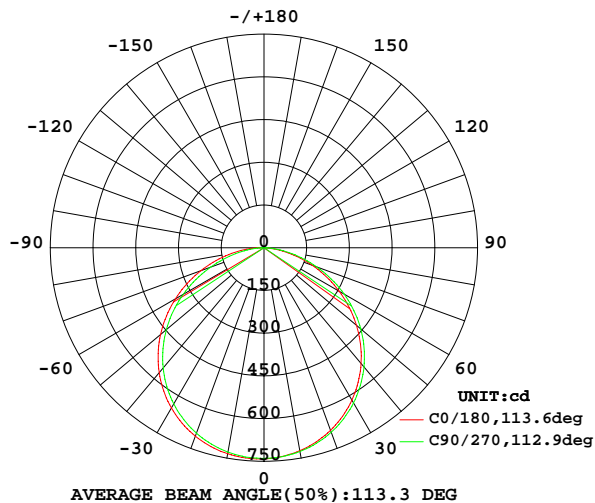


LUMINAIRE PHOTOMETRIC TEST REPORT

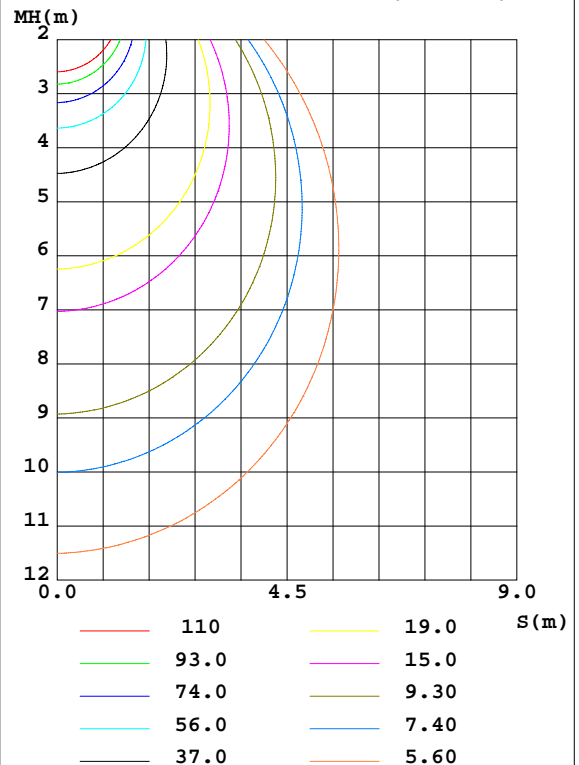
Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 87.63 lm/W			
MODEL HM04-PR11-24W120-3CCT		I _{max} (cd)	741.8	S/MH(C0/180)	1.30
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	2147.0	η UP,DN(C0-180)	0.2,48.1
NOMINAL FLUX(lm)	2147	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.2,51.6
LAMPS INSIDE	1	η up(%)	0.4	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	99.6	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	Φ lum, lamp
10	723.5	726.6	734.2	728.6					0- 10	70.10	70.10	3.26,3.26
20	682.6	689.7	704.3	693.2					10- 20	201.4	271.5	12.6,12.6
30	617.6	628.9	649.9	633.4					20- 30	306.6	578.1	26.9,26.9
40	530.3	546.3	572.5	550.6					30- 40	371.4	949.6	44.2,44.2
50	424.2	443.8	474.1	447.5					40- 50	386.1	1336	62.2,62.2
60	304.5	324.7	359.3	327.6					50- 60	348.1	1684	78.4,78.4
70	180.4	197.3	235.9	199.5					60- 70	263.5	1947	90.7,90.7
80	66.03	78.37	115.6	80.47					70- 80	150.6	2098	97.7,97.7
90	0.2101	0.3562	14.92	0.3162					80- 90	41.46	2139	99.6,99.6
100	0.4019	0.4067	0.4435	0.4384					90-100	0.7433	2140	99.7,99.7
110	0.6848	0.7494	0.7674	0.8174					100-110	0.6155	2141	99.7,99.7
120	1.009	1.115	1.133	1.274					110-120	0.9477	2142	99.8,99.8
130	1.324	1.357	1.489	1.525					120-130	1.142	2143	99.8,99.8
140	1.617	1.617	1.786	1.790					130-140	1.205	2144	99.9,99.9
150	1.900	1.905	2.056	2.041					140-150	1.151	2145	99.9,99.9
160	2.215	2.184	2.279	2.247					150-160	0.9699	2146	100,100
170	2.466	2.402	2.475	2.402					160-170	0.6613	2147	100,100
180	2.544	2.466	2.539	2.466					170-180	0.2355	2147	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

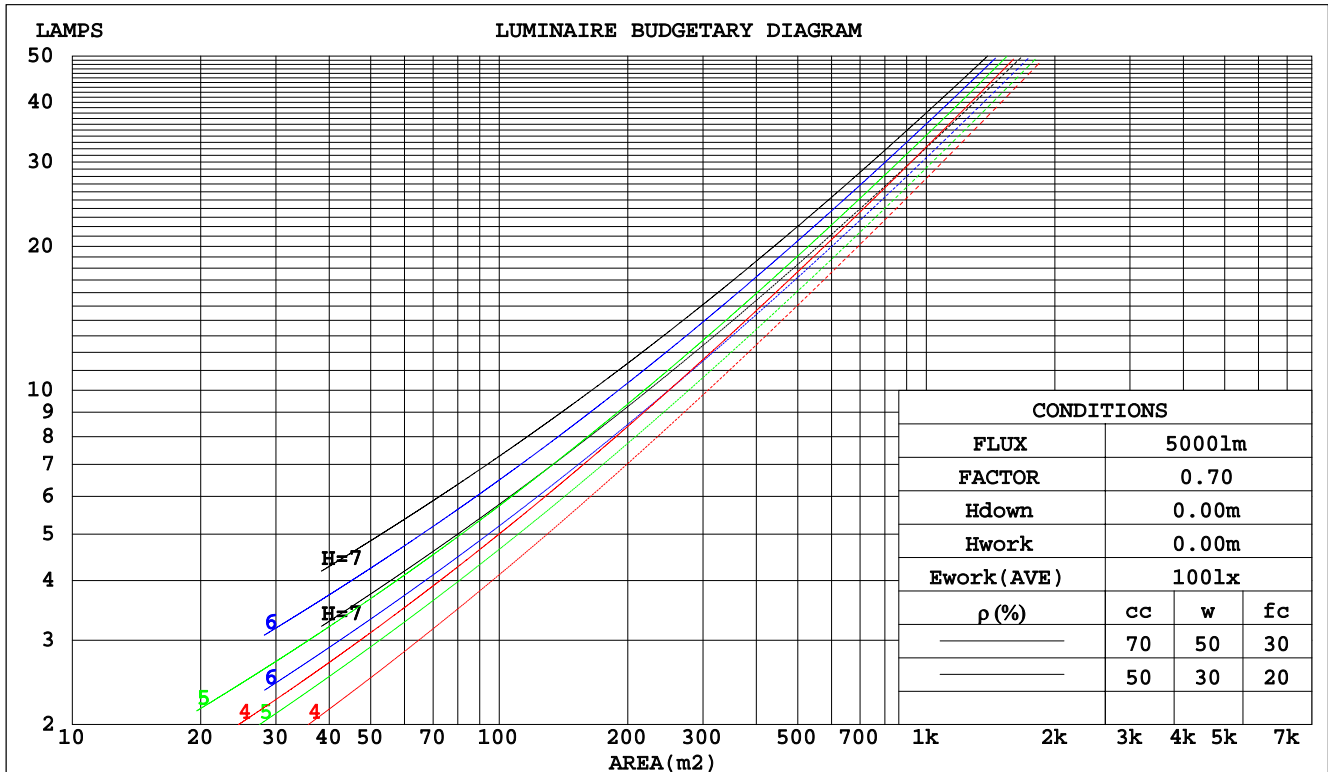
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	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	.99	.96	1.01	.98	.94	.97	.94	.91	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.78	.88	.82	.77	.85	.79	.75	.81	.77	.73	.78	.75	.71	.69
3.0	.79	.71	.64	.78	.70	.64	.75	.68	.63	.72	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.58	.52	.62	.56	.52	.50
5.0	.63	.54	.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	.47	.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: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	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	.311	.177	.056	.303	.173	.055	.290	.166	.053	.278	.160	.051	.266	.154	.050		
2.0	.292	.160	.049	.286	.157	.049	.274	.152	.047	.263	.148	.046	.253	.143	.045		
3.0	.270	.144	.043	.265	.142	.043	.254	.138	.042	.245	.134	.041	.235	.130	.040		
4.0	.250	.130	.038	.245	.128	.038	.235	.125	.037	.227	.122	.037	.218	.119	.036		
5.0	.231	.118	.034	.226	.116	.034	.218	.113	.033	.210	.111	.033	.203	.108	.033		
6.0	.214	.107	.031	.210	.106	.031	.203	.104	.030	.196	.102	.030	.189	.100	.030		
7.0	.199	.098	.028	.196	.097	.028	.189	.096	.028	.183	.094	.027	.177	.092	.027		
8.0	.186	.091	.026	.183	.090	.025	.177	.088	.025	.171	.087	.025	.166	.085	.025		
9.0	.174	.084	.024	.171	.084	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023		
10.0	.164	.079	.022	.161	.078	.022	.156	.077	.022	.152	.075	.021	.148	.074	.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	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.183	.159	.137	.157	.136	.118	.107	.094	.082	.062	.054	.047	.020	.017	.015	
2.0	.175	.135	.101	.150	.116	.087	.103	.080	.061	.059	.047	.036	.019	.015	.012	
3.0	.167	.117	.077	.143	.101	.067	.098	.070	.047	.057	.041	.028	.018	.013	.009	
4.0	.160	.104	.061	.137	.090	.053	.094	.062	.037	.055	.037	.022	.018	.012	.007	
5.0	.152	.093	.050	.131	.081	.043	.090	.056	.031	.052	.033	.018	.017	.011	.006	
6.0	.145	.085	.042	.125	.074	.036	.086	.052	.026	.050	.030	.015	.016	.010	.005	
7.0	.138	.078	.036	.119	.068	.031	.082	.047	.022	.048	.028	.013	.015	.009	.004	
8.0	.132	.072	.031	.114	.063	.027	.079	.044	.019	.046	.026	.012	.015	.009	.004	
9.0	.126	.067	.028	.108	.059	.024	.075	.041	.017	.044	.024	.010	.014	.008	.003	
10.0	.120	.063	.025	.104	.055	.022	.072	.039	.016	.042	.023	.009	.014	.007	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm											
NAME: panel light						TYPE:LED			WEIGHT:		
SPEC.:						DIM.:			SERIAL No.:15W 1#3000K		
MFR.: Homi						SUR.:			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	19.1	20.7	19.4	20.9	21.1	19.4	20.9	19.6	21.1	21.3	
	3H	20.5	21.9	20.8	22.2	22.4	20.8	22.2	21.1	22.5	22.7
	4H	21.0	22.4	21.3	22.6	22.9	21.4	22.7	21.7	23.0	23.2
	6H	21.3	22.6	21.7	22.9	23.2	21.8	23.0	22.1	23.3	23.6
	8H	21.4	22.6	21.7	22.9	23.2	21.9	23.1	22.2	23.4	23.7
	12H	21.4	22.6	21.8	22.9	23.2	21.9	23.1	22.3	23.4	23.7
4H	2H	19.7	21.1	20.1	21.3	21.6	19.9	21.3	20.2	21.5	21.8
	3H	21.3	22.5	21.7	22.8	23.1	21.6	22.7	21.9	23.0	23.3
	4H	21.9	23.0	22.3	23.3	23.7	22.2	23.3	22.6	23.6	24.0
	6H	22.3	23.3	22.7	23.6	24.0	22.7	23.7	23.1	24.0	24.4
	8H	22.4	23.3	22.9	23.7	24.1	22.9	23.8	23.3	24.1	24.5
	12H	22.5	23.3	22.9	23.7	24.1	23.0	23.8	23.4	24.2	24.6
8H	4H	22.2	23.0	22.6	23.4	23.8	22.4	23.3	22.9	23.7	24.1
	6H	22.7	23.4	23.2	23.9	24.3	23.1	23.8	23.5	24.2	24.6
	8H	22.9	23.5	23.3	24.0	24.4	23.3	23.9	23.7	24.4	24.8
	12H	23.0	23.5	23.4	24.0	24.5	23.4	24.0	23.9	24.4	24.9
12H	4H	22.2	23.0	22.6	23.4	23.8	22.4	23.3	22.9	23.6	24.1
	6H	22.8	23.4	23.2	23.8	24.3	23.1	23.7	23.6	24.2	24.6
	8H	23.0	23.5	23.4	24.0	24.5	23.3	23.9	23.8	24.4	24.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117 Corrected 2147 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.7)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

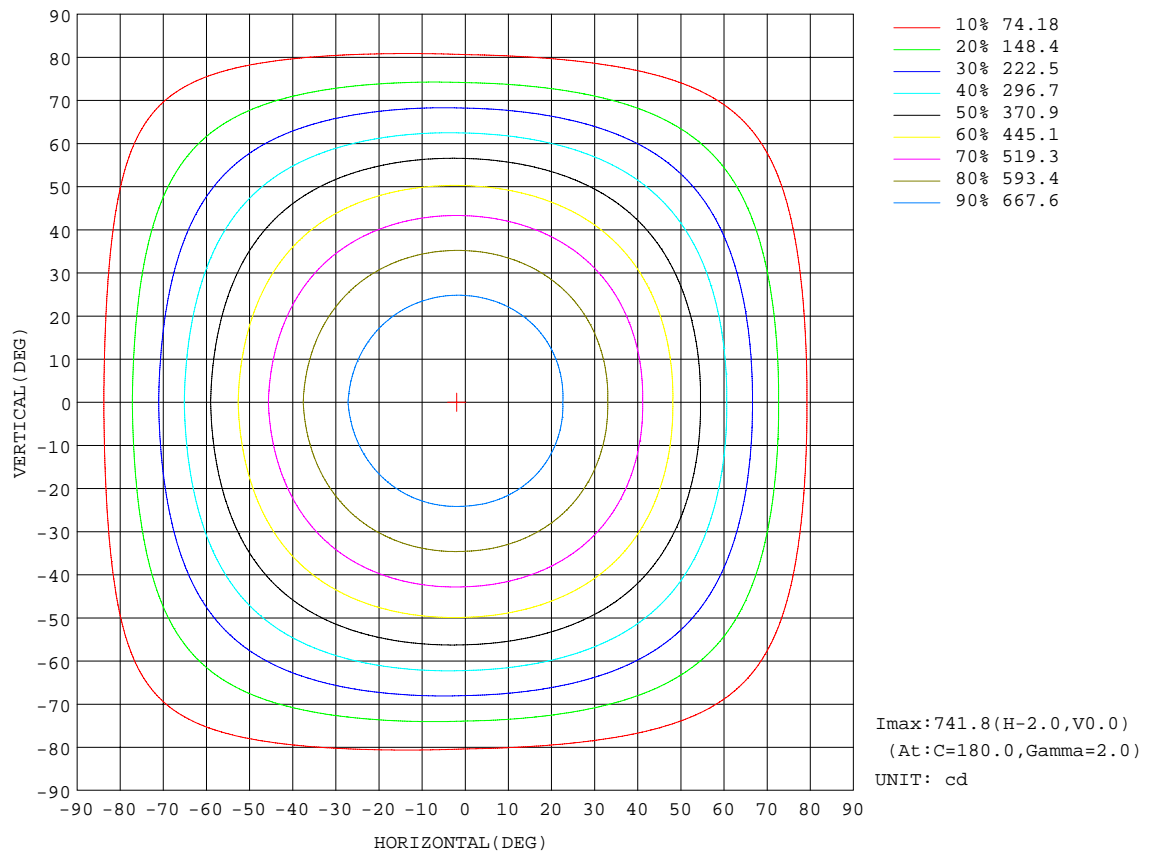
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	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	70	83	75	69	62
2.00	95	86	80	93	85	79	89	83	77	69
2.50	99	91	85	97	89	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	86	78
4.00	106	100	96	104	99	94	99	95	92	83
5.00	109	104	100	106	102	98	101	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: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

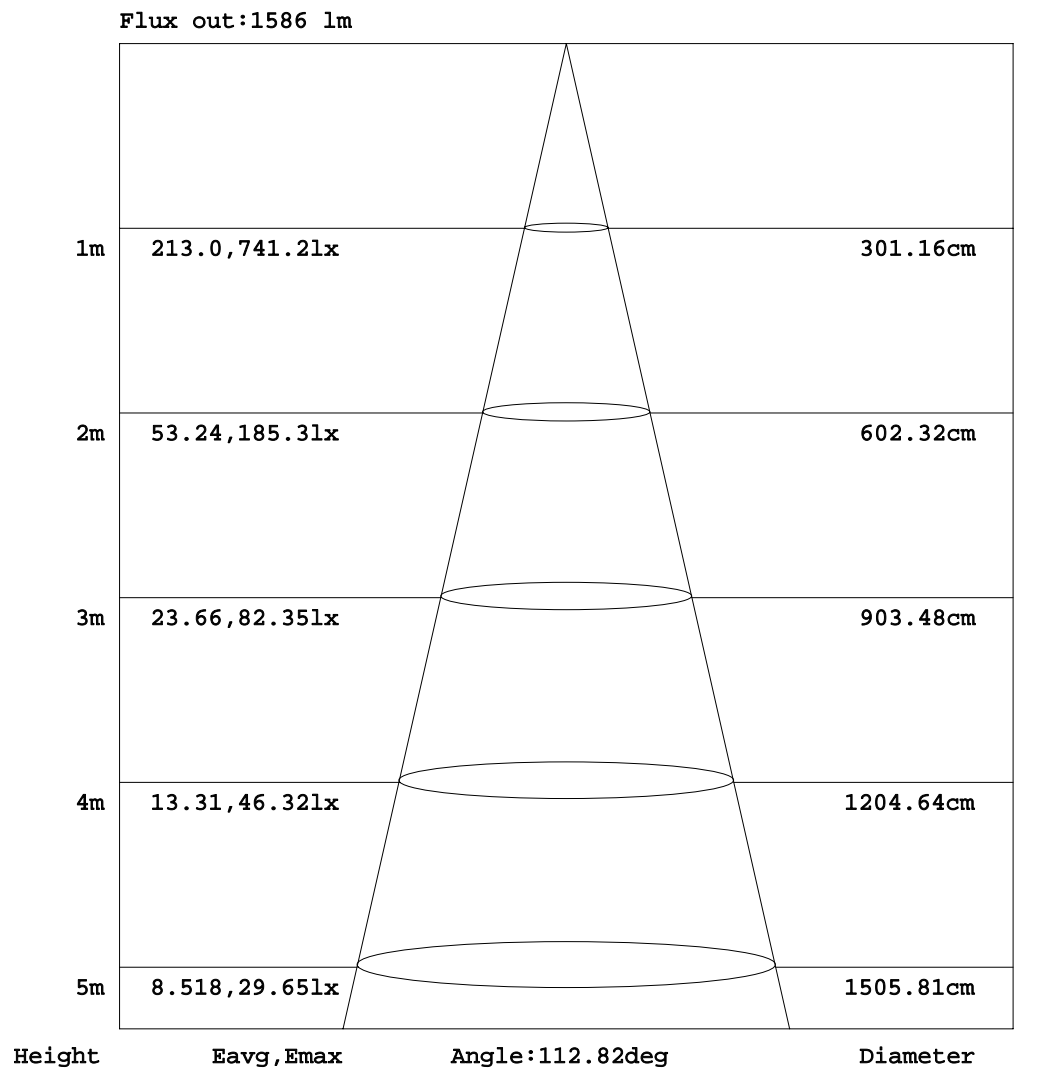


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 8.200m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:



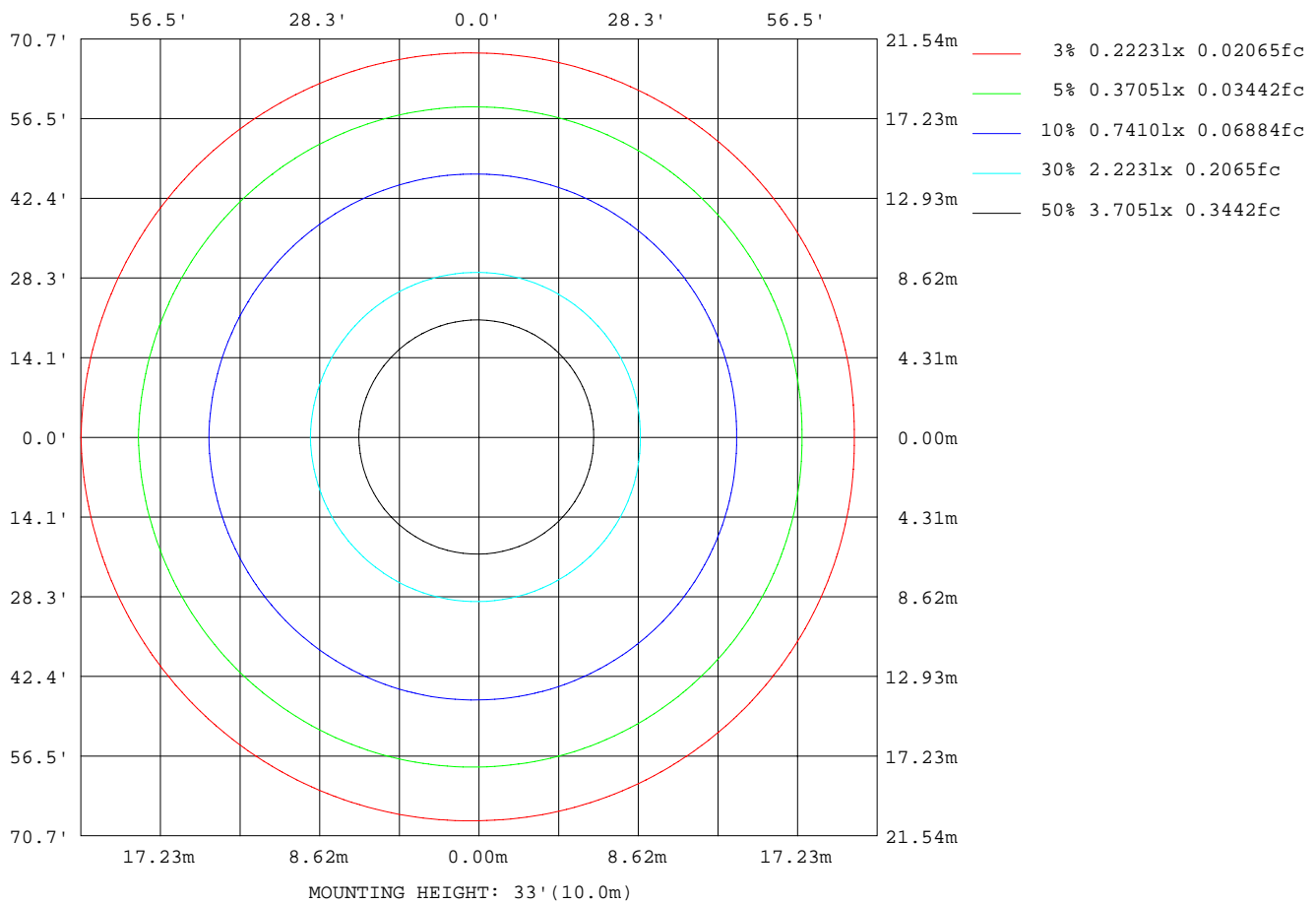
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 8.200m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

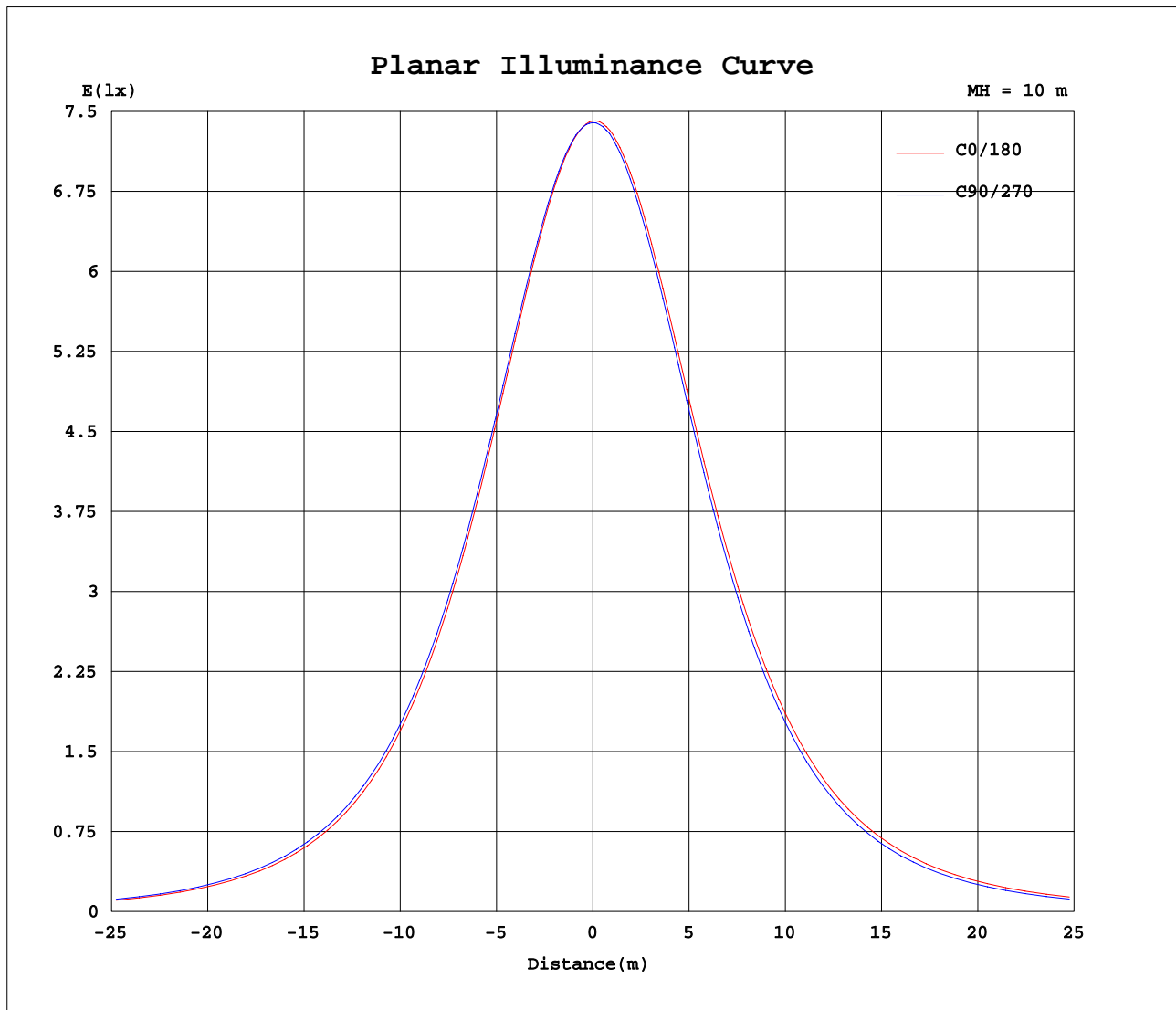
AvgL	cd/m2
L_0~180(65)av	6398
L_0~180(75)av	5699
L_0~180(85)av	4572
L_90~270(65)av	6207
L_90~270(75)av	5273
L_90~270(85)av	3500
L_45(65)av	6320
L_45(75)av	5498
L_45(85)av	4058

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 8.200m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.3V I:0.2250A P:24.50W PF:0.9030 Lamp Flux:2147x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	90	180	270														
0	741	739	741	739														
5	735	736	741	738														
10	723	727	734	729														
15	706	711	722	714														
20	683	690	704	693														
25	653	662	680	666														
30	618	629	650	633														
35	577	590	614	595														
40	530	546	572	551														
45	479	497	526	502														
50	424	444	474	447														
55	365	386	418	389														
60	305	325	359	328														
65	242	261	298	264														
70	180	197	236	199														
75	121	135	174	138														
80	66.0	78.4	116	80.5														
85	18.1	29.4	61.6	31.6														
90	0.21	0.36	14.9	0.32														
95	0.27	0.30	0.31	0.29														
100	0.40	0.41	0.44	0.44														
105	0.53	0.57	0.60	0.61														
110	0.68	0.75	0.77	0.82														
115	0.84	0.94	0.95	1.12														
120	1.01	1.11	1.13	1.27														
125	1.17	1.22	1.32	1.38														
130	1.32	1.36	1.49	1.53														
135	1.46	1.49	1.63	1.66														
140	1.62	1.62	1.79	1.79														
145	1.74	1.75	1.92	1.93														
150	1.90	1.90	2.06	2.04														
155	2.05	2.04	2.18	2.16														
160	2.21	2.18	2.28	2.25														
165	2.37	2.32	2.38	2.33														
170	2.47	2.40	2.48	2.40														
175	2.52	2.44	2.52	2.44														
180	2.54	2.47	2.54	2.47														

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.200m [K=1.0000]
 Remarks: