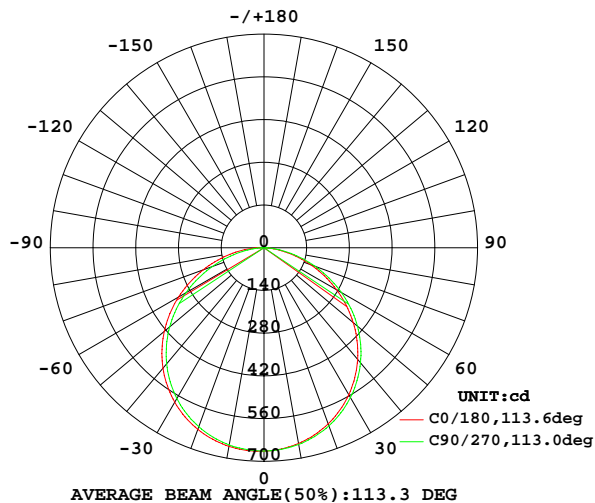


LUMINAIRE PHOTOMETRIC TEST REPORT

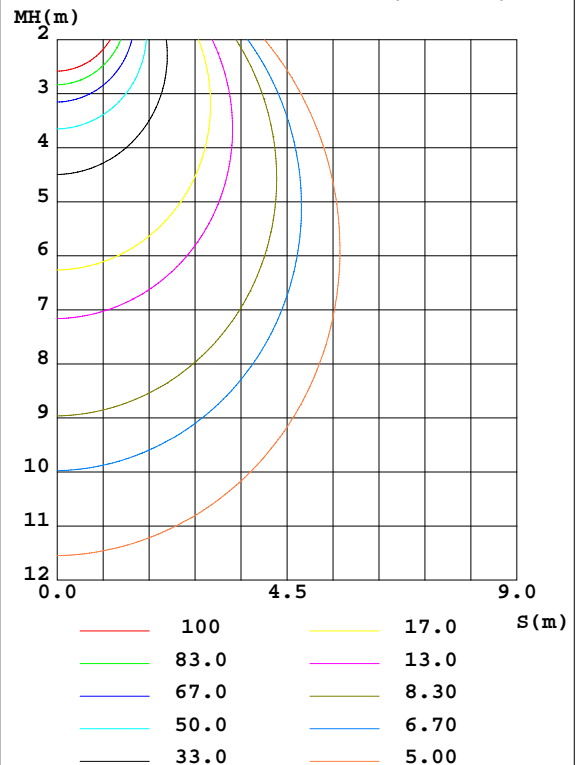
Test:U:120.3V I:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 82.28 lm/W			
MODEL HM04-PR11-24W120-3CCT		I _{max} (cd)	667.0	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)	1933.5	η UP,DN(C0-180)	0.2,48.1
NOMINAL FLUX(lm)	1933.53	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.2,51.5
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	$\%lum, lamp$
10	651.3	654.4	660.8	656.4					0- 10	63.10	63.10	3.26,3.26
20	614.5	621.2	633.7	624.3					10- 20	181.3	244.4	12.6,12.6
30	556.1	566.7	584.8	570.8					20- 30	276.1	520.6	26.9,26.9
40	477.5	492.2	515.1	496.2					30- 40	334.5	855.1	44.2,44.2
50	381.9	399.9	426.5	403.4					40- 50	347.8	1203	62.2,62.2
60	274.3	292.5	323.4	295.2					50- 60	313.6	1516	78.4,78.4
70	162.6	177.8	212.1	179.8					60- 70	237.3	1754	90.7,90.7
80	59.50	70.60	103.8	72.50					70- 80	135.6	1889	97.7,97.7
90	0.1781	0.3149	13.35	0.3141					80- 90	37.34	1927	99.6,99.6
100	0.3608	0.3655	0.4022	0.3831					90-100	0.6581	1927	99.7,99.7
110	0.6073	0.6715	0.6898	0.7302					100-110	0.5480	1928	99.7,99.7
120	0.8949	0.9957	1.019	1.124					110-120	0.8452	1929	99.8,99.8
130	1.187	1.211	1.338	1.402					120-130	1.026	1930	99.8,99.8
140	1.439	1.471	1.608	1.599					130-140	1.086	1931	99.9,99.9
150	1.694	1.709	1.845	1.836					140-150	1.033	1932	99.9,99.9
160	1.982	1.964	2.055	2.009					150-160	0.8706	1933	100,100
170	2.206	2.165	2.220	2.151					160-170	0.5937	1933	100,100
180	2.279	2.215	2.275	2.211					170-180	0.2114	1934	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

