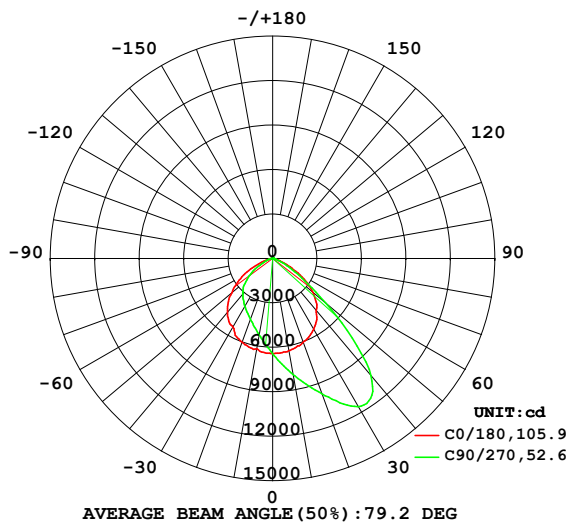


## LUMINAIRE PHOTOMETRIC TEST REPORT

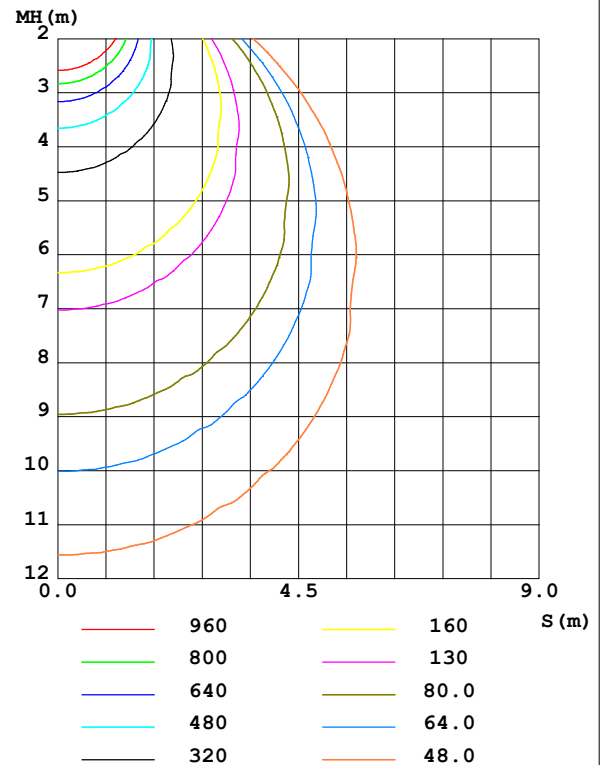
Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 149.02 lm/W
MODEL	SMD3030	Imax (cd)	11667	S/MH (C0/180)	1.26	
NOMINAL POWER(W)	120	LOR (%)	100.0	S/MH (C90/270)	0.87	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	16957	$\eta$ UP,DN (C0-180)	0.4,59.4	
NOMINAL FLUX(lm)	16956.7	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.4,39.8	
LAMPS INSIDE	1	$\eta$ up (%)	0.8	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	230	$\eta$ down (%)	99.2	CIBSE SHR MAX	1.25	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C90	C180	C270					$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	633.2	794.7	618.7	525.2					0- 10	614.2	614.2	3.62, 3.62
20	603.0	971.3	603.0	438.9					10- 20	1842	2456	14.5, 14.5
30	553.6	1154	537.1	374.6					20- 30	3047	5503	32.5, 32.5
40	459.5	1032	475.9	315.4					30- 40	3919	9422	55.6, 55.6
50	354.6	465.0	359.9	229.3					40- 50	3605	13027	76.8, 76.8
60	198.4	154.2	227.6	122.8					50- 60	2315	15342	90.5, 90.5
70	63.50	45.54	86.74	46.13					60- 70	1092	16433	96.9, 96.9
80	9.985	10.39	16.65	13.31					70- 80	346.1	16779	99, 99
90	0.3055	0.2051	0.2337	0.2424					80- 90	42.69	16822	99.2, 99.2
100	0.7536	0.4640	0.5583	0.5463					90-100	4.170	16826	99.2, 99.2
110	1.470	0.9001	1.099	1.448					100-110	9.304	16836	99.3, 99.3
120	2.244	1.411	1.737	2.750					110-120	16.11	16852	99.4, 99.4
130	2.864	1.876	2.383	3.799					120-130	21.50	16873	99.5, 99.5
140	3.457	2.347	3.068	4.298					130-140	23.36	16897	99.6, 99.6
150	4.078	2.952	3.839	4.750					140-150	22.51	16919	99.8, 99.8
160	4.522	3.685	4.408	5.402					150-160	19.41	16938	99.9, 99.9
170	4.776	4.487	4.788	5.711					160-170	13.41	16952	100, 100
180	4.854	5.332	4.915	5.348					170-180	4.802	16957	100, 100
DEG	LUMINOUS INTENSITY:X10cd									UNIT: lm		

Conical surface Flux(90deg): 11363 lm

%lum = 67.0%

%lamp = 67.0%

Conical surface Flux(120deg): 15342 lm

%lum = 90.5%

%lamp = 90.5%

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.1°C  
Operators:  
Test Date: 2024-07-18

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity: 50.0%  
Test Distance: 10.026m [K=1.0000]  
Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz  
Lamp Flux:16956.7x1 lm

NAME: HLK-120W

TYPE: Glass-50\*100D

WEIGHT:

SPEC.: 4000K-RA80

DIM.:

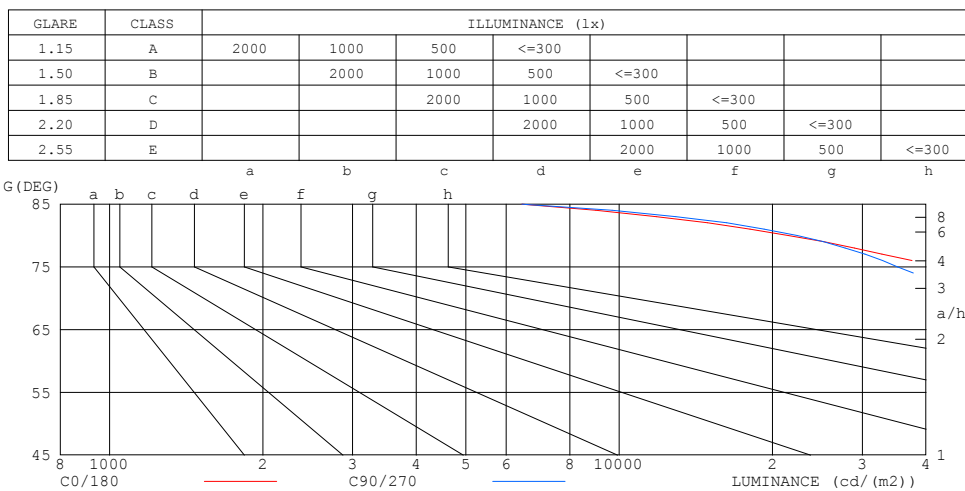
SERIAL No.:

MFR.:

SUR.: 0.221m\*0.121m

Shielding Angle:

LUMINANCE LIMITATION CURVES



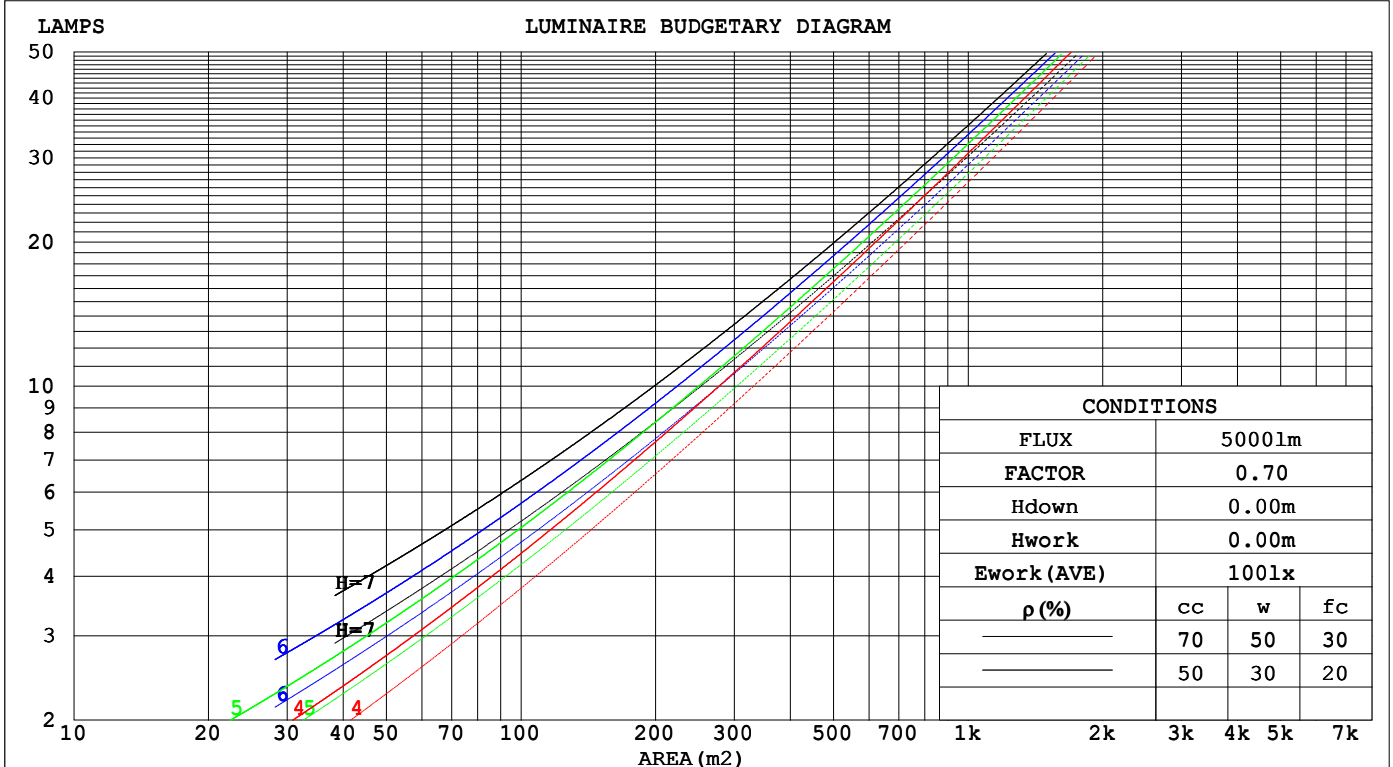
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.1°C  
Operators:  
Test Date: 2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity: 50.0%  
Test Distance: 10.026m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding 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															



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks:

### WEC AND CCEC

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm					
NAME: HLK-120W			TYPE: Glass-50*100D		WEIGHT:
SPEC.: 4000K-RA80			DIM.:		SERIAL No.:
MFR.:			SUR.: 0.221m*0.121m		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	.251	.142	.045	.243	.139	.044	.230	.132	.042	.218	.126	.040	.206	.120	.039		
2.0	.245	.134	.041	.239	.131	.041	.227	.126	.039	.216	.121	.038	.206	.117	.037		
3.0	.233	.124	.037	.228	.122	.037	.218	.118	.036	.208	.114	.035	.199	.110	.034		
4.0	.220	.114	.034	.215	.113	.033	.206	.109	.033	.198	.106	.032	.190	.103	.031		
5.0	.207	.106	.031	.203	.104	.030	.195	.102	.030	.187	.099	.029	.180	.096	.029		
6.0	.195	.098	.028	.191	.097	.028	.184	.094	.027	.177	.092	.027	.171	.090	.027		
7.0	.184	.091	.026	.181	.090	.026	.174	.088	.025	.168	.086	.025	.162	.084	.025		
8.0	.174	.085	.024	.170	.084	.024	.165	.082	.023	.159	.081	.023	.154	.079	.023		
9.0	.164	.079	.022	.161	.079	.022	.156	.077	.022	.151	.076	.022	.146	.074	.021		
10.0	.155	.074	.021	.153	.074	.021	.148	.073	.020	.143	.071	.020	.139	.070	.020		

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	.197	.197	.197	.168	.168	.168	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.182	.163	.145	.156	.140	.125	.107	.096	.086	.061	.056	.050	.020	.018	.016	
2.0	.172	.138	.110	.147	.119	.095	.101	.082	.066	.058	.048	.039	.019	.015	.013	
3.0	.164	.120	.086	.140	.104	.074	.096	.072	.052	.056	.042	.031	.018	.014	.010	
4.0	.156	.107	.069	.134	.092	.060	.092	.064	.042	.053	.038	.025	.017	.012	.008	
5.0	.149	.096	.057	.128	.083	.049	.088	.058	.035	.051	.034	.021	.016	.011	.007	
6.0	.142	.087	.048	.122	.076	.042	.084	.053	.030	.049	.031	.018	.016	.010	.006	
7.0	.136	.080	.041	.117	.070	.036	.081	.049	.026	.047	.029	.015	.015	.009	.005	
8.0	.130	.075	.037	.112	.065	.032	.078	.045	.023	.045	.027	.013	.015	.009	.004	
9.0	.125	.070	.033	.107	.061	.028	.074	.043	.020	.043	.025	.012	.014	.008	.004	
10.0	.120	.066	.030	.103	.057	.026	.071	.040	.018	.042	.024	.011	.014	.008	.004	

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm											
NAME: HLK-120W					TYPE: Glass-50*100D			WEIGHT:			
SPEC.: 4000K-RA80					DIM.:			SERIAL No.:			
MFR.:					SUR.: 0.221m*0.121m			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	29.1	30.6	29.5	30.9	31.2	28.8	30.2	29.1	30.6	30.9	
	3H	29.6	30.9	30.0	31.2	31.6	29.1	30.4	29.5	30.8	31.2
	4H	29.6	30.9	30.1	31.2	31.6	29.2	30.4	29.6	30.8	31.2
	6H	29.6	30.7	30.1	31.1	31.5	29.2	30.3	29.6	30.7	31.1
	8H	29.6	30.7	30.0	31.1	31.5	29.2	30.2	29.6	30.6	31.1
	12H	29.6	30.6	30.0	31.0	31.4	29.1	30.1	29.6	30.5	31.0
4H 2H	29.2	30.4	29.6	30.8	31.2	29.1	30.3	29.5	30.7	31.1	
	3H	29.8	30.7	30.2	31.2	31.6	29.6	30.6	30.0	31.0	31.4
	4H	29.8	30.7	30.3	31.2	31.6	29.7	30.6	30.2	31.0	31.5
	6H	29.9	30.6	30.3	31.1	31.6	29.7	30.5	30.2	30.9	31.4
	8H	29.8	30.5	30.3	31.0	31.5	29.7	30.4	30.2	30.9	31.4
	12H	29.8	30.4	30.3	30.9	31.4	29.7	30.3	30.2	30.8	31.3
8H 4H	29.8	30.5	30.3	31.0	31.5	29.7	30.4	30.2	30.9	31.4	
	6H	29.8	30.4	30.3	30.9	31.4	29.8	30.3	30.3	30.9	31.4
	8H	29.8	30.3	30.3	30.8	31.3	29.7	30.3	30.3	30.8	31.3
	12H	29.7	30.2	30.2	30.7	31.3	29.7	30.2	30.2	30.7	31.3
12H 4H	29.8	30.4	30.3	30.9	31.4	29.7	30.3	30.2	30.8	31.3	
	6H	29.8	30.3	30.3	30.8	31.3	29.7	30.3	30.3	30.7	31.3
	8H	29.7	30.2	30.2	30.7	31.3	29.7	30.2	30.2	30.7	31.3
CIE190: 2010											

CIE190: 2010  
Area: 0.026741 m2

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding Angle:

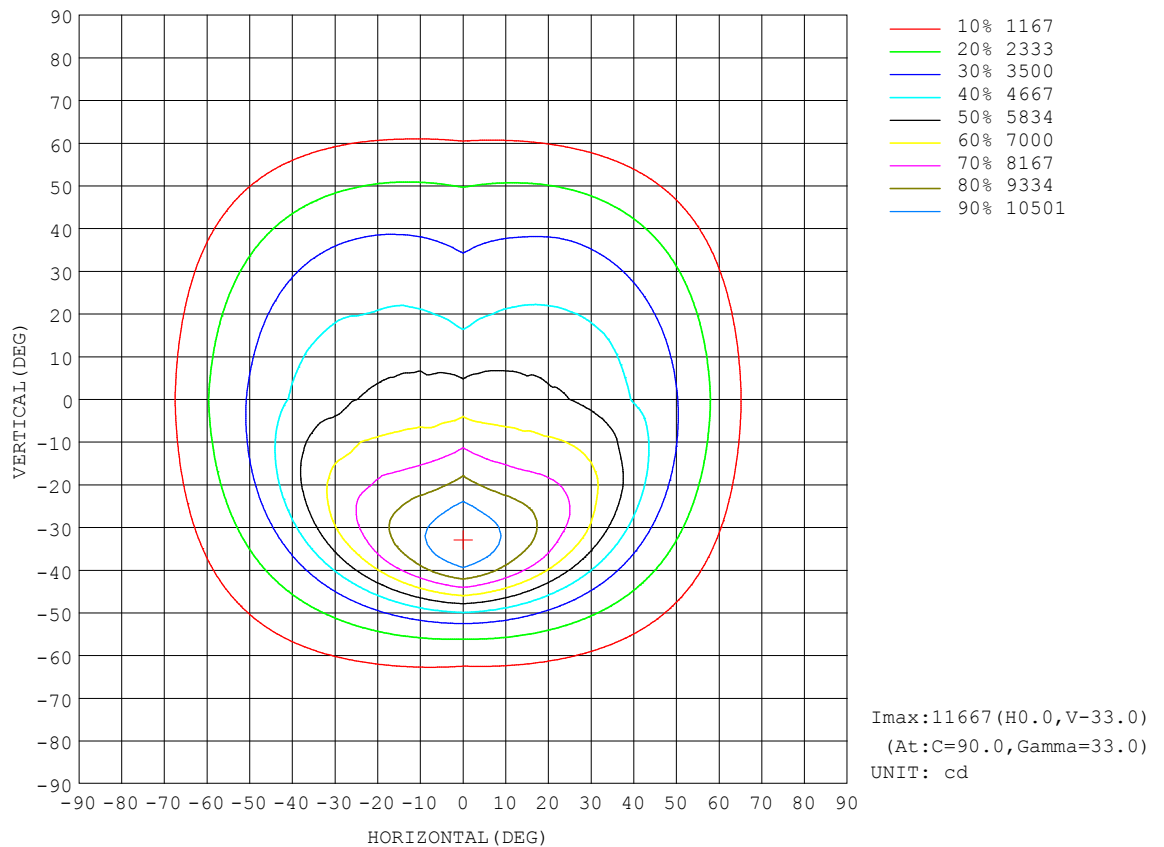
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	63	53	46	63	53	46	61	52	46	40
0.80	74	64	57	73	63	57	71	62	56	50
1.00	82	73	67	81	72	66	79	73	66	59
1.25	89	80	74	88	80	74	85	78	73	67
1.50	94	86	80	92	85	79	89	83	78	72
2.00	100	93	88	98	92	87	95	89	85	78
2.50	103	97	92	101	95	91	97	93	89	81
3.00	106	100	96	104	99	95	100	96	92	84
4.00	109	104	101	107	102	99	102	99	96	88
5.00	111	107	104	108	105	102	104	101	99	90
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: 25.1°C  
Operators:  
Test Date: 2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity: 50.0%  
Test Distance: 10.026m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding Angle:



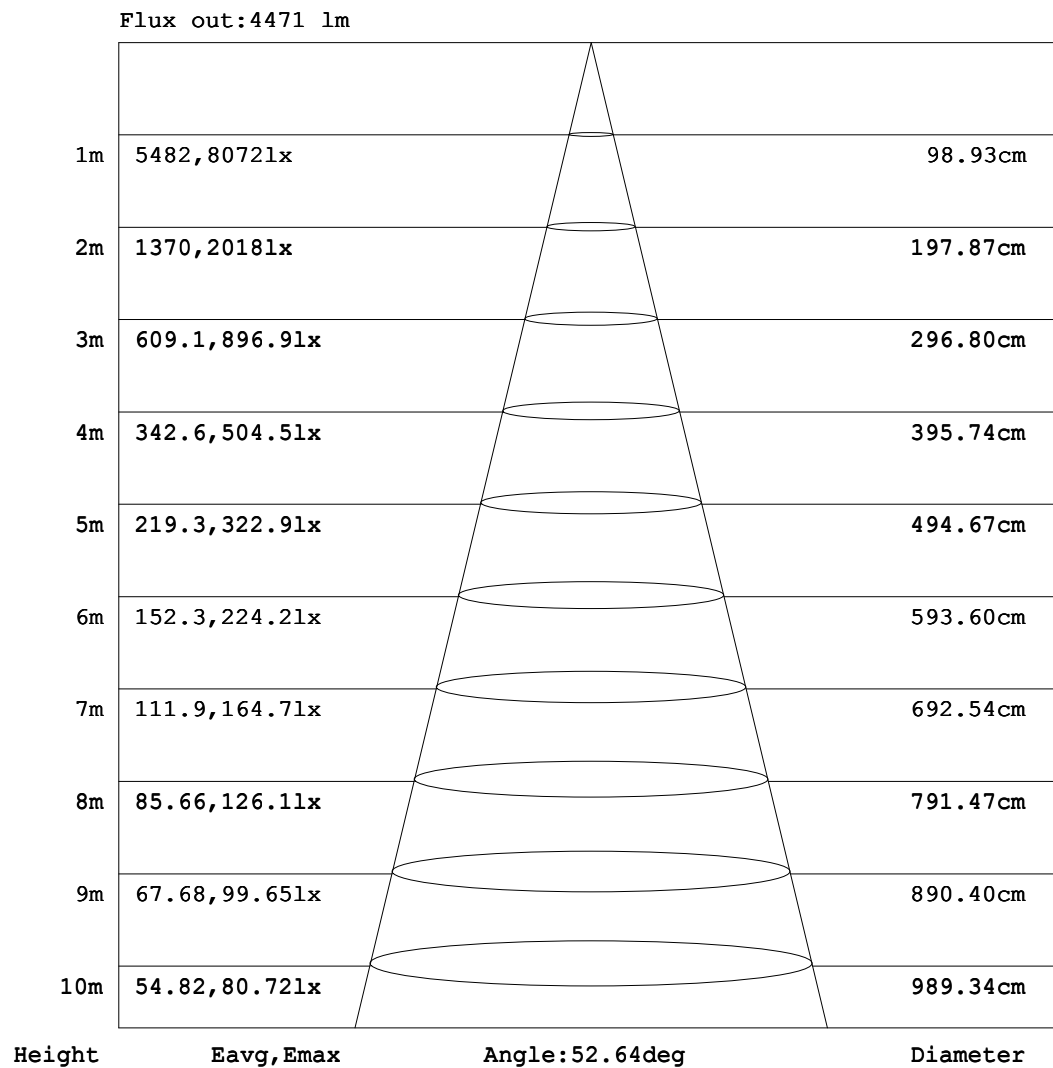
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding Angle:



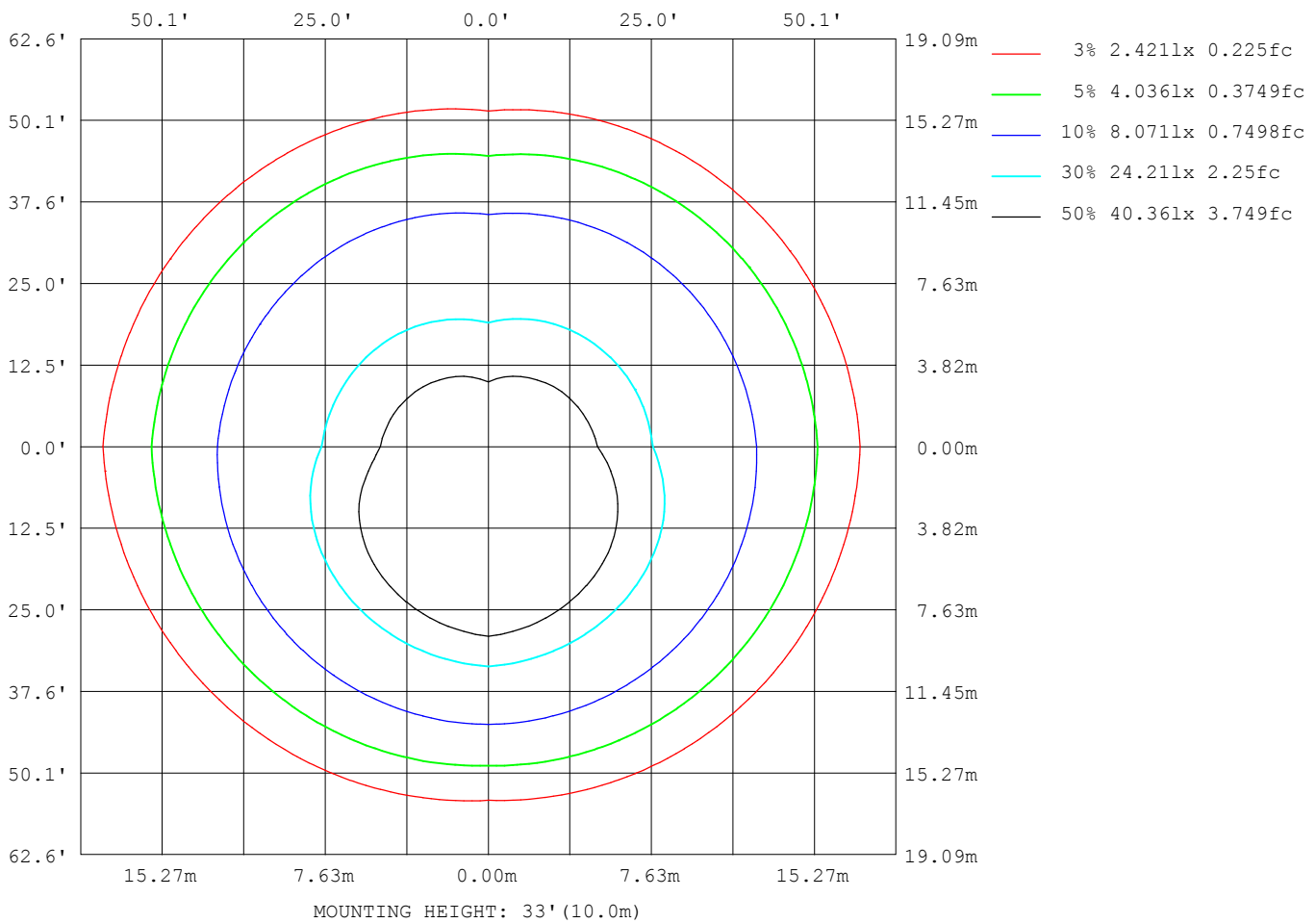
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.1°C  
Operators:  
Test Date: 2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity: 50.0%  
Test Distance: 10.026m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding Angle:

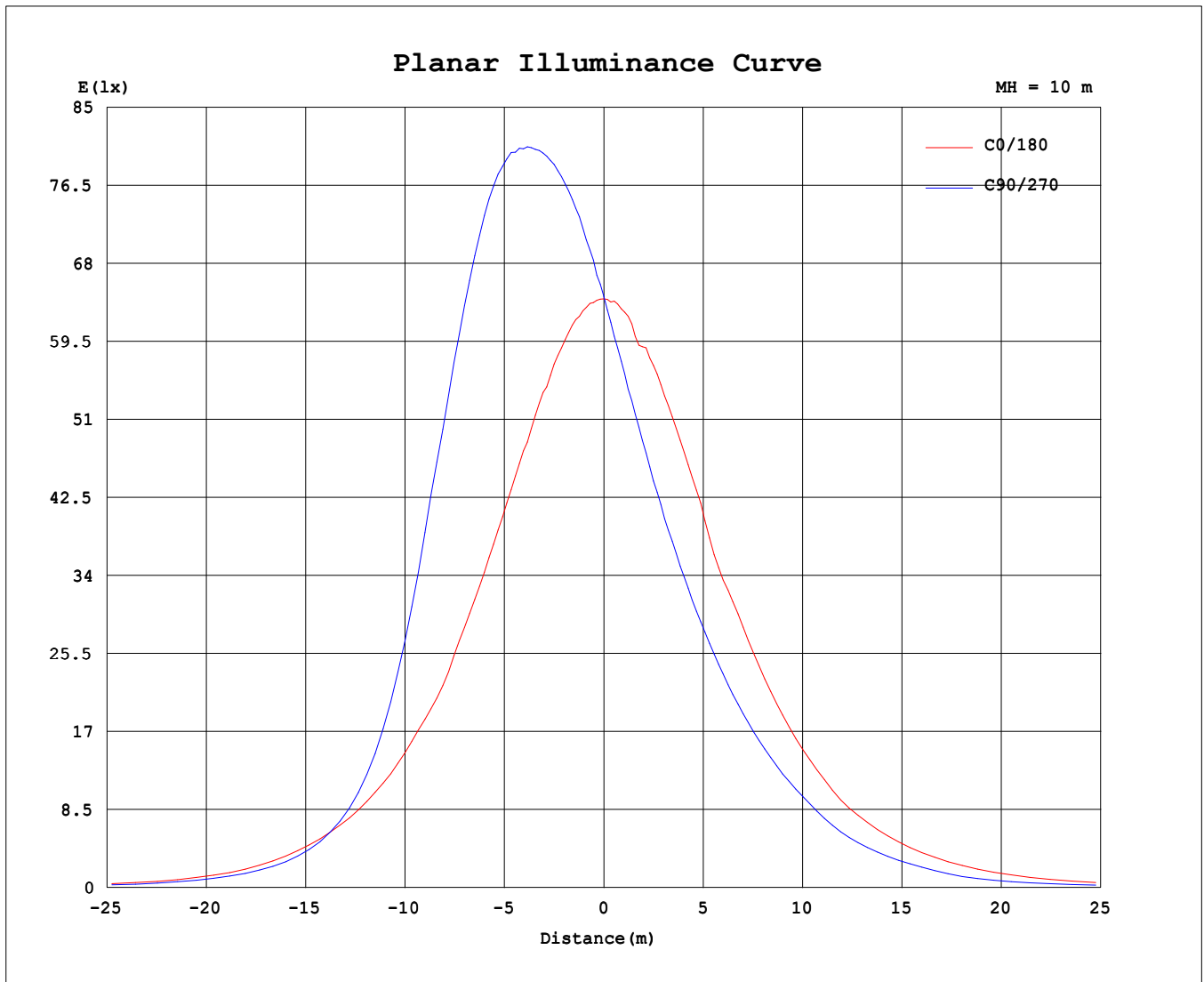
AvgL	cd/m2
L_0~180 (65) av	119774
L_0~180 (75) av	51420
L_0~180 (85) av	10984
L_90~270 (65) av	70124
L_90~270 (75) av	37971
L_90~270 (85) av	11061
L_45 (65) av	89651
L_45 (75) av	43622
L_45 (85) av	11316

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks:

# Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.1℃  
 Operators:  
 Test Date: 2024-07-18

γ Range: 0 - 180DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
 Humidity: 50.0%  
 Test Distance: 10.026m [K=1.0000]  
 Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.58V I:0.5030A P:113.79W PF:0.9810 Freq:50.01Hz Lamp Flux:16956.7x1 lm		
NAME: HLK-120W	TYPE: Glass-50*100D	WEIGHT:
SPEC.: 4000K-RA80	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.221m*0.121m	Shielding Angle:

Table--1

UNIT: X10cd

C (DEG) γ (DEG)	0	90	180	270															
0	641	644	641	644															
5	639	714	638	580															
10	633	795	619	525															
15	619	879	621	478															
20	603	971	603	439															
25	583	1076	582	405															
30	554	1154	537	375															
35	516	1153	516	345															
40	460	1032	476	315															
45	416	761	427	282															
50	355	465	360	229															
55	282	266	299	182															
60	198	154	228	123															
65	119	86.7	152	71.8															
70	63.5	45.5	86.7	46.1															
75	28.9	24.3	42.3	28.2															
80	9.98	10.4	16.6	13.3															
85	1.50	1.50	3.62	3.65															
90	0.31	0.21	0.23	0.24															
95	0.49	0.31	0.36	0.31															
100	0.75	0.46	0.56	0.55															
105	1.09	0.66	0.81	0.92															
110	1.47	0.90	1.10	1.45															
115	1.86	1.15	1.41	2.08															
120	2.24	1.41	1.74	2.75															
125	2.58	1.65	2.07	3.35															
130	2.86	1.88	2.38	3.80															
135	3.17	2.11	2.76	4.11															
140	3.46	2.35	3.07	4.30															
145	3.78	2.62	3.51	4.49															
150	4.08	2.95	3.84	4.75															
155	4.33	3.32	4.15	5.07															
160	4.52	3.69	4.41	5.40															
165	4.66	4.07	4.62	5.74															
170	4.78	4.49	4.79	5.71															
175	4.84	4.93	4.90	5.65															
180	4.85	5.33	4.91	5.35															

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.1℃  
Operators:  
Test Date:2024-07-18

γ Range: 0 - 180DEG  
γ Interval: 1.0DEG  
γ Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.462  
Humidity:50.0%  
Test Distance:10.026m [K=1.0000]  
Remarks: