.3	22.6
	6H	20.9	21.7	21.4	22.1	22.5	21.9	22.7	22.4	23.1	23.5
	8H	21.2	21.8	21.6	22.3	22.7	22.2	22.9	22.7	23.3	23.7
	12H	21.3	21.9	21.8	22.3	22.8	22.2	22.8	22.7	23.2	23.7
12H	4H	20.3	21.1	20.7	21.5	21.9	21.0	21.8	21.4	22.2	22.6
	6H	21.1	21.7	21.5	22.1	22.6	22.0	22.7	22.5	23.1	23.5
	8H	21.4	21.9	21.8	22.4	22.9	22.3	22.9	22.8	23.3	23.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.1 / - 0.3					
2.0H	+ 0.2 / - 0.4					+ 0.2 / - 0.3					

CIE Pub.117 Corrected 6345 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.4)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:HJC  
 Test Date:2016-03-02

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:25%  
 Test Distance:7.150m [K=1.0000]  
 Remarks:

## UTILIZATION FACTORS TABLE

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding 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) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	57	45	38	55	45	38	32
0.80	67	56	48	66	55	48	65	54	48	41
1.00	76	65	57	75	64	57	72	65	56	49
1.25	83	72	65	81	72	65	79	70	64	57
1.50	88	78	71	86	77	71	83	75	69	62
2.00	95	86	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	87	78
4.00	106	101	96	104	99	95	100	95	92	83
5.00	109	104	100	106	102	98	102	98	95	86
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:25DEG  
 Operators:HJC  
 Test Date:2016-03-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:25%  
 Test Distance:7.150m [K=1.0000]  
 Remarks:

## ISOCANDELA DIAGRAM

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:

Conical surface Flux(90deg):

3381.4 lm

%lum = 53.3%

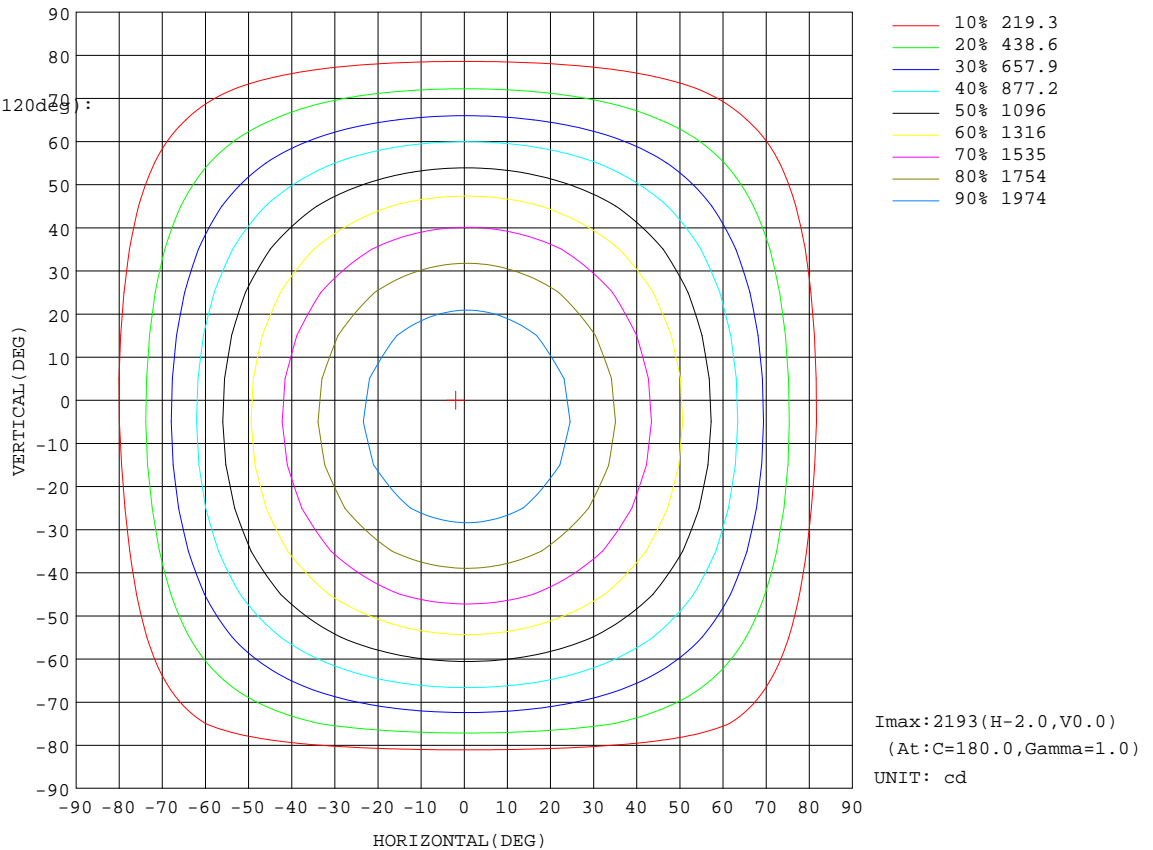
%lamp = 53.3%

Conical surface Flux(120deg):

4991 lm

%lum = 78.7%

%lamp = 78.7%

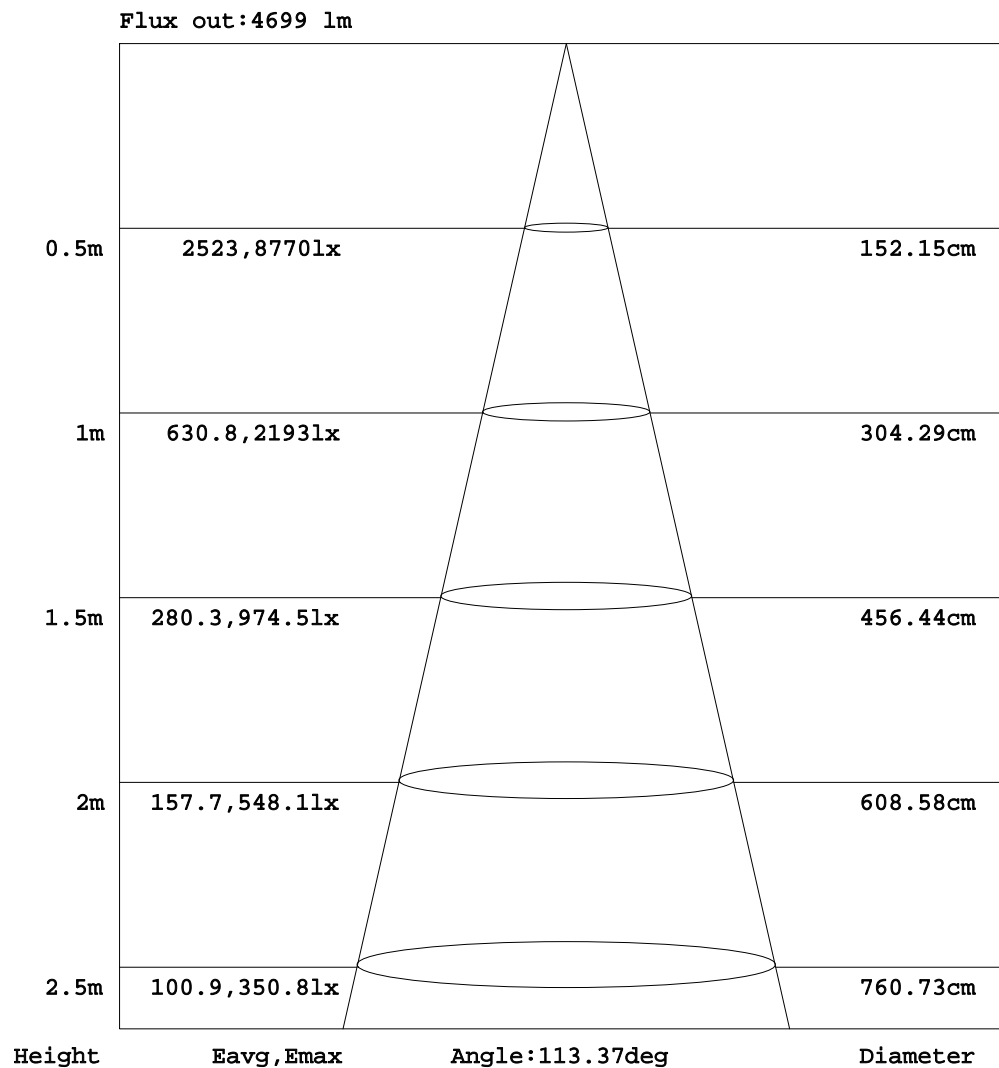


C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25DEG  
Operators:HJC  
Test Date:2016-03-02

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:25%  
Test Distance:7.150m [K=1.0000]  
Remarks:

## AAI Figure

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:



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

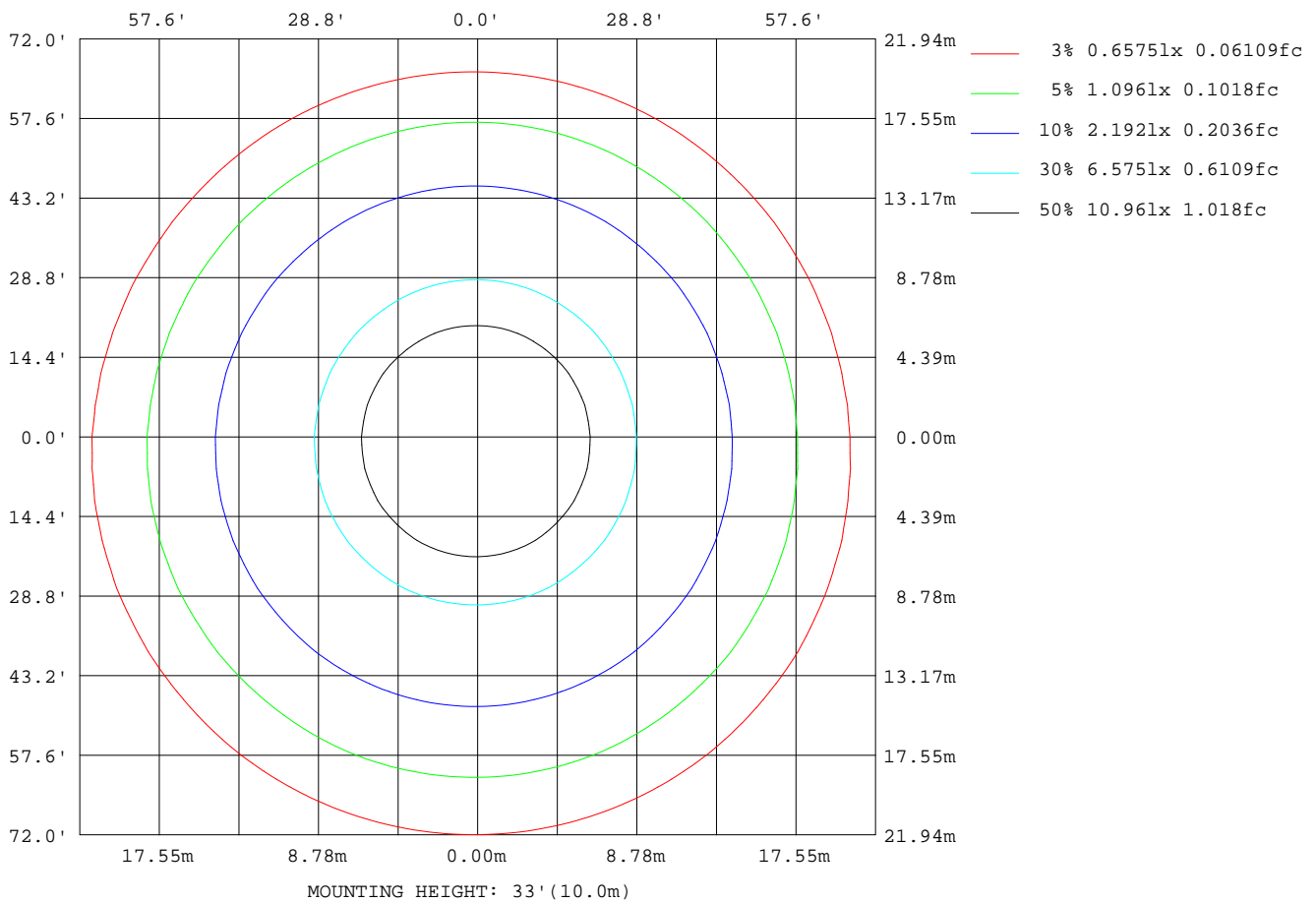
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:HJC  
 Test Date:2016-03-02

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:25%  
 Test Distance:7.150m [K=1.0000]  
 Remarks:



## ISOLUX DIAGRAM

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25DEG  
Operators:HJC  
Test Date:2016-03-02

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:25%  
Test Distance:7.150m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:

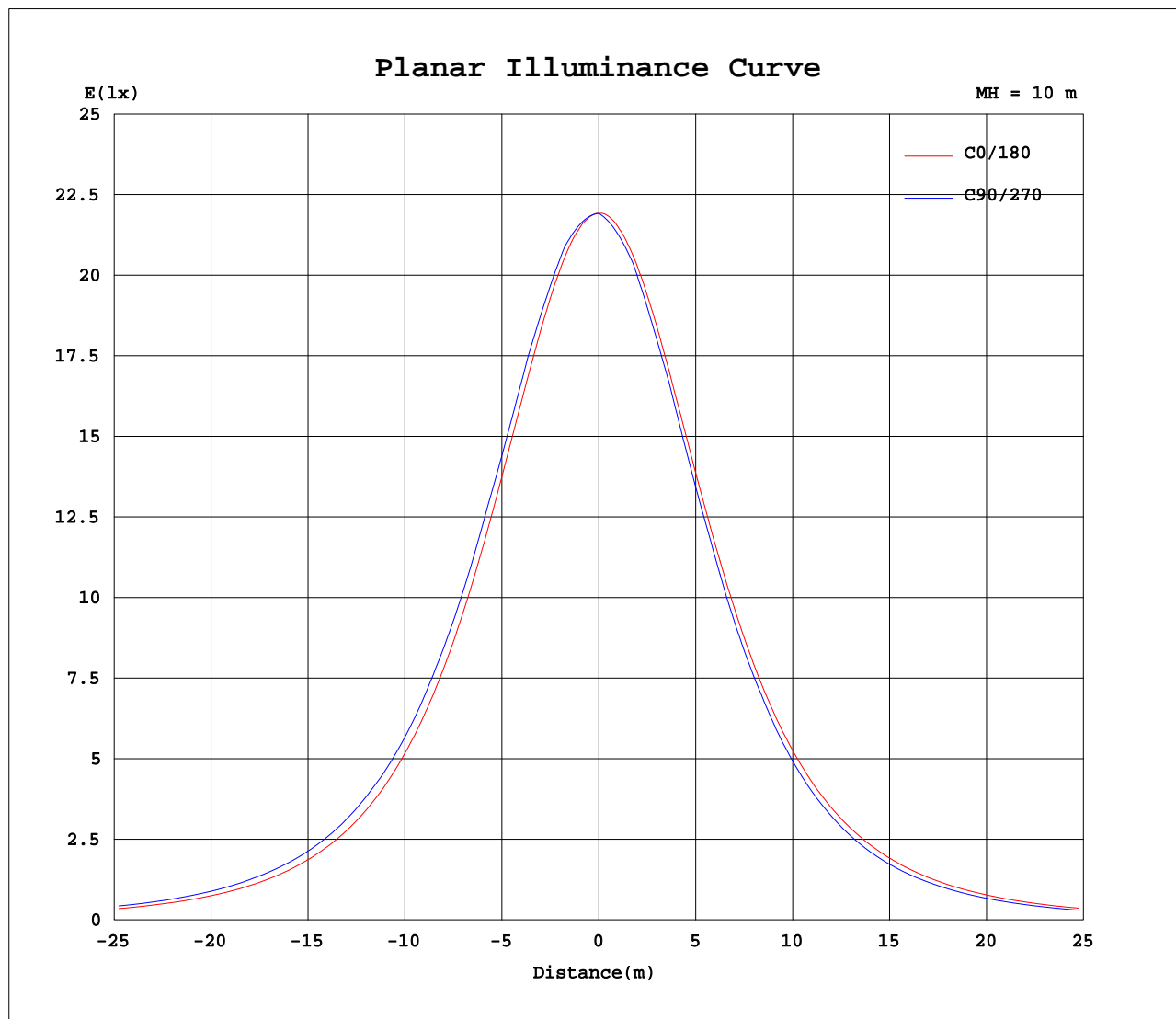
AvgL	cd/m2
L_0~180(65)av	2649
L_0~180(75)av	2309
L_0~180(85)av	1377
L_90~270(65)av	2715
L_90~270(75)av	2449
L_90~270(85)av	0
L_45(65)av	2676
L_45(75)av	2356
L_45(85)av	1164

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25DEG  
 Operators:HJC  
 Test Date:2016-03-02

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:25%  
 Test Distance:7.150m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators: HJC  
Test Date: 2016-03-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 25%  
Test Distance: 7.150m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators: HJC  
Test Date: 2016-03-02

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:25%
Test Distance:7.150m [K=1.0000]
Remarks:

```



## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:

Table--3

UNIT: cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators: HJC  
Test Date: 2016-03-02

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:25%
Test Distance:7.150m [K=1.0000]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:221.7V I:0.3208A P:68.63W PF:0.9650 Lamp Flux:6345.33x1 lm		
NAME: Panel	TYPE:	WEIGHT:
SPEC.:6012	DIM.:	SERIAL No.:
MFR.:	SUR.:1.195*0.595	Shielding Angle:

Table--4

UNIT: cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25DEG  
Operators: HJC  
Test Date: 2016-03-02

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:25%
Test Distance:7.150m [K=1.0000]
Remarks:

```