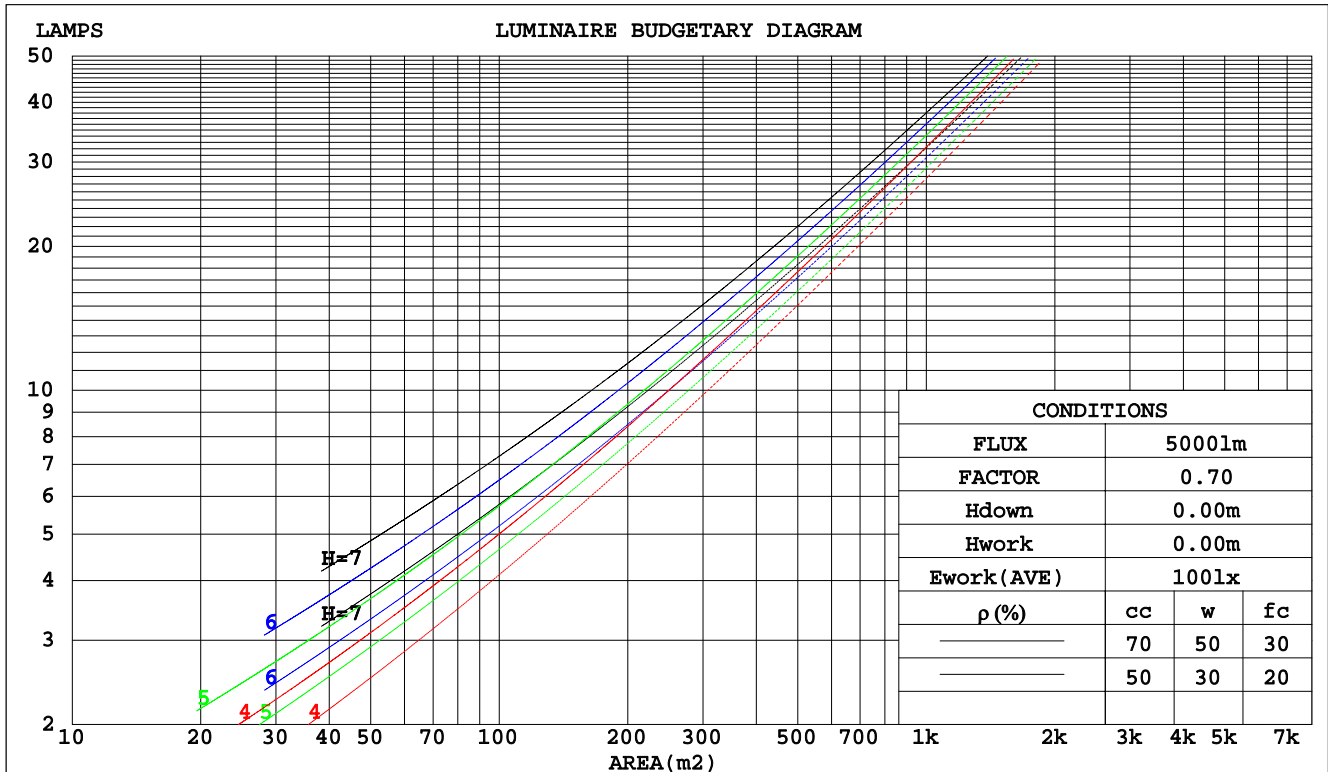
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2020-05-20

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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 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	.058	.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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 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	18.8	20.3	19.1	20.5	20.7	19.0	20.5	19.3	20.7	20.9	
	3H	20.2	21.6	20.5	21.8	22.0	20.5	21.9	20.8	22.1	22.4
	4H	20.7	22.0	21.0	22.3	22.5	21.0	22.4	21.3	22.6	22.9
	6H	21.0	22.2	21.3	22.5	22.8	21.4	22.7	21.7	22.9	23.2
	8H	21.0	22.3	21.4	22.5	22.8	21.5	22.7	21.8	23.0	23.3
	12H	21.0	22.2	21.4	22.5	22.8	21.5	22.7	21.9	23.0	23.3
4H	2H	19.4	20.7	19.7	21.0	21.2	19.6	20.9	19.9	21.2	21.4
	3H	20.9	22.1	21.3	22.4	22.7	21.2	22.4	21.5	22.7	23.0
	4H	21.6	22.6	21.9	23.0	23.3	21.9	22.9	22.2	23.3	23.6
	6H	22.0	22.9	22.4	23.3	23.7	22.4	23.3	22.8	23.7	24.0
	8H	22.1	23.0	22.5	23.3	23.7	22.5	23.4	22.9	23.8	24.2
	12H	22.1	22.9	22.6	23.3	23.7	22.6	23.4	23.0	23.8	24.2
8H	4H	21.8	22.7	22.2	23.1	23.5	22.1	23.0	22.5	23.3	23.7
	6H	22.4	23.1	22.8	23.5	23.9	22.7	23.4	23.1	23.8	24.3
	8H	22.5	23.2	23.0	23.6	24.1	22.9	23.6	23.4	24.0	24.5
	12H	22.6	23.2	23.1	23.6	24.1	23.1	23.6	23.5	24.1	24.6
12H	4H	21.8	22.6	22.2	23.0	23.4	22.1	22.9	22.5	23.3	23.7
	6H	22.4	23.0	22.9	23.5	23.9	22.7	23.4	23.2	23.8	24.3
	8H	22.6	23.2	23.1	23.6	24.1	23.0	23.5	23.5	24.0	24.5
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 1934 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.3)

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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

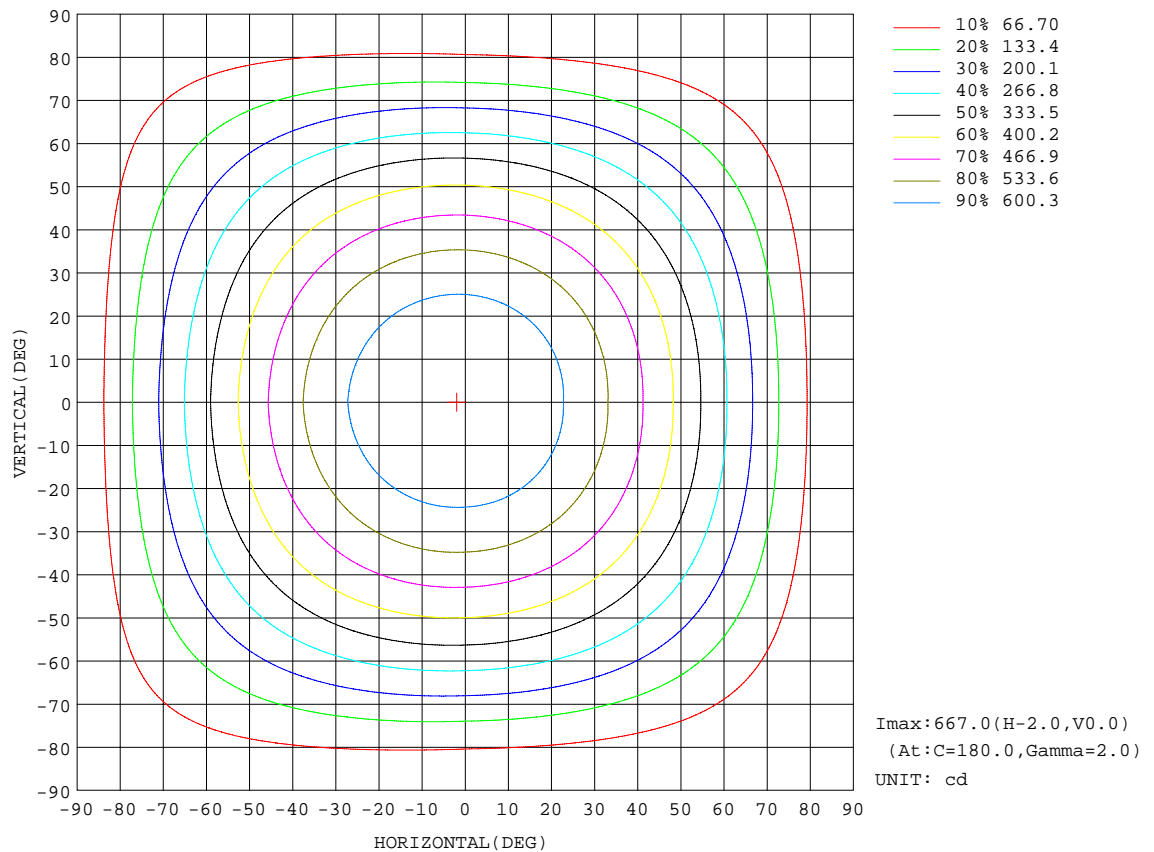
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

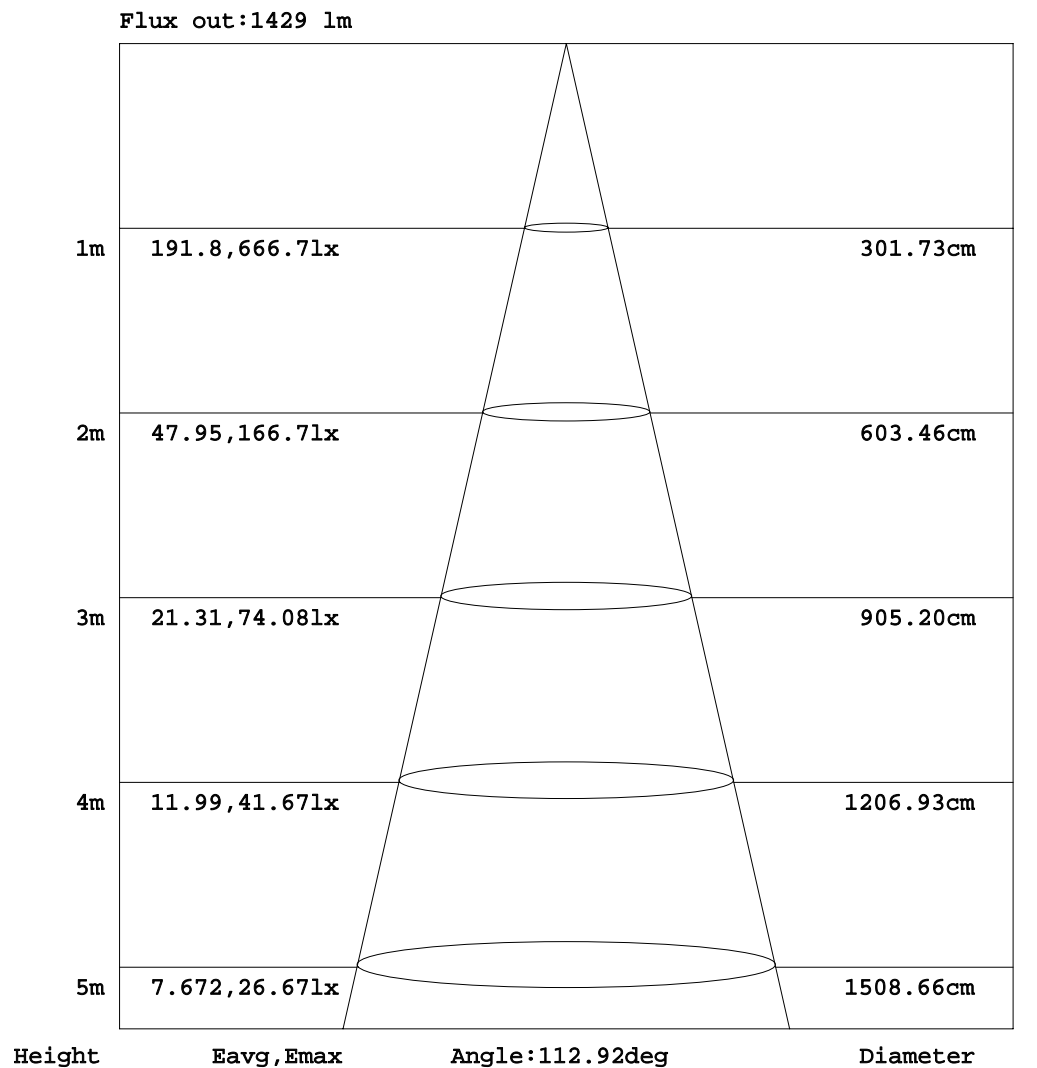


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2020-05-20

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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:



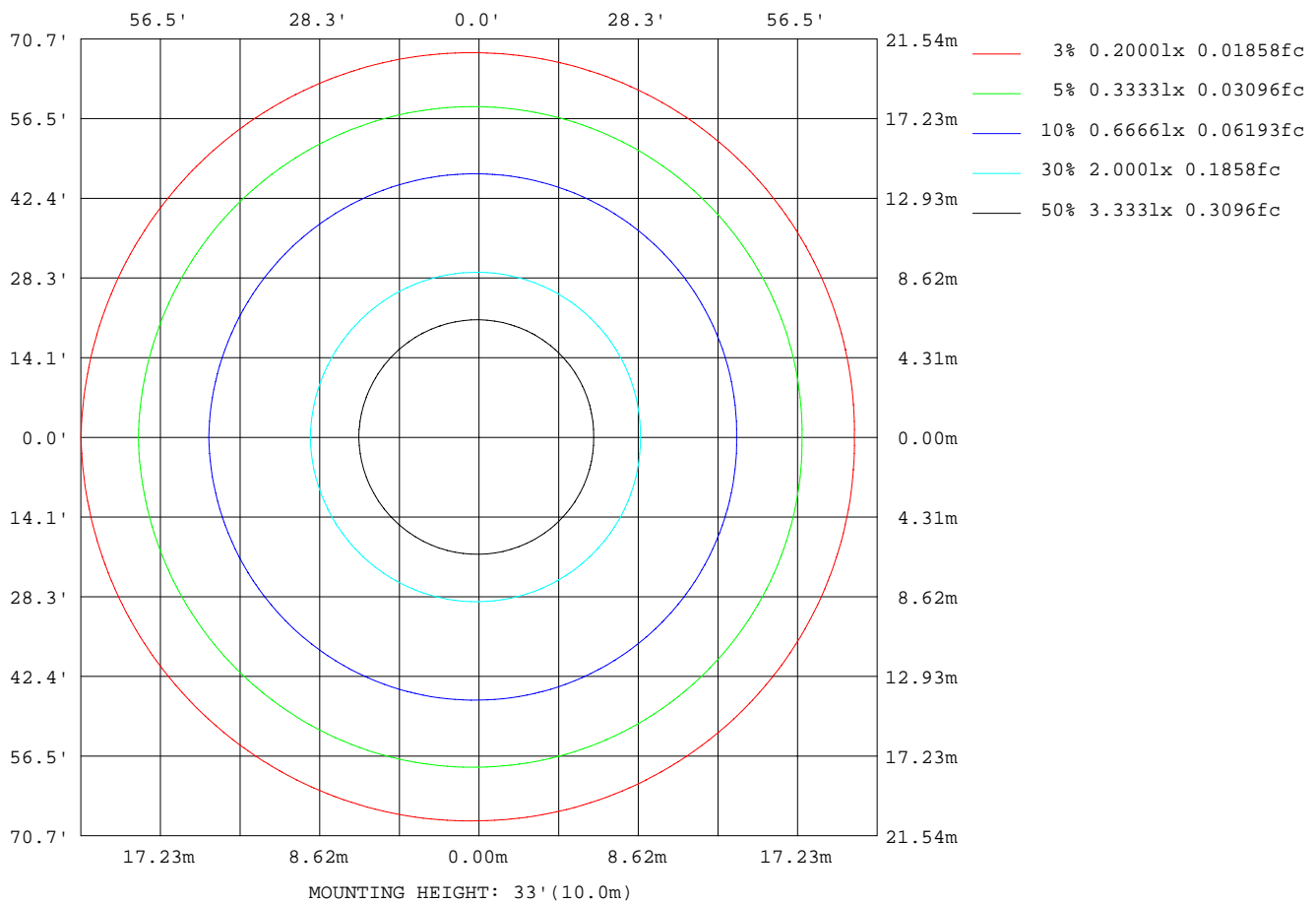
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 lm		
NAME: panel light	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:15W 1#3000K
MFR.: Homi	SUR.:	Shielding Angle:

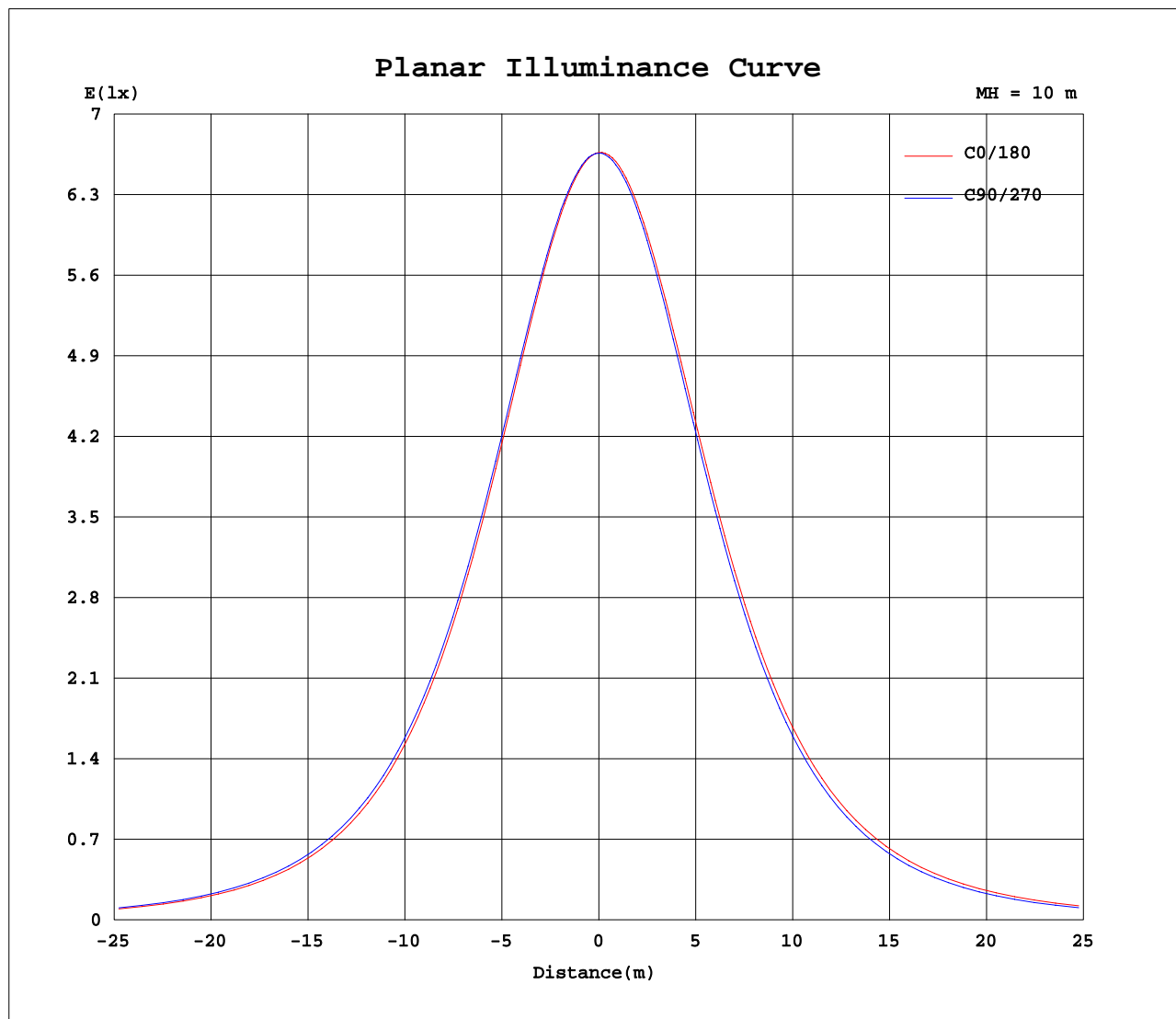
AvgL	cd/m2
L_0~180(65)av	5757
L_0~180(75)av	5130
L_0~180(85)av	4112
L_90~270(65)av	5594
L_90~270(75)av	4748
L_90~270(85)av	3154
L_45(65)av	5692
L_45(75)av	4949
L_45(85)av	3653

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:0.2190A P:23.50W PF:0.8910 Lamp Flux:1933.53x1 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	667	666	667	666														
5	662	663	666	664														
10	651	654	661	656														
15	636	641	650	643														
20	614	621	634	624														
25	588	597	612	600														
30	556	567	585	571														
35	519	532	552	536														
40	478	492	515	496														
45	432	448	473	452														
50	382	400	426	403														
55	329	348	377	351														
60	274	293	323	295														
65	218	235	268	238														
70	163	178	212	180														
75	109	122	157	124														
80	59.5	70.6	104	72.5														
85	16.4	26.5	55.3	28.5														
90	0.18	0.31	13.3	0.31														
95	0.24	0.26	0.27	0.26														
100	0.36	0.37	0.40	0.38														
105	0.48	0.51	0.54	0.54														
110	0.61	0.67	0.69	0.73														
115	0.74	0.84	0.86	1.00														
120	0.89	1.00	1.02	1.12														
125	1.04	1.10	1.18	1.25														
130	1.19	1.21	1.34	1.40														
135	1.32	1.34	1.48	1.48														
140	1.44	1.47	1.61	1.60														
145	1.57	1.58	1.73	1.72														
150	1.69	1.71	1.85	1.84														
155	1.83	1.83	1.96	1.93														
160	1.98	1.96	2.06	2.01														
165	2.11	2.09	2.15	2.08														
170	2.21	2.17	2.22	2.15														
175	2.26	2.20	2.26	2.19														
180	2.28	2.22	2.27	2.21														

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: