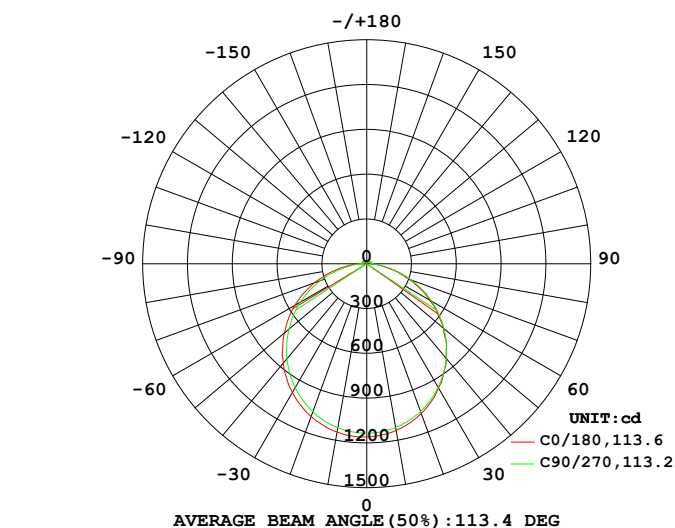


LUMINAIRE PHOTOMETRIC TEST REPORT

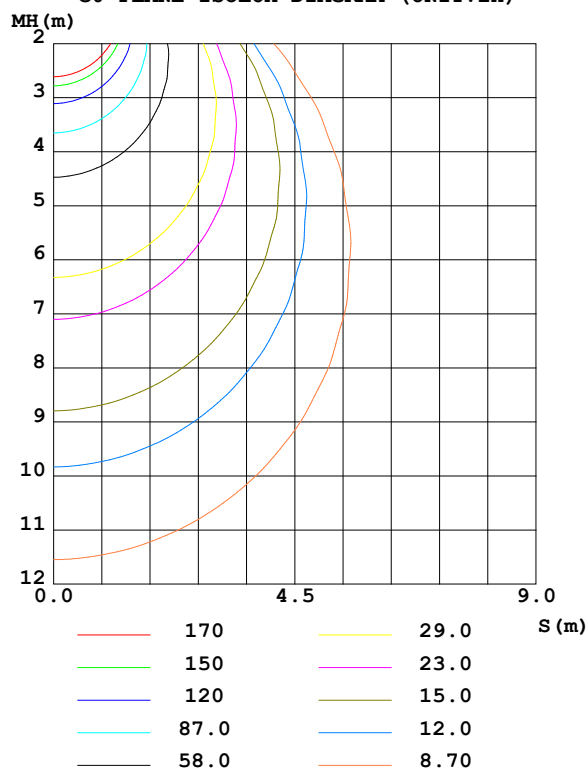
Test:U:220.06V I:0.3290A P:69.951W PF:0.9661 Freq:50.00Hz		
Lamp Flux:3471.72x1 lm		
NAME: SB-D101 70WSZ 70W		WEIGHT:
TYPE: SPEC.: 4000K	DIM.: 59.06"	SERIAL No.:
MFR.: SNOWBALL	SUR.: 1500mm	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 49.63 lm/W			
MODEL		I _{max} (cd)	1160	S/MH (C0/180)	1.28
NOMINAL POWER(W)		LOR (%)	100.0	S/MH (C90/270)	1.26
RATED VOLTAGE (V)	--	TOTAL FLUX(lm)	3471.7	η UP,DN (C0-180)	2.1,47.4
NOMINAL FLUX(lm)	3471.72	CIE CLASS	DIRECT	η UP,DN (C180-360)	2.1,48.3
LAMPS INSIDE	1	η up (%)	4.3	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	--	η down (%)	95.7	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3℃
Operators:DAMIN
Test Date:2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1133	1125	1114	1103	1144	1127	1115	1105	0~ 10	107.7	107.7	3.1,3.1
20	1067	1062	1053	1042	1088	1067	1055	1045	10~ 20	308.4	416.1	12,12
30	961.7	964.9	955.7	945.8	994.4	970.1	958.3	950.1	20~ 30	467.1	883.2	25.4,25.4
40	828.8	835.9	827.9	823.1	869.2	842.4	830.8	824.4	30~ 40	563.5	1447	41.7,41.7
50	671.3	678.4	674.8	671.5	719.1	691.6	679.1	673.0	40~ 50	585.9	2033	58.5,58.5
60	485.5	504.0	502.5	500.1	554.6	524.3	512.9	505.7	50~ 60	534.7	2567	73.9,73.9
70	302.1	317.6	318.0	324.8	373.6	342.8	329.7	323.4	60~ 70	415.3	2983	85.9,85.9
80	123.9	138.5	140.6	146.9	188.6	163.5	150.5	146.4	70~ 80	249.2	3232	93.1,93.1
90	37.61	38.99	37.19	24.26	57.83	43.78	22.35	26.53	80~ 90	92.21	3324	95.7,95.7
100	29.93	28.71	26.50	26.85	31.30	28.29	27.98	26.43	90~100	32.98	3357	96.7,96.7
110	29.64	29.16	29.62	28.65	30.47	27.97	28.57	26.25	100~110	29.01	3386	97.5,97.5
120	25.87	26.22	26.91	23.35	29.35	25.16	26.55	24.18	110~120	26.86	3413	98.3,98.3
130	21.18	22.09	22.29	20.52	23.19	22.85	22.89	21.53	120~130	21.37	3434	98.9,98.9
140	18.16	18.87	18.19	16.80	18.93	17.09	17.84	17.98	130~140	15.23	3449	99.4,99.4
150	16.99	17.05	16.16	16.41	17.43	16.06	15.45	15.91	140~150	10.52	3460	99.7,99.7
160	13.94	13.70	13.81	14.32	16.07	14.42	13.80	13.34	150~160	7.137	3467	99.9,99.9
170	11.33	10.77	10.90	11.22	12.87	11.49	10.90	10.75	160~170	3.623	3471	100,100
180	10.03	9.502	9.482	9.379	10.06	9.528	9.500	9.413	170~180	0.9987	3472	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1741.6 lm

%lum = 50.2%

%lamp = 50.2%

Conical surface Flux(120deg): 2567.2 lm

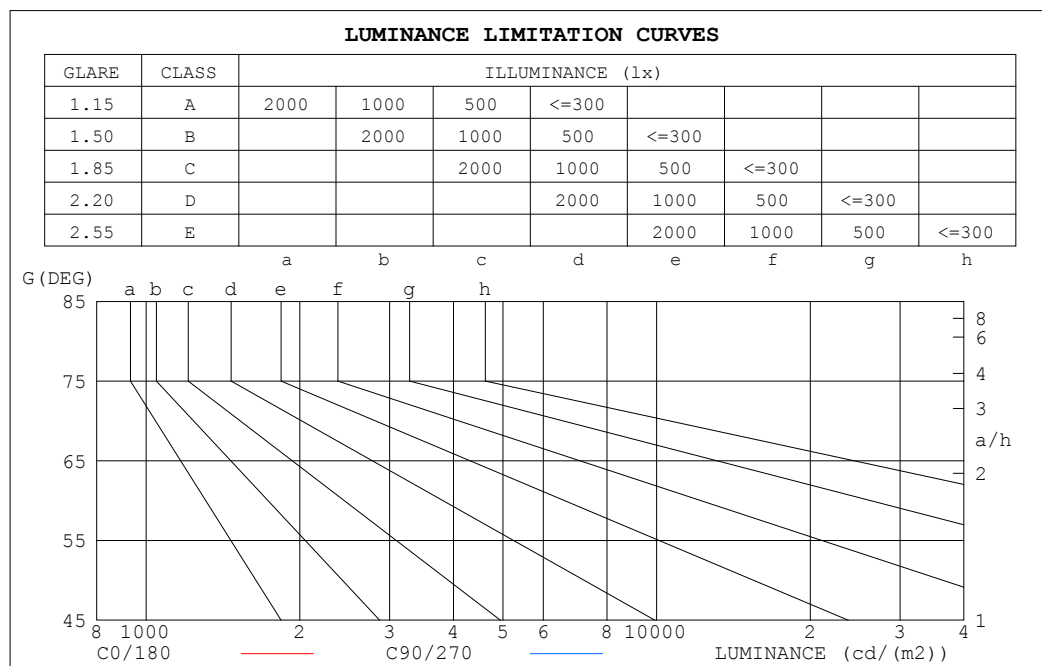
%lum = 73.9%

%lamp = 73.9%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2023-09-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES



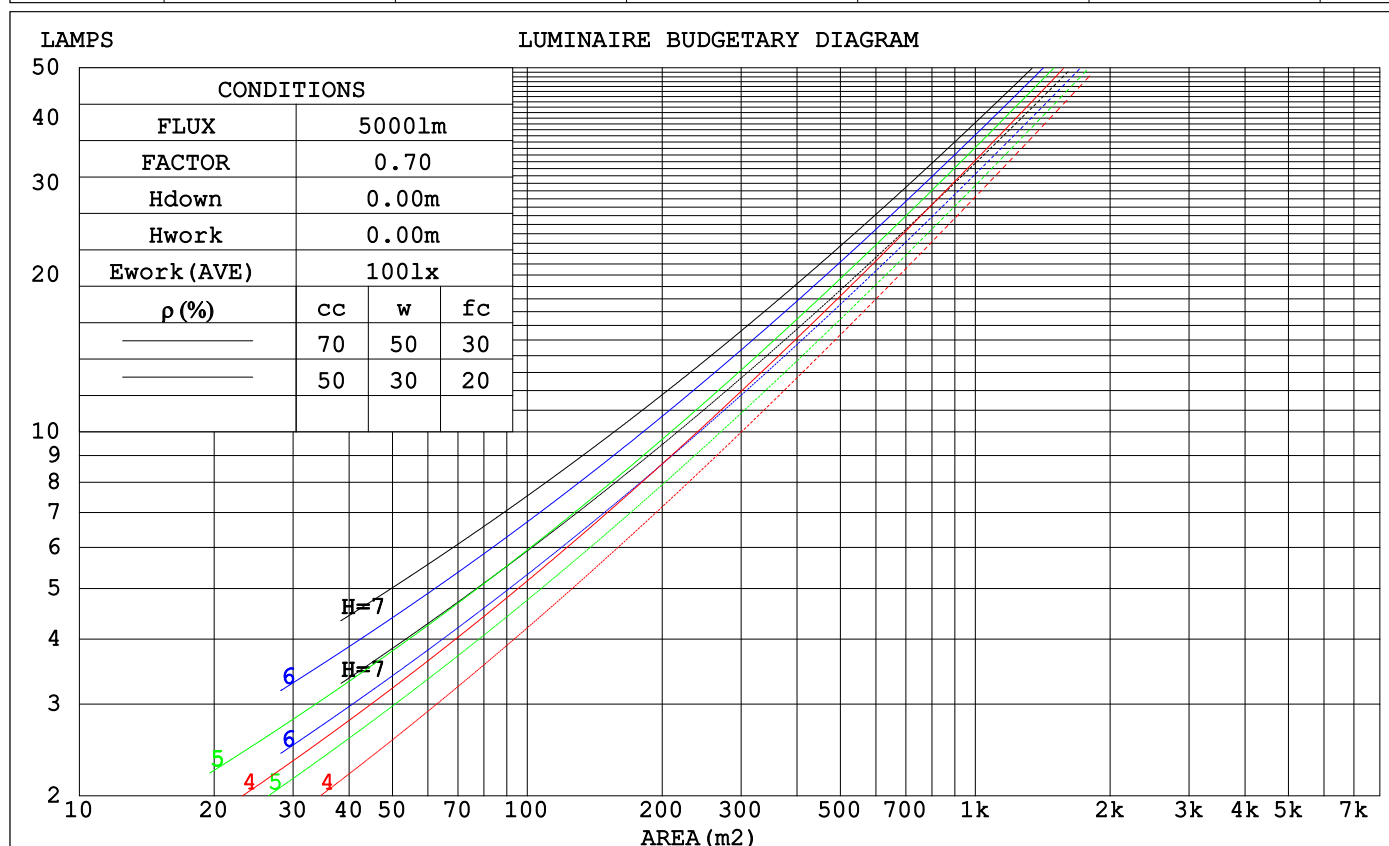
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	408	470
80	404	458
75	459	496
70	500	526
65	528	551
60	550	569
55	571	583
50	591	594
45	605	604

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3°C
Operators:DAMIN
Test Date:2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.03	1.03	1.03	.98	.98	.98	.96
1.0	1.02	.98	.94	.90	.96	.92	.95	.91	.88	.90	.87	.85	.86	.84	.82	.79
2.0	.89	.82	.76	.87	.80	.75	.82	.77	.72	.78	.74	.70	.75	.71	.68	.66
3.0	.78	.70	.63	.76	.68	.62	.72	.66	.60	.69	.64	.59	.66	.61	.57	.55
4.0	.69	.60	.53	.67	.59	.53	.64	.57	.51	.61	.55	.50	.59	.53	.49	.47
5.0	.61	.52	.46	.60	.52	.45	.57	.50	.44	.55	.49	.43	.53	.47	.43	.40
6.0	.55	.46	.40	.54	.46	.39	.52	.44	.39	.50	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.35	.49	.41	.35	.47	.40	.34	.45	.39	.34	.44	.38	.33	.31
8.0	.46	.37	.31	.45	.37	.31	.43	.36	.31	.42	.35	.30	.40	.34	.30	.28
9.0	.42	.34	.28	.41	.33	.28	.40	.32	.27	.38	.32	.27	.37	.31	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.35	.29	.25	.34	.28	.24	.23



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3℃
Operators:DAMIN
Test Date:2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

WEC AND CCEC

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	.319	.182	.058	.311	.177	.056	.295	.169	.054	.281	.162	.052	.267	.155	.050	
2.0	.296	.162	.050	.289	.159	.049	.275	.153	.047	.262	.147	.046	.250	.142	.045	
3.0	.273	.145	.043	.266	.142	.043	.254	.137	.042	.242	.133	.041	.231	.128	.040	
4.0	.251	.130	.038	.245	.128	.038	.234	.124	.037	.223	.120	.036	.214	.116	.035	
5.0	.231	.118	.034	.226	.116	.034	.216	.112	.033	.207	.109	.032	.198	.106	.032	
6.0	.214	.107	.031	.209	.106	.030	.200	.103	.030	.192	.100	.029	.184	.097	.029	
7.0	.199	.098	.028	.195	.097	.028	.187	.094	.027	.179	.092	.027	.172	.089	.026	
8.0	.186	.091	.026	.182	.090	.025	.175	.087	.025	.168	.085	.024	.161	.083	.024	
9.0	.174	.084	.023	.170	.083	.023	.164	.081	.023	.158	.079	.023	.152	.077	.022	
10.0	.163	.078	.022	.160	.077	.022	.154	.076	.021	.148	.074	.021	.143	.072	.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	.223	.223	.223	.190	.190	.190	.130	.130	.130	.075	.075	.075	.024	.024	.024		
1.0	.214	.189	.166	.183	.162	.143	.125	.111	.099	.072	.064	.058	.023	.021	.019		
2.0	.206	.165	.130	.176	.142	.113	.121	.098	.079	.070	.057	.046	.022	.018	.015		
3.0	.198	.147	.107	.170	.127	.093	.117	.088	.065	.067	.052	.038	.022	.017	.013		
4.0	.190	.134	.091	.163	.116	.079	.112	.081	.056	.065	.047	.033	.021	.015	.011		
5.0	.183	.124	.080	.157	.107	.070	.108	.075	.049	.063	.044	.029	.020	.014	.010		
6.0	.176	.116	.073	.151	.100	.063	.104	.070	.045	.060	.041	.027	.020	.013	.009		
7.0	.169	.109	.067	.145	.094	.058	.100	.066	.041	.058	.039	.025	.019	.013	.008		
8.0	.163	.103	.062	.140	.089	.054	.097	.063	.039	.056	.037	.023	.018	.012	.008		
9.0	.156	.098	.059	.135	.085	.051	.093	.060	.036	.054	.035	.022	.018	.012	.007		
10.0	.151	.094	.056	.130	.082	.049	.090	.057	.035	.053	.034	.021	.017	.011	.007		

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3℃
Operators:DAMIN
Test Date:2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

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	10.7	12.2	11.0	12.4	12.7	10.8	12.2	11.1	12.5	12.8
3H	12.2	13.5	12.5	13.8	14.2	12.3	13.7	12.7	14.0	14.3
4H	12.7	14.0	13.1	14.3	14.7	12.9	14.2	13.3	14.6	14.9
6H	13.1	14.3	13.5	14.7	15.1	13.4	14.6	13.8	15.0	15.3
8H	13.2	14.4	13.6	14.8	15.2	13.6	14.7	14.0	15.1	15.5
12H	13.3	14.5	13.8	14.8	15.2	13.7	14.8	14.1	15.2	15.6
4H 2H	11.3	12.6	11.7	12.9	13.3	11.4	12.7	11.7	13.0	13.3
3H	13.0	14.1	13.4	14.5	14.9	13.1	14.2	13.5	14.6	15.0
4H	13.7	14.7	14.1	15.1	15.5	13.9	14.9	14.3	15.3	15.7
6H	14.2	15.1	14.6	15.5	16.0	14.5	15.4	14.9	15.8	16.3
8H	14.4	15.2	14.8	15.7	16.1	14.7	15.5	15.2	16.0	16.5
12H	14.5	15.3	15.0	15.8	16.3	14.9	15.6	15.3	16.1	16.6
8H 4H	13.9	14.8	14.4	15.2	15.7	14.1	15.0	14.6	15.4	15.9
6H	14.6	15.3	15.1	15.8	16.3	14.9	15.6	15.4	16.1	16.6
8H	14.9	15.5	15.4	16.0	16.6	15.2	15.8	15.7	16.3	16.9
12H	15.1	15.7	15.7	16.2	16.8	15.5	16.0	16.0	16.5	17.1
12H 4H	14.0	14.7	14.4	15.2	15.7	14.1	14.9	14.6	15.4	15.9
6H	14.7	15.3	15.2	15.8	16.4	14.9	15.6	15.5	16.1	16.6
8H	15.0	15.6	15.6	16.1	16.6	15.3	15.8	15.8	16.4	16.9
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 3472 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 4.3$)Area: 1.766 m²

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-09-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

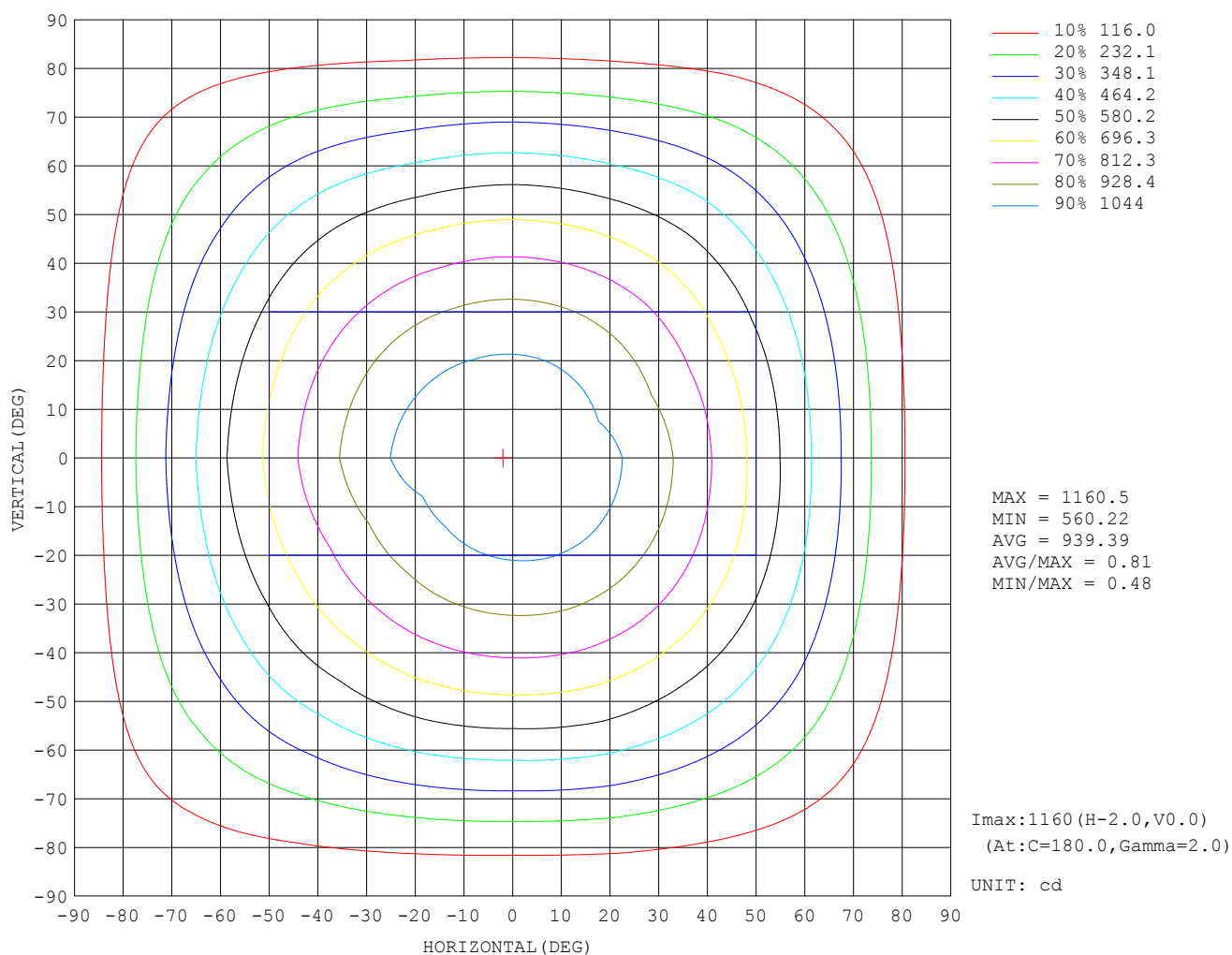
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	55	44	37	53	43	37	30
0.80	66	54	46	64	53	46	62	52	46	38
1.00	74	62	55	72	62	55	70	63	54	46
1.25	81	70	63	79	69	62	76	67	61	53
1.50	86	76	68	84	75	68	81	72	66	58
2.00	93	84	77	91	83	76	87	80	74	66
2.50	97	89	82	95	87	81	90	84	79	70
3.00	100	93	87	98	91	86	93	88	83	74
4.00	104	98	93	102	96	92	97	92	89	78
5.00	107	102	97	104	100	96	99	95	92	81
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-09-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

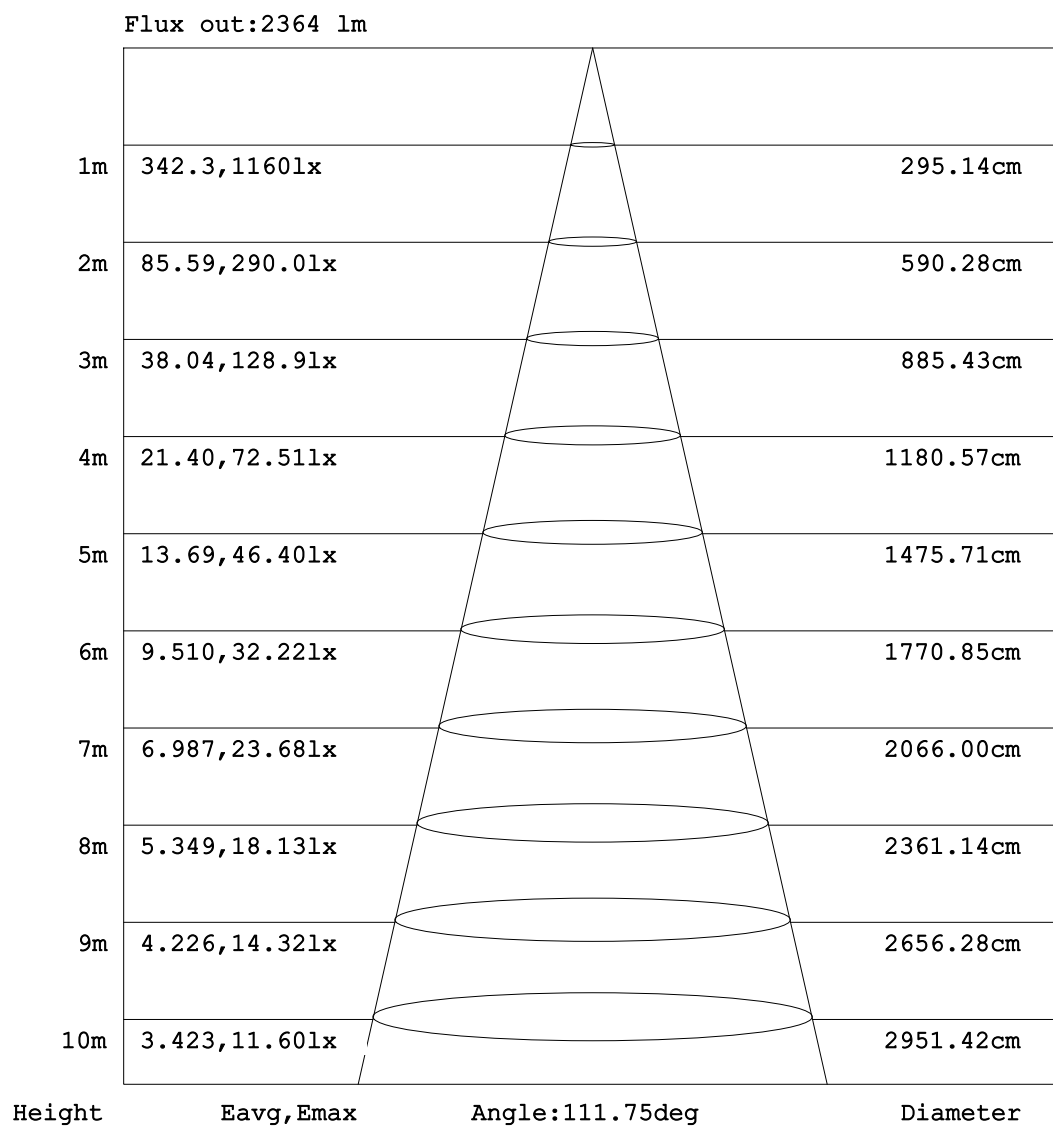
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3°C
Operators:DAMIN
Test Date:2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

AAI Figure

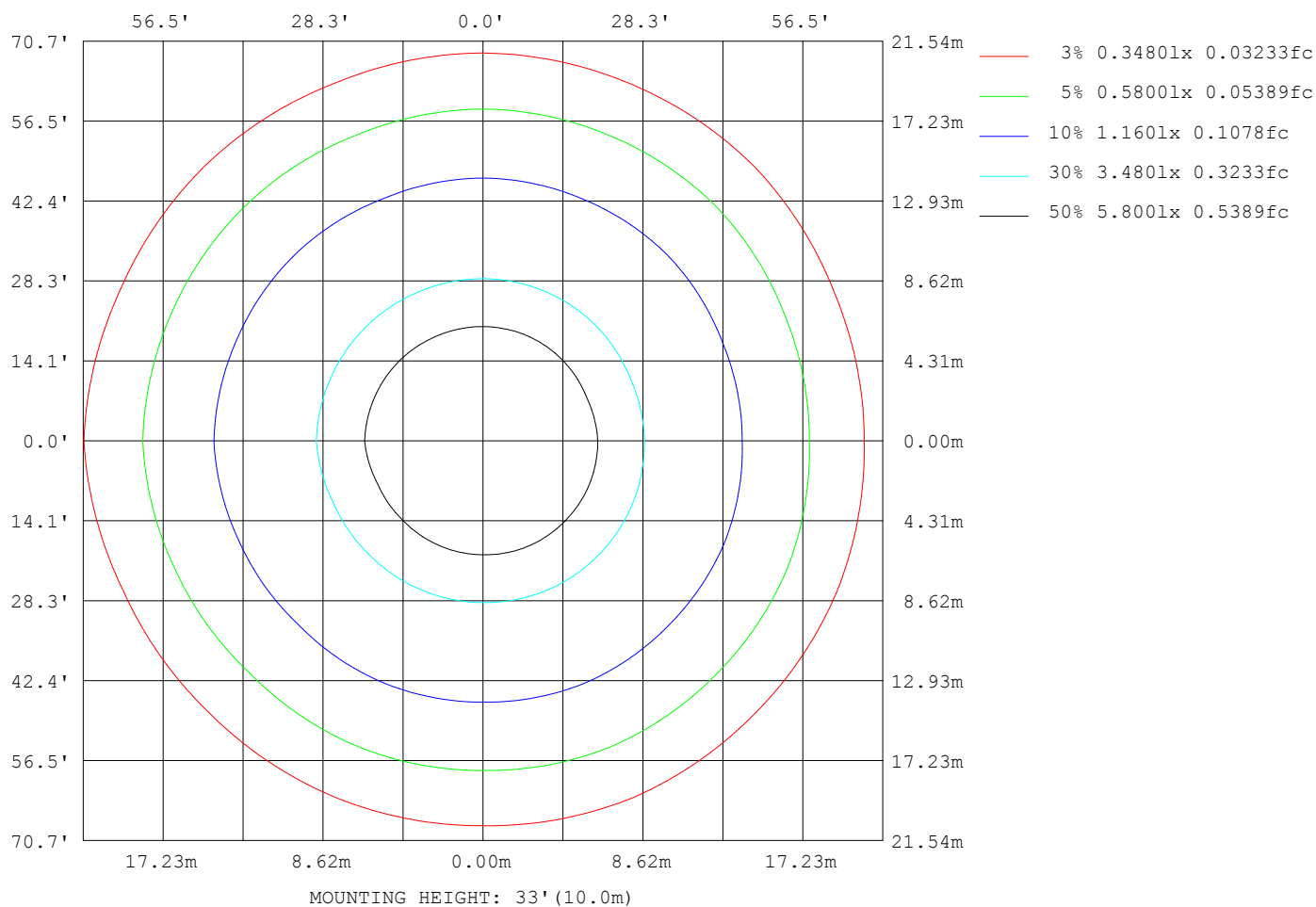


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3℃
Operators:DAMIN
Test Date:2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks:

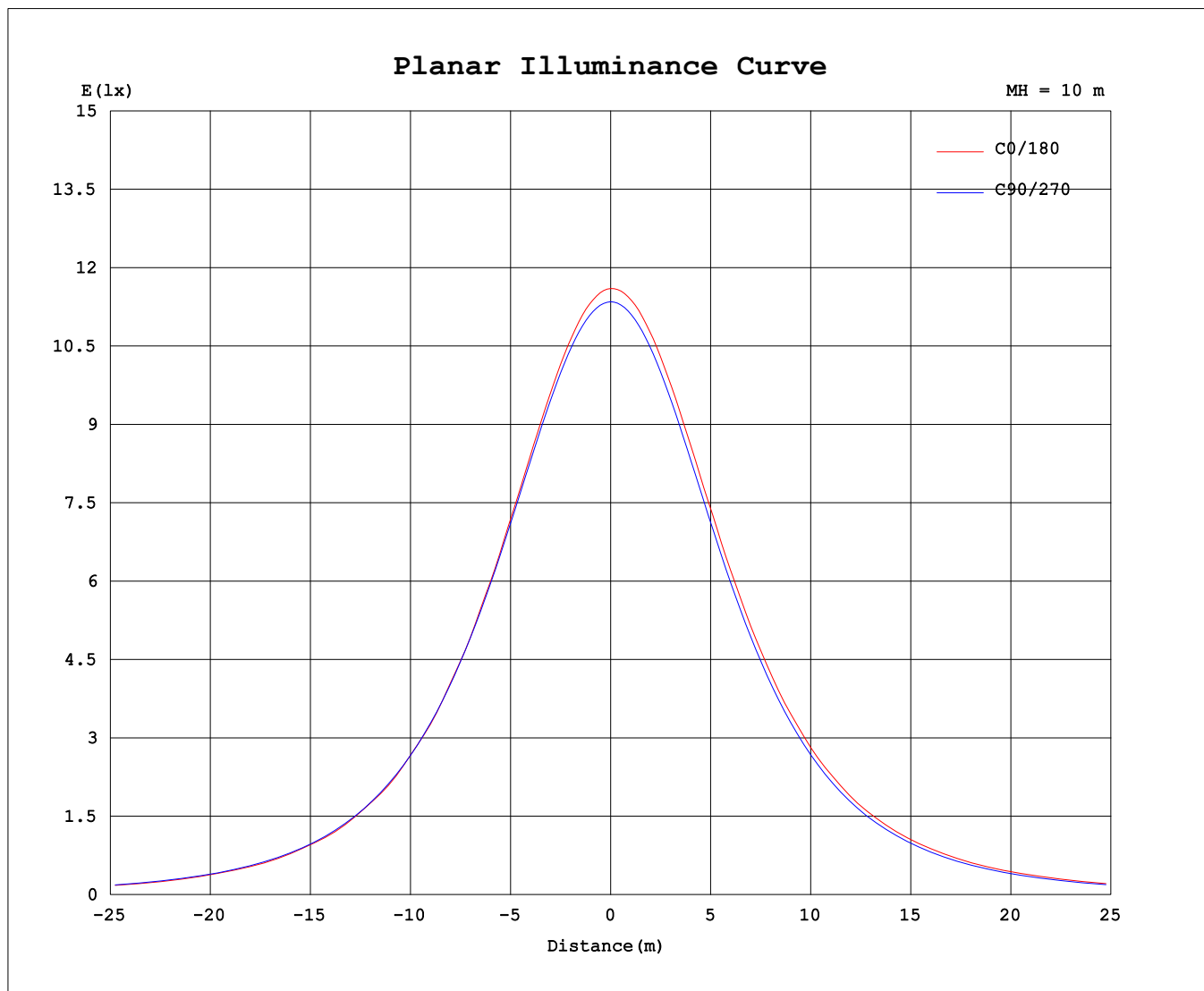
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity: 65.0%
Test Distance: 9.000m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-21

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity: 65.0%
Test Distance: 9.000m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	1160	1153	1146	1140	1135	1130	1124	1120	1160	1153	1146	1140	1135	1130	1124	1120			
5	1152	1146	1141	1135	1129	1125	1118	1116	1157	1149	1142	1135	1130	1126	1119	1114			
10	1133	1130	1125	1120	1114	1109	1103	1102	1144	1135	1127	1120	1115	1111	1105	1098			
15	1105	1103	1099	1095	1088	1083	1077	1078	1121	1111	1102	1094	1090	1086	1080	1073			
20	1067	1066	1062	1059	1053	1048	1042	1045	1088	1077	1067	1058	1055	1051	1045	1037			
25	1019	1020	1017	1016	1009	1004	998	1003	1046	1033	1023	1014	1011	1007	1002	993			
30	962	965	965	963	956	951	946	952	994	981	970	961	958	956	950	940			
35	897	902	905	902	896	891	888	894	935	921	909	900	898	896	891	880			
40	829	832	836	834	828	824	823	829	869	854	842	834	831	830	824	813			
45	755	757	760	761	754	751	751	759	797	783	770	760	758	757	751	742			
50	671	677	678	681	675	672	672	683	719	706	692	680	679	676	673	664			
55	579	596	593	601	591	594	586	607	640	622	612	595	601	592	594	578			
60	486	505	504	512	502	506	500	520	555	533	524	509	513	506	506	488			
65	394	411	411	419	411	415	414	430	465	441	435	420	422	417	415	396			
70	302	314	318	325	318	322	325	338	374	351	343	328	330	325	323	306			
75	210	219	225	231	227	230	235	249	280	259	251	236	237	234	231	217			
80	124	135	138	145	141	145	147	166	189	172	163	150	150	147	146	134			
85	62.7	71.8	71.6	74.6	72.4	75.7	77.8	94.1	109	98.4	90.5	78.6	79.0	76.3	77.0	69.3			
90	37.6	38.4	39.0	26.9	37.2	22.8	24.3	46.8	57.8	52.2	43.8	22.6	22.4	38.9	26.5	39.0			
95	32.7	28.9	28.4	27.4	28.4	26.1	31.3	34.7	36.9	35.7	32.5	25.7	28.8	27.5	26.7	30.7			
100	29.9	29.3	28.7	27.8	26.5	27.0	26.9	25.1	31.3	26.2	28.3	26.1	28.0	24.2	26.4	27.3			
105	30.3	29.4	27.2	27.0	27.7	24.8	27.7	28.5	28.1	27.5	27.2	24.6	27.2	24.3	25.0	27.3			
110	29.6	29.7	29.2	26.8	29.6	26.8	28.6	29.3	30.5	28.3	28.0	25.5	28.6	25.6	26.3	27.4			
115	29.4	28.8	23.9	26.6	26.7	26.6	25.8	28.7	30.0	30.2	25.7	26.1	27.7	25.3	22.4	27.1			
120	25.9	24.4	26.2	25.5	26.9	25.5	23.4	27.3	29.3	28.5	25.2	24.8	26.6	24.9	24.2	22.9			
125	22.5	24.0	24.7	24.5	25.9	24.7	24.1	22.2	23.5	22.0	24.4	24.3	24.9	23.5	22.9	22.1			
130	21.2	22.1	22.1	22.2	22.3	20.7	20.5	20.5	23.2	23.3	22.9	22.0	22.9	22.1	21.5	21.3			
135	19.6	20.2	20.4	20.0	19.8	18.4	18.2	19.8	19.6	20.3	18.8	18.3	19.9	19.9	19.2	19.4			
140	18.2	18.6	18.9	18.2	18.2	16.7	16.8	18.4	18.9	18.7	17.1	16.3	17.8	18.1	18.0	17.7			
145	16.5	17.0	17.2	16.7	16.4	15.3	15.7	17.0	17.0	17.2	15.8	15.1	16.4	16.7	16.5	16.3			
150	17.0	17.2	17.1	16.1	16.2	15.9	16.4	17.2	17.4	16.7	16.1	15.0	15.5	15.6	15.9	16.0			
155	15.6	15.8	15.4	14.9	15.3	15.2	15.7	16.0	17.3	16.4	15.5	15.0	14.6	14.5	14.6	14.9			
160	13.9	14.0	13.7	13.5	13.8	14.0	14.3	14.9	16.1	15.1	14.4	13.9	13.8	13.5	13.3	13.4			
165	12.6	12.4	12.2	12.1	12.2	12.5	12.7	13.4	14.4	13.5	12.9	12.3	12.3	12.1	12.0	11.9			
170	11.3	11.3	10.8	10.9	10.9	11.0	11.2	11.9	12.9	12.1	11.5	10.9	10.9	10.7	10.7	10.7			
175	10.0	9.99	9.82	9.92	9.91	9.99	10.0	10.4	11.2	10.6	10.2	9.88	9.75	9.52	9.57	9.57			
180	10.0	9.77	9.50	9.52	9.48	9.44	9.38	9.50	10.1	9.74	9.53	9.50	9.50	9.42	9.41	9.48			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3℃
Operators:DAMIN
Test Date:2023-09-21

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity:65.0%
Test Distance:9.000m [K=1.0000]
Remarks: