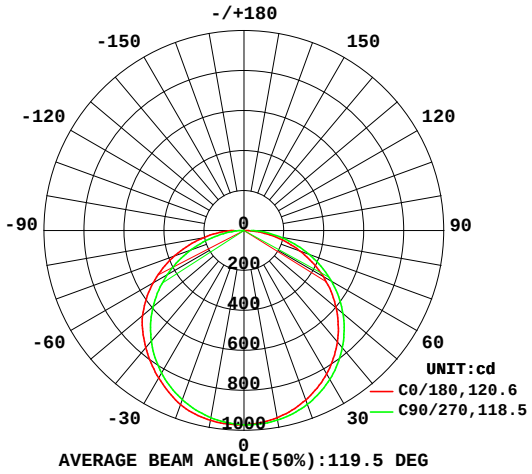
LUMINAIRE PHOTOMETRIC TEST REPORT

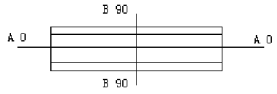
Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 150.71 lm/W			
MODEL		Imax(cd)	972.3	S/MH(C0/180)	1.31
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	120-277	TOTAL FLUX(lm)	3037.8	h UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	3037.76	CIE CLASS	DIRECT	h UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	h up(%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	120	h down(%)	100.0	CIBSE SHR MAX	1.50

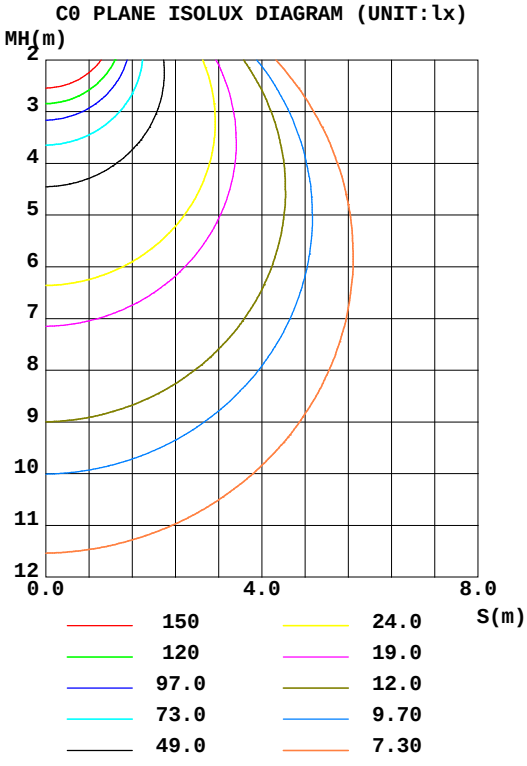
LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):119.5 DEG



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

α Range: 0 - 90DEG
α Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	950.9	963.2	964.3	950.5					0- 10	92.06	92.06	3.03,3.03
20	903.0	926.1	927.7	901.2					10- 20	265.3	357.4	11.8,11.8
30	828.2	859.4	853.3	824.1					20- 30	406.2	763.6	25.1,25.1
40	727.4	765.5	764.8	721.2					30- 40	498.1	1262	41.5,41.5
50	601.8	646.7	663.0	594.0					40- 50	531.2	1793	59,59
60	456.5	504.9	525.2	443.7					50- 60	497.6	2290	75.4,75.4
70	296.1	344.3	368.2	279.8					60- 70	399.2	2690	88.5,88.5
80	134.8	181.1	203.4	119.4					70- 80	253.5	2943	96.9,96.9
90	0.4216	36.51	50.52	0.8620					80- 90	94.67	3038	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

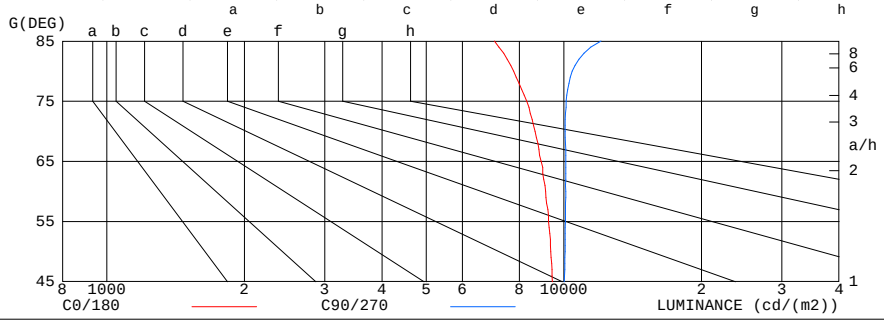
g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	**TYPE:**	**WEIGHT:**
SPEC.:20w5700k	**DIM.:**	**SERIAL No.:**
MFR.:	**SUR.:**	**Shielding Angle:**

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	7044	12061
80	7762	10428
75	8292	10121
70	8656	10067
65	8924	10098
60	9129	10097
55	9264	10085
50	9363	10060
45	9435	10027

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

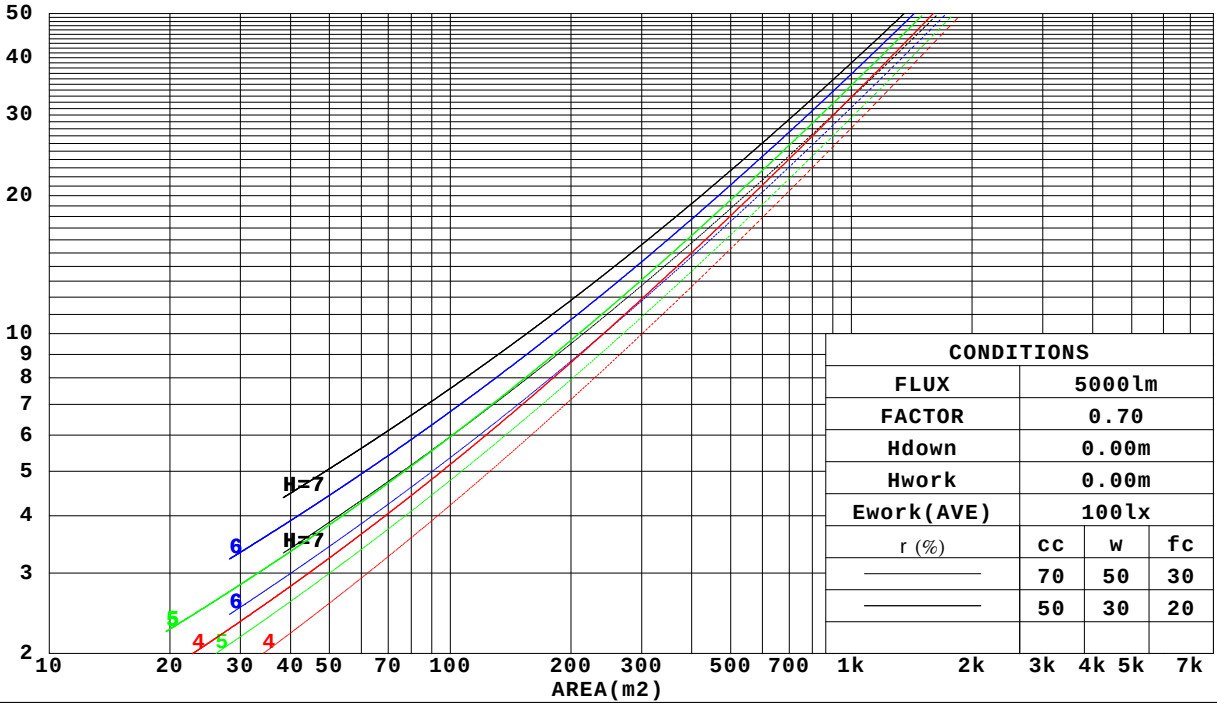
CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	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			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	1.00
1.0	1.03	.98	.94	1.00	.96	.92	.96	.93	.89	.92	.89	.87	.89	.86	.84	.82
2.0	.89	.82	.76	.87	.80	.75	.83	.78	.73	.80	.75	.71	.77	.73	.70	.67
3.0	.78	.69	.62	.76	.68	.62	.73	.66	.60	.70	.64	.59	.68	.63	.58	.56
4.0	.68	.59	.52	.67	.59	.52	.65	.57	.51	.62	.56	.50	.60	.54	.50	.48
5.0	.61	.52	.45	.60	.51	.45	.58	.50	.44	.56	.49	.44	.54	.48	.43	.41
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.38	.50	.43	.38	.49	.42	.38	.36
7.0	.50	.41	.34	.49	.40	.34	.47	.39	.34	.46	.39	.34	.44	.38	.33	.31
8.0	.45	.36	.30	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.34	.30	.28
9.0	.41	.33	.27	.41	.33	.27	.40	.32	.27	.39	.32	.27	.37	.31	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.29	.25	.36	.29	.24	.35	.29	.24	.22

LAMPS

LUMINAIRE BUDGETARY DIAGRAM



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coeffcients(WEC)									
0.0																
1.0	.333	.189	.060	.325	.186	.059	.312	.179	.057	.300	.173	.055	.288	.167	.054	
2.0	.307	.168	.052	.301	.166	.051	.289	.161	.050	.278	.156	.049	.268	.152	.048	
3.0	.281	.150	.045	.276	.148	.044	.265	.144	.044	.256	.140	.043	.247	.137	.042	
4.0	.258	.134	.039	.253	.132	.039	.244	.129	.039	.235	.126	.038	.227	.123	.038	
5.0	.237	.121	.035	.233	.120	.035	.225	.117	.034	.217	.114	.034	.210	.112	.034	
6.0	.219	.110	.031	.215	.109	.031	.208	.107	.031	.201	.104	.031	.195	.102	.030	
7.0	.203	.101	.028	.200	.100	.028	.193	.098	.028	.187	.096	.028	.181	.094	.028	
8.0	.189	.093	.026	.186	.092	.026	.181	.090	.026	.175	.089	.026	.170	.087	.025	
9.0	.177	.086	.024	.174	.085	.024	.169	.084	.024	.164	.082	.024	.160	.081	.023	
10.0	.166	.080	.022	.164	.079	.022	.159	.078	.022	.155	.077	.022	.150	.076	.022	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	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	.182	.156	.133	.156	.134	.114	.106	.092	.079	.061	.053	.046	.020	.017	.015	
2.0	.174	.132	.096	.149	.113	.083	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.167	.114	.073	.143	.099	.063	.098	.069	.044	.057	.040	.026	.018	.013	.009	
4.0	.159	.101	.057	.136	.087	.050	.094	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.046	.130	.079	.040	.090	.055	.028	.052	.032	.017	.017	.011	.006	
6.0	.144	.083	.038	.124	.071	.033	.085	.050	.024	.050	.029	.014	.016	.010	.005	
7.0	.137	.076	.033	.118	.066	.028	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.131	.070	.028	.112	.061	.025	.078	.043	.017	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	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	20.6	22.2	20.9	22.4	22.6	21.0	22.6	21.3	22.8	23.0
	3H	22.3	23.7	22.6	23.9	24.2	22.8	24.2	23.1	24.5	24.7
	4H	22.9	24.3	23.3	24.6	24.8	23.6	25.0	23.9	25.2	25.5
	6H	23.5	24.8	23.8	25.0	25.3	24.3	25.6	24.6	25.9	26.1
	8H	23.6	24.9	24.0	25.2	25.5	24.6	25.8	24.9	26.1	26.4
	12H	23.7	25.0	24.1	25.3	25.6	24.8	26.0	25.2	26.3	26.6
4H	2H	21.3	22.7	21.7	23.0	23.2	21.6	23.0	21.9	23.3	23.5
	3H	23.2	24.4	23.5	24.7	25.0	23.6	24.8	24.0	25.1	25.4
	4H	24.0	25.1	24.4	25.4	25.8	24.5	25.7	24.9	26.0	26.3
	6H	24.6	25.6	25.0	26.0	26.4	25.4	26.4	25.8	26.7	27.1
	8H	24.9	25.8	25.3	26.2	26.6	25.7	26.7	26.2	27.0	27.4
	12H	25.1	25.9	25.5	26.3	26.7	26.1	26.9	26.5	27.3	27.7
8H	4H	24.4	25.3	24.8	25.7	26.0	24.8	25.8	25.3	26.1	26.5
	6H	25.2	26.0	25.7	26.4	26.8	25.9	26.6	26.3	27.1	27.5
	8H	25.6	26.2	26.0	26.7	27.1	26.4	27.0	26.8	27.5	27.9
	12H	25.8	26.4	26.3	26.9	27.4	26.8	27.4	27.3	27.9	28.3
12H	4H	24.4	25.3	24.8	25.7	26.1	24.9	25.7	25.3	26.1	26.5
	6H	25.3	26.0	25.8	26.4	26.9	26.0	26.6	26.4	27.1	27.5
	8H	25.7	26.3	26.2	26.8	27.3	26.5	27.1	27.0	27.5	28.0
Variations with the observer position at spacings:											
S = 1.0H		+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.1 / - 0.4					+ 0.1 / - 0.3				

CIE Pub.117, 3038 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 3.9)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

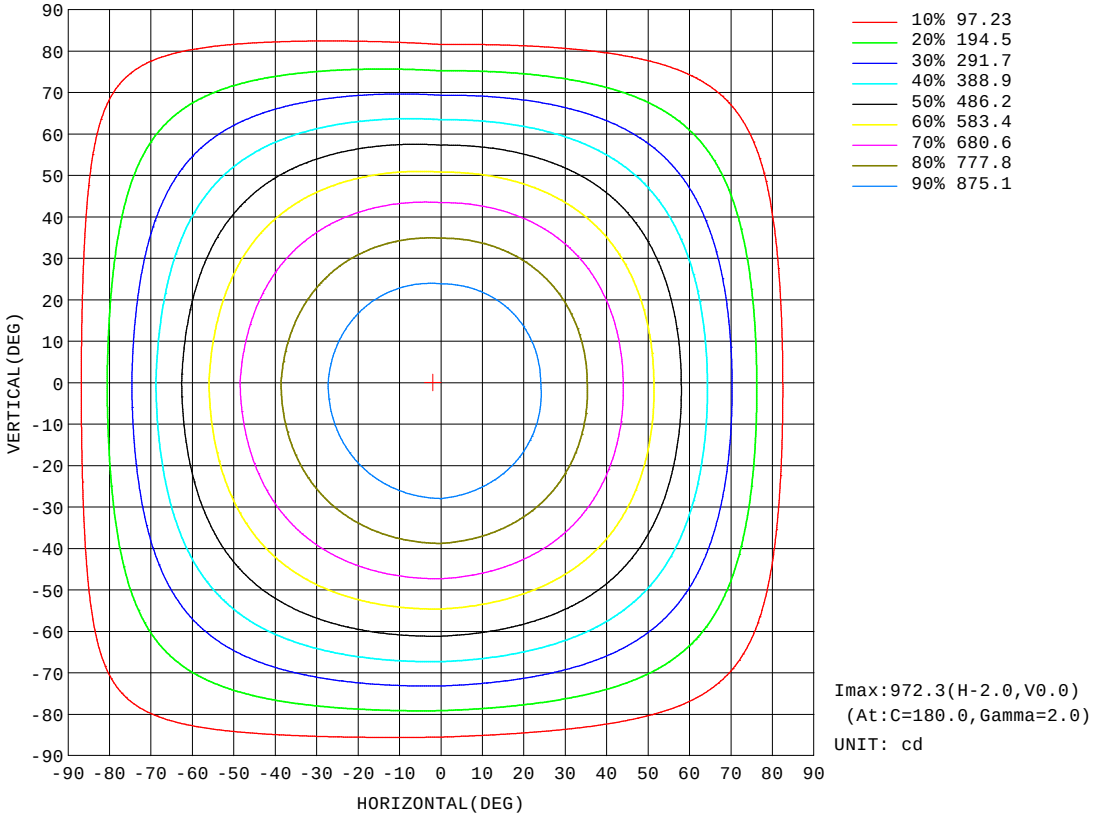
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	56	44	37	55	44	37	54	43	36	30
0.80	66	54	46	65	53	46	63	53	46	38
1.00	74	63	55	73	62	55	71	64	54	47
1.25	81	70	63	80	70	62	77	68	62	54
1.50	86	76	69	85	75	68	82	73	67	59
2.00	93	84	78	92	83	77	88	81	75	67
2.50	97	89	83	95	88	82	91	85	80	71
3.00	101	94	88	99	92	87	95	89	85	76
4.00	105	99	94	103	97	93	98	94	90	81
5.00	108	103	98	105	101	97	101	97	94	84
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:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



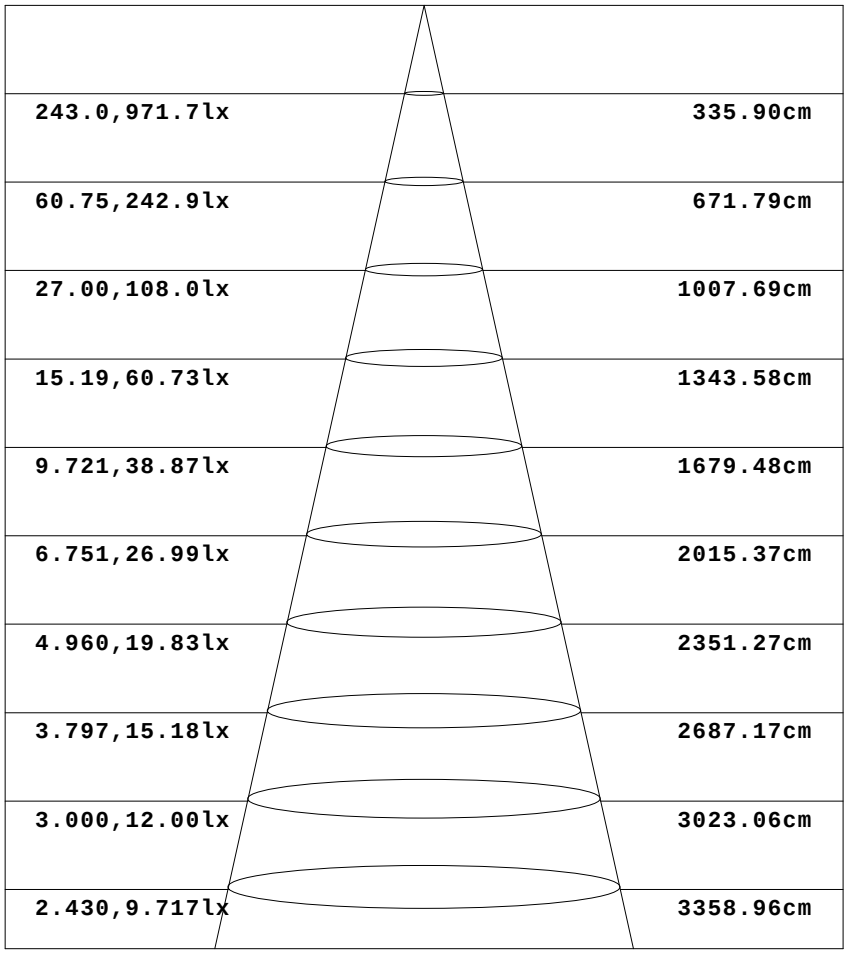
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:2290 lm



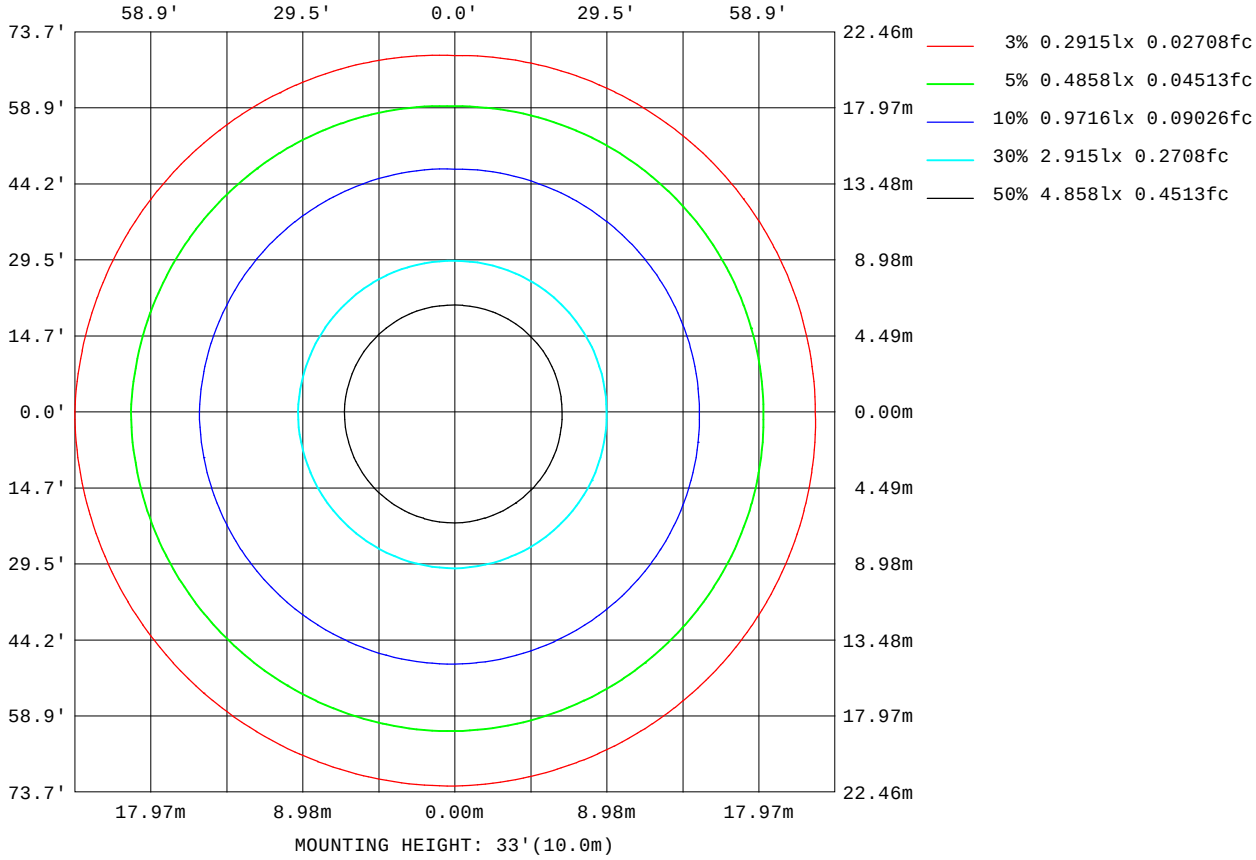
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

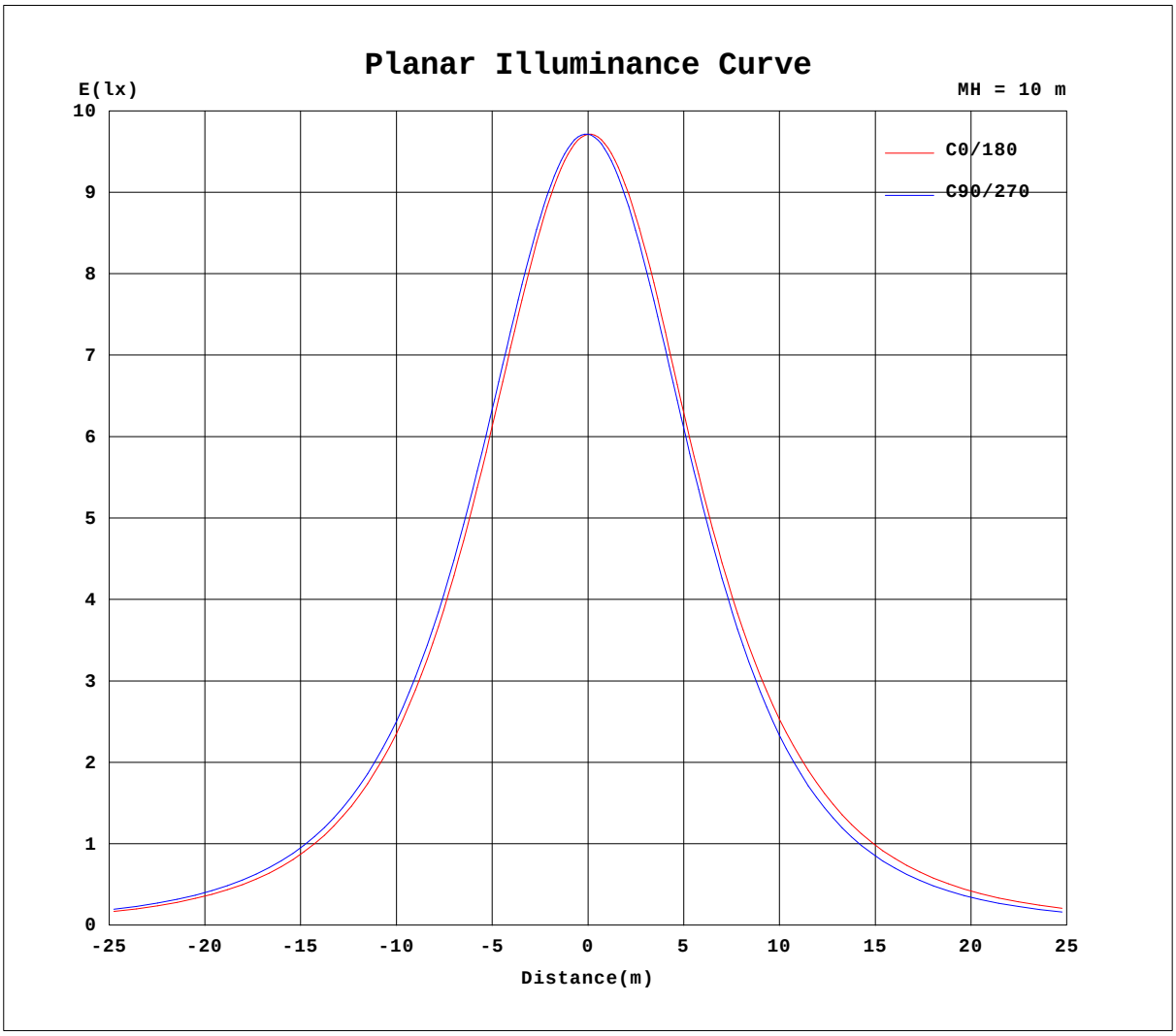
AvgL	cd/m2
L_0~180(65)av	9774
L_0~180(75)av	9654
L_0~180(85)av	10664
L_90~270(65)av	9336
L_90~270(75)av	8878
L_90~270(85)av	8873
L_45(65)av	9554
L_45(75)av	9254
L_45(85)av	9771

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.33V I:0.1701A P:20.157W PF:0.9846 Freq:59.98Hz Lamp Flux:3037.76x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:20w5700k	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Table--1 UNIT: cd

g (DEG) \ C(DEG)	0	90	180	270
0	972	972	972	972
5	965	971	971	965
10	951	963	964	951
15	930	948	950	930
20	903	926	928	901
25	869	897	892	866
30	828	859	853	824
35	781	816	810	776
40	727	766	765	721
45	667	709	717	661
50	602	647	663	594
55	531	578	597	521
60	456	505	525	444
65	377	427	449	362
70	296	344	368	280
75	215	262	285	198
80	135	181	203	119
85	61.4	105	124	49.5
90	0.42	36.5	50.5	0.86

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

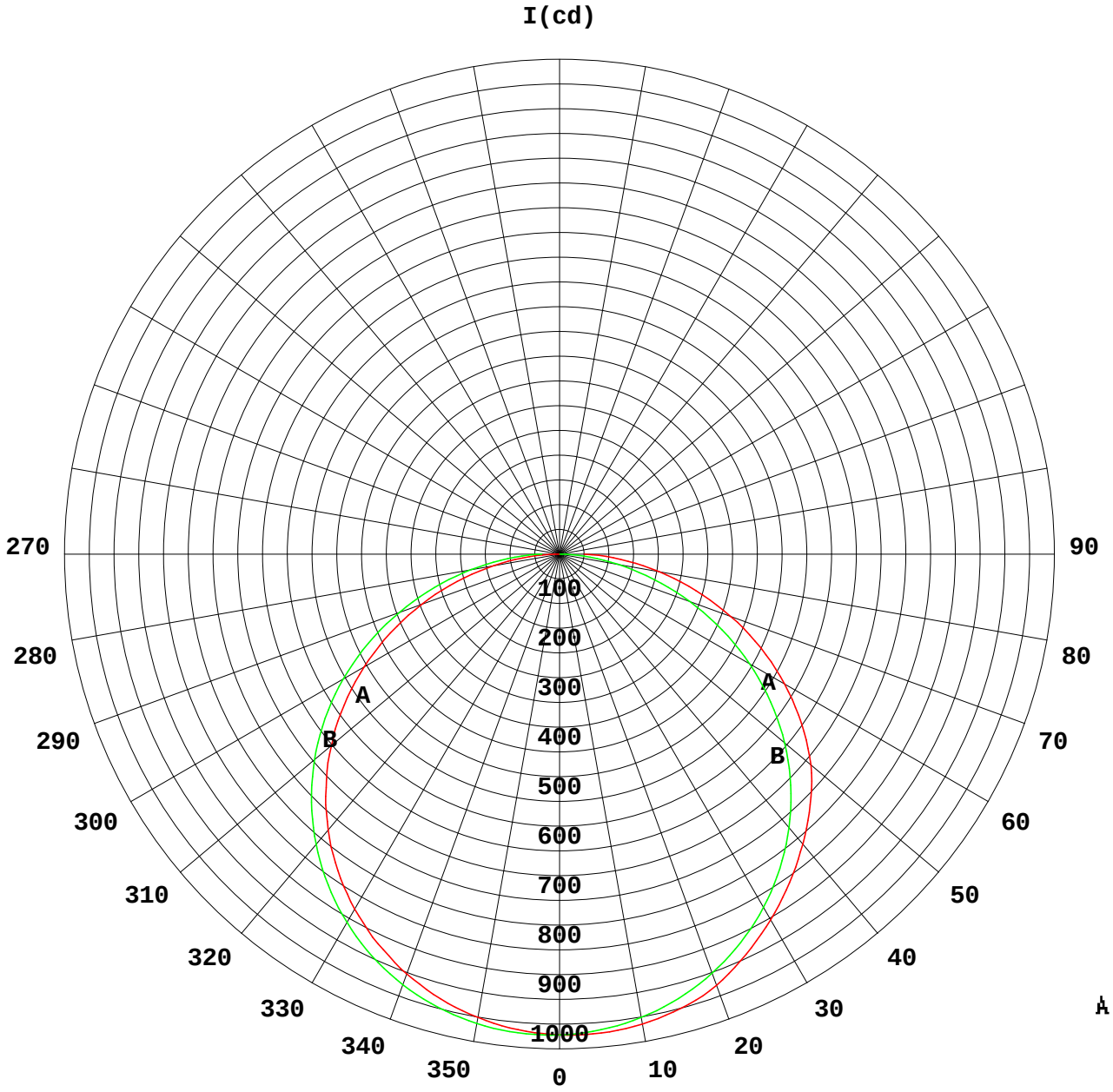
g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

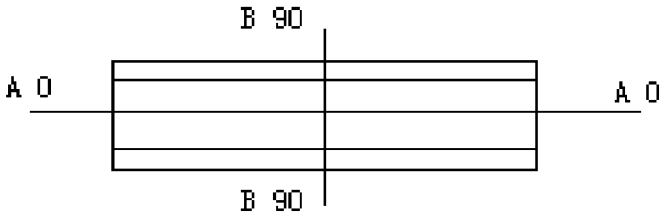
Photometric Data Table [cd]

G/C	0.0	90.0	180.0	270.0
0.0	971.6	971.7	971.6	971.7
3.0	968.2	972.0	972.3	968.3
6.0	962.6	970.1	970.5	962.4
9.0	954.2	965.4	966.3	954.2
12.0	943.4	957.9	959.4	943.1
15.0	930.4	948.1	950.0	929.5
18.0	914.3	935.8	938.4	913.3
21.0	896.7	920.6	921.0	894.6
24.0	875.5	903.1	899.7	873.6
27.0	853.1	882.4	876.7	850.2
30.0	828.2	859.4	853.3	824.1
33.0	800.6	834.4	827.8	795.9
36.0	770.5	806.2	801.8	765.4
39.0	739.0	776.0	774.0	732.7
42.0	704.4	743.8	745.7	697.7
45.0	667.2	709.0	716.5	660.7
48.0	630.0	672.1	685.9	621.3
51.0	588.4	633.4	650.5	579.8
54.0	545.9	592.2	610.8	536.0
57.0	502.4	549.5	568.6	490.1
60.0	456.5	504.9	525.2	443.7
63.0	408.2	458.3	479.9	395.0
66.0	359.9	410.8	432.9	346.0
69.0	312.3	360.9	385.5	296.6
72.0	263.6	311.3	334.8	246.7
75.0	214.6	261.9	285.2	197.6
78.0	165.9	213.5	236.4	150.0
81.0	119.7	165.5	187.4	104.8
84.0	75.43	119.7	140.0	62.69
87.0	34.54	76.78	94.60	25.16
90.0	0.4216	36.51	50.52	0.8620

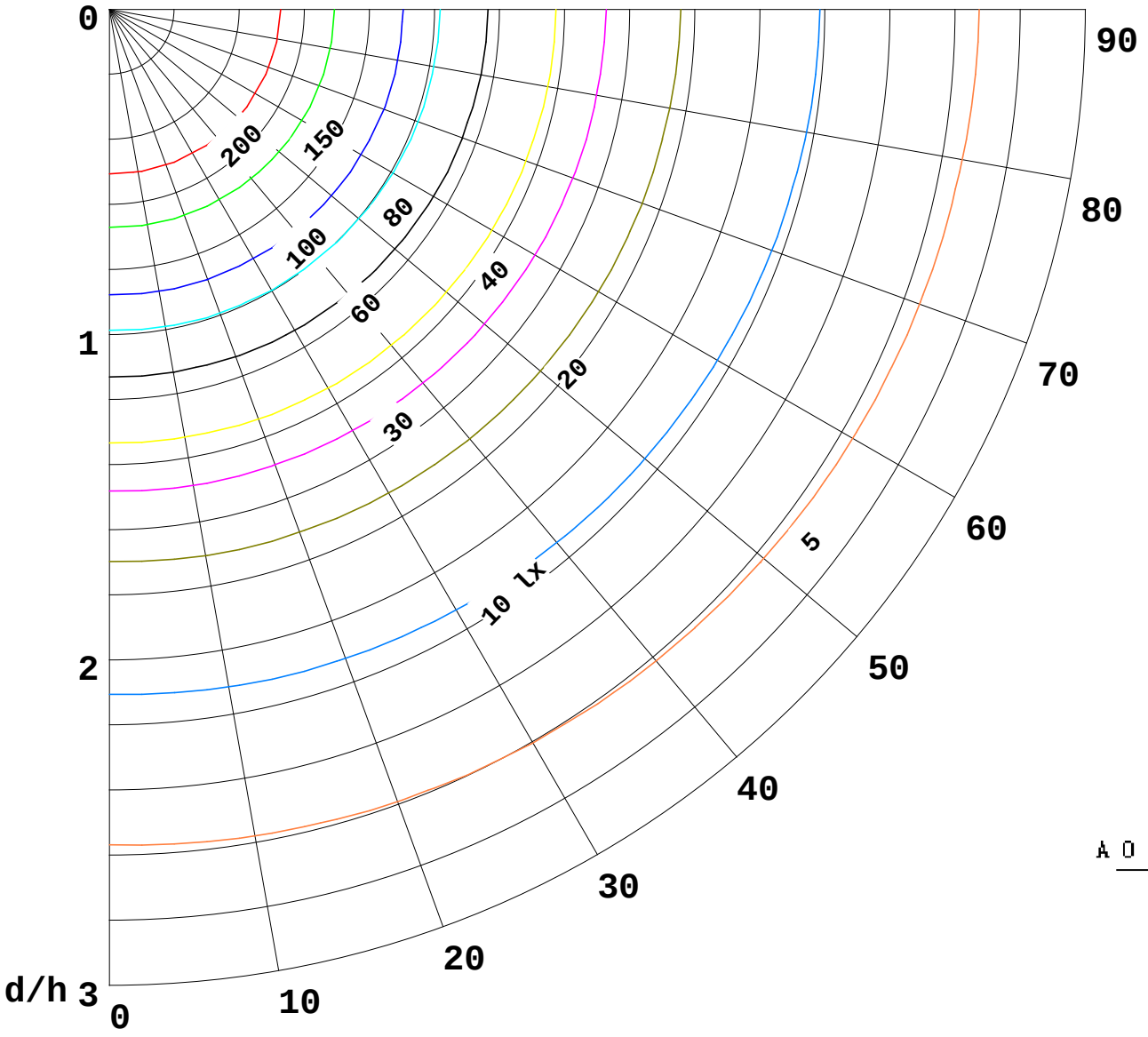
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-03-20

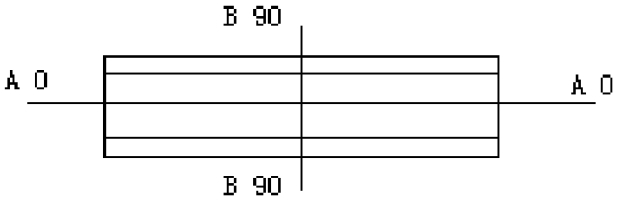
g Range: 0 - 90DEG
g Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.400
Humidity:65.0%
Test Distance:9.100m [K=1.0000]
Remarks:

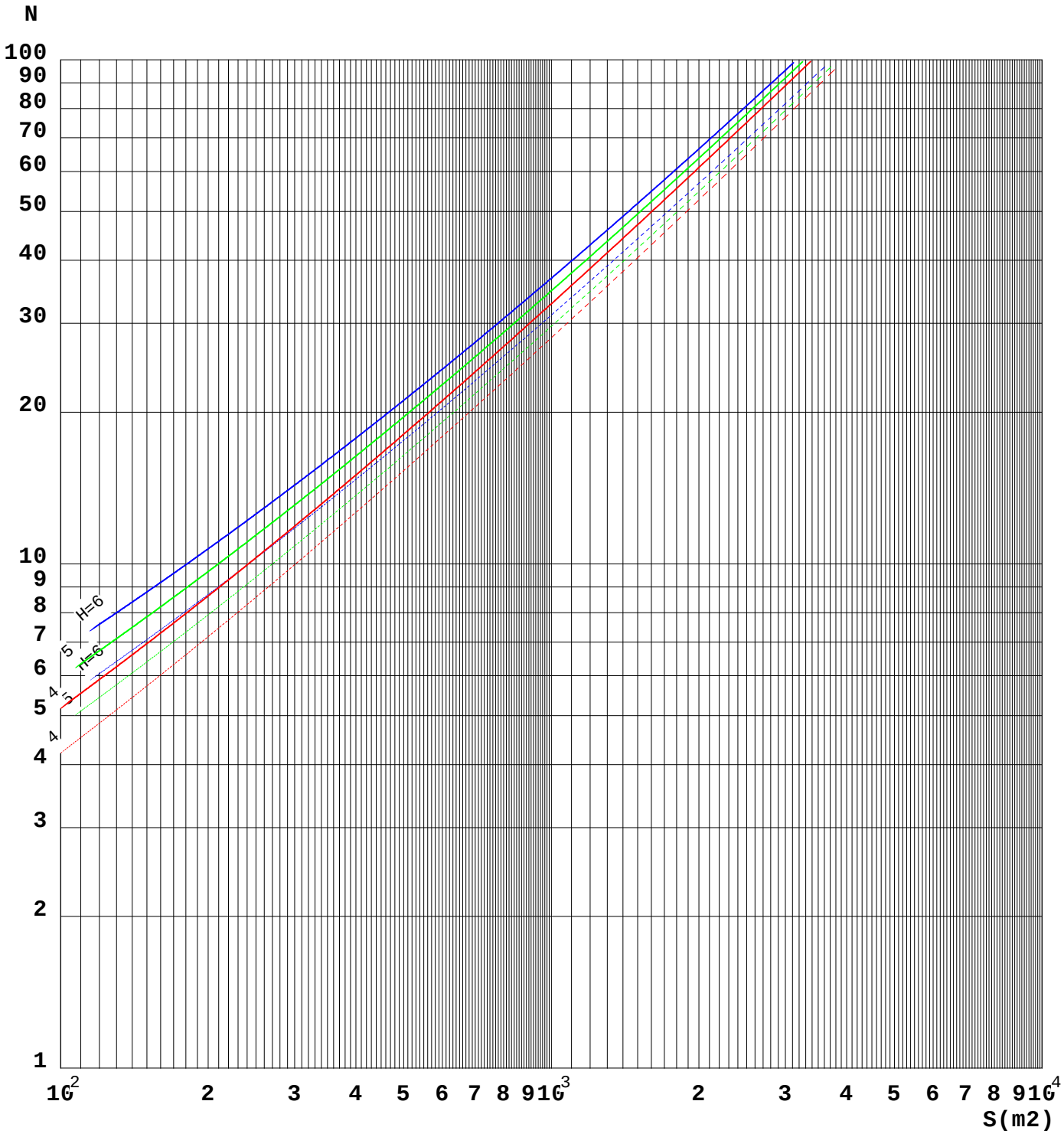

I(cd)
270
90
280
80
290
70
300
60
310
50
320
40
330
30
340
20
350
10
0
100
200
300
400
500
600
700
800
900
1000
A
B
A
B


B 90
A 0
A 0
B 90

1000 lm K = 1


0
90
80
70
60
50
40
30
20
10
0
1
2
3
d/h
200
150
100
80
60
40
30
20
10 lx
5


B 90
A 0
A 0
B 90

F = 5000 lm
K = 0.7
Hcc = 0.0 m
Hfc = 0.0 m
Eave = 100 lx

	Pcc	Pw	Pfc
———	70	50	30
———	50	30	20