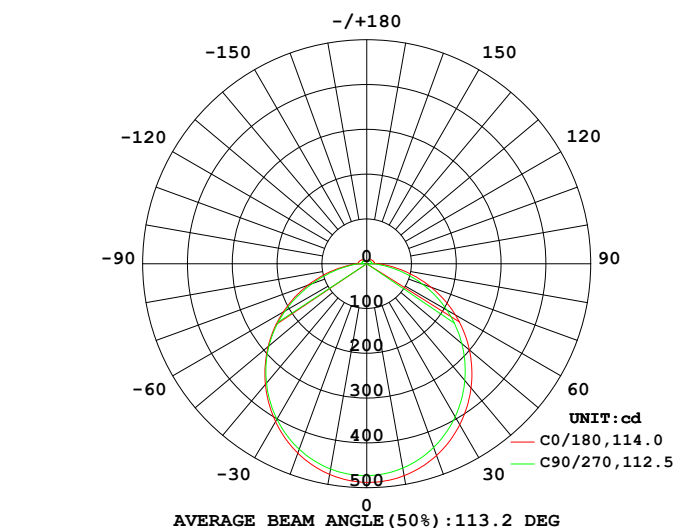


LUMINAIRE PHOTOMETRIC TEST REPORT

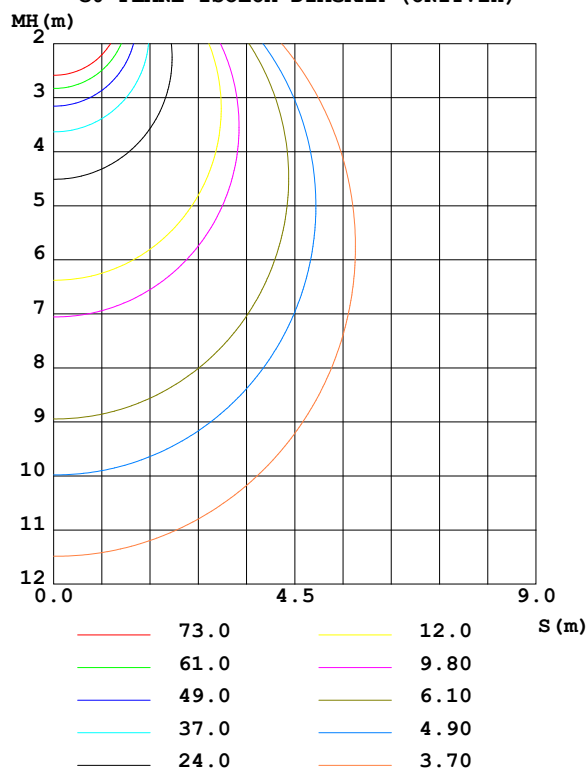
Test:U:220.05V I:0.1699A P:31.121W PF:0.8325 Freq:50.00Hz		
Lamp Flux:1461.39x1 lm		
NAME: SB-D101 30WSZ 30W		WEIGHT:
TYPE: SPEC.: 4000K	DIM.: 23.62"	SERIAL No.:
MFR.: SNOWBALL	SUR.: 600mm	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 46.96 lm/W
MODEL		Imax (cd)	488.0	S/MH (C0/180)	1.24	
NOMINAL POWER(W)		LOR (%)	100.0	S/MH (C90/270)	1.26	
RATED VOLTAGE (V)	--	TOTAL FLUX(lm)	1461.4	η UP,DN (C0-180)	2.4,47.5	
NOMINAL FLUX(lm)	1461.39	CIE CLASS	DIRECT	η UP,DN (C180-360)	2.4,47.6	
LAMPS INSIDE	1	η up (%)	4.9	CIBSE SHR NOM	1.25	
TEST VOLTAGE (V)	--	η down (%)	95.1	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°C
Operators:DAMIN
Test Date:2023-09-20

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	480.3	471.5	463.1	456.6	477.5	470.5	465.2	460.9	0~ 10	44.96	44.96	3.08,3.08
20	455.4	446.2	436.4	429.4	449.9	444.2	440.7	437.9	10~ 20	128.6	173.6	11.9,11.9
30	415.2	405.5	394.6	387.6	407.1	402.9	400.9	399.9	20~ 30	194.7	368.3	25.2,25.2
40	362.1	352.2	340.5	333.9	352.1	349.0	348.3	349.3	30~ 40	234.7	603.0	41.3,41.3
50	299.1	289.0	277.0	270.9	287.3	285.1	285.1	288.7	40~ 50	244.5	847.5	58,58
60	228.4	218.2	206.3	200.8	215.3	213.6	210.3	220.1	50~ 60	223.2	1071	73.3,73.3
70	152.5	142.6	131.4	127.2	139.1	133.5	129.2	141.9	60~ 70	173.5	1244	85.1,85.1
80	77.98	69.23	60.07	58.69	67.19	58.37	56.81	67.22	70~ 80	105.0	1349	92.3,92.3
90	26.98	13.64	6.822	9.965	14.14	12.92	12.27	20.57	80~ 90	41.23	1390	95.1,95.1
100	17.20	13.55	12.13	14.77	18.94	15.36	11.14	14.11	90~100	14.30	1405	96.1,96.1
110	16.03	13.10	11.03	13.96	17.34	13.94	10.53	13.26	100~110	14.72	1419	97.1,97.1
120	14.99	12.37	10.46	12.76	15.69	13.01	10.61	12.28	110~120	12.98	1432	98,98
130	13.68	10.59	9.714	10.42	13.90	10.66	9.679	10.28	120~130	10.64	1443	98.7,98.7
140	10.87	9.392	8.434	8.693	10.15	8.799	8.469	9.038	130~140	7.818	1451	99.3,99.3
150	8.164	7.925	6.930	7.057	7.597	7.325	6.686	7.714	140~150	5.212	1456	99.6,99.6
160	7.098	6.544	6.050	5.737	6.431	5.829	6.006	6.416	150~160	3.172	1459	99.9,99.9
170	6.284	5.799	5.423	5.010	5.729	5.413	5.419	5.695	160~170	1.675	1461	100,100
180	4.271	4.113	4.049	4.009	4.293	4.132	4.062	4.020	170~180	0.4942	1461	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 725.96 lm

%lum = 49.7%

%lamp = 49.7%

Conical surface Flux(120deg): 1070.6 lm

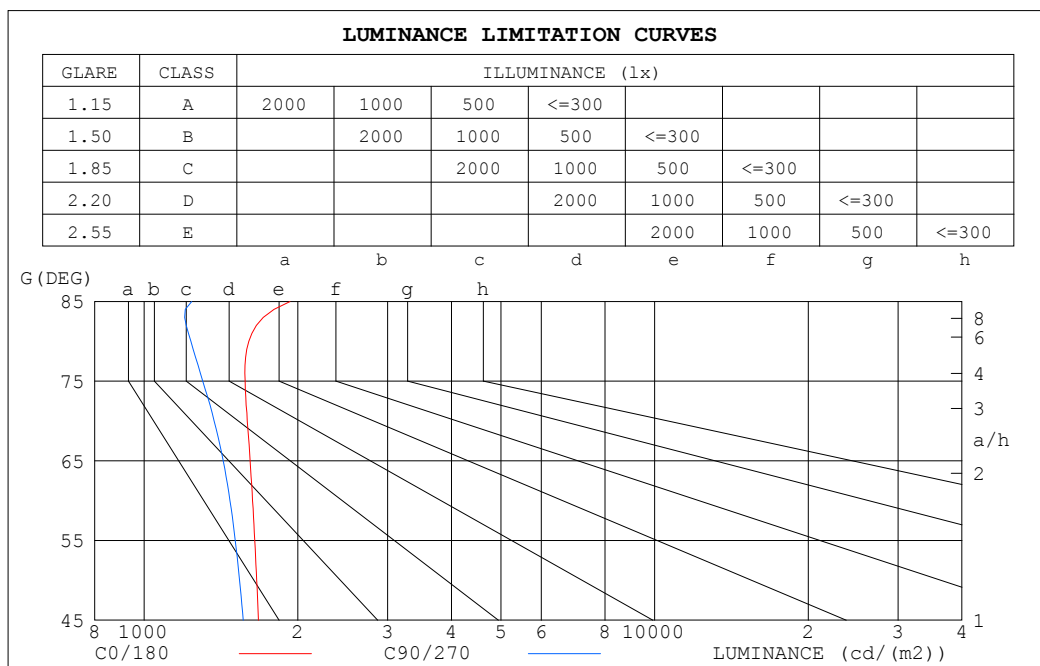
%lum = 73.3%

%lamp = 73.3%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2023-09-20

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

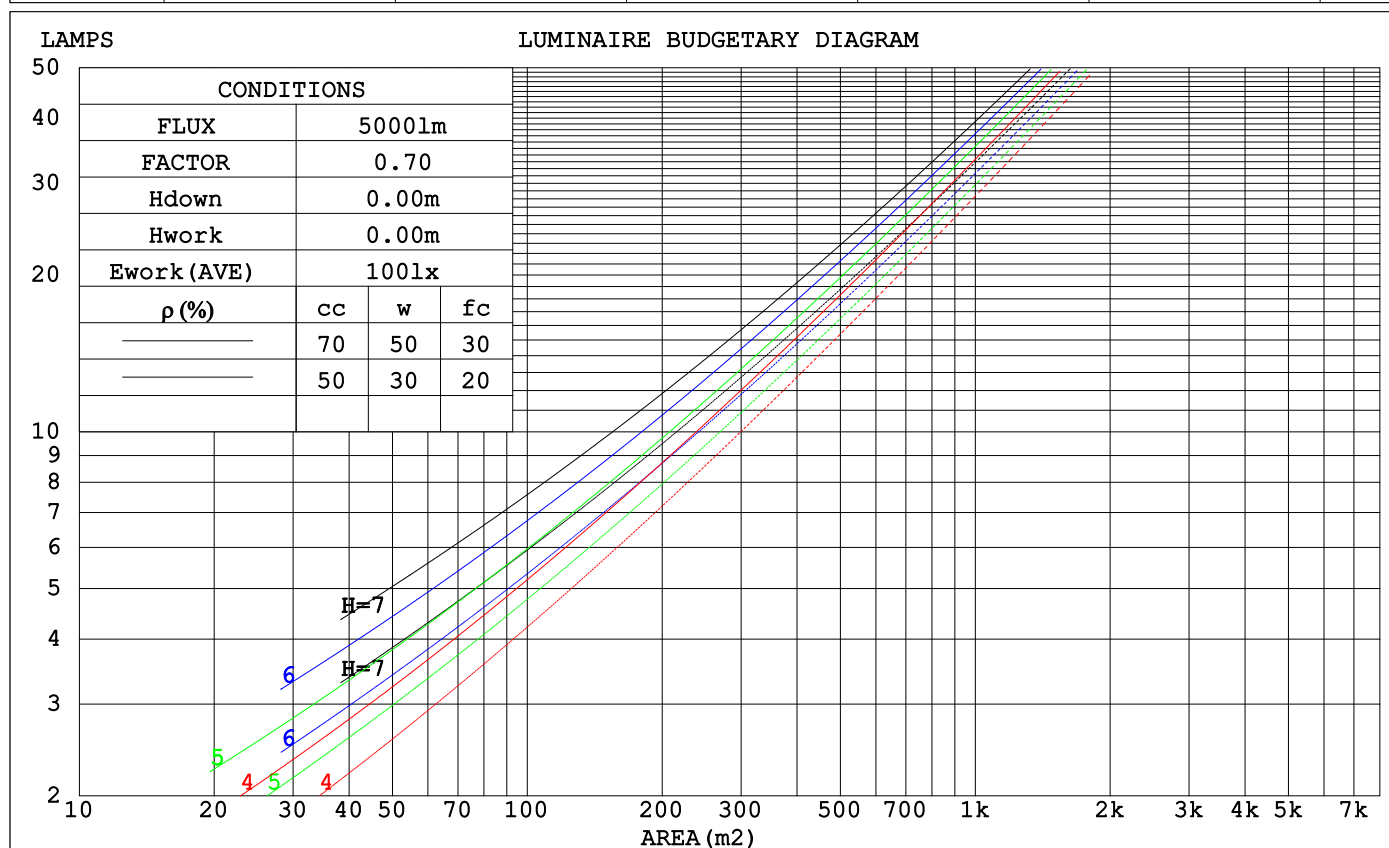


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-20

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	1.08	1.08	1.08	1.03	1.03	1.03	.98	.98	.98	.95
1.0	1.02	.98	.94	.99	.95	.92	.94	.91	.88	.89	.87	.84	.85	.83	.81	.79
2.0	.89	.82	.76	.86	.80	.75	.82	.77	.72	.78	.74	.70	.74	.71	.67	.65
3.0	.78	.69	.63	.76	.68	.62	.72	.66	.60	.69	.63	.58	.65	.61	.57	.54
4.0	.69	.60	.53	.67	.59	.52	.64	.57	.51	.61	.55	.50	.58	.53	.49	.46
5.0	.61	.52	.46	.60	.51	.45	.57	.50	.44	.55	.48	.43	.52	.47	.42	.40
6.0	.55	.46	.40	.54	.45	.39	.52	.44	.39	.49	.43	.38	.47	.42	.37	.35
7.0	.50	.41	.35	.49	.41	.35	.47	.39	.34	.45	.38	.33	.43	.37	.33	.31
8.0	.46	.37	.31	.45	.36	.31	.43	.36	.30	.41	.35	.30	.40	.34	.29	.27
9.0	.42	.33	.28	.41	.33	.28	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25
10.0	.38	.31	.25	.38	.30	.25	.36	.30	.25	.35	.29	.24	.34	.28	.24	.22



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-09-20

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	.321	.183	.058	.312	.178	.057	.296	.170	.054	.282	.162	.052	.268	.155	.050		
2.0	.297	.163	.050	.290	.159	.049	.275	.153	.048	.262	.147	.046	.250	.141	.045		
3.0	.273	.145	.044	.266	.143	.043	.253	.137	.042	.242	.132	.041	.231	.128	.040		
4.0	.251	.130	.038	.245	.128	.038	.233	.124	.037	.223	.120	.036	.213	.116	.035		
5.0	.231	.118	.034	.226	.116	.034	.216	.112	.033	.206	.109	.032	.197	.105	.032		
6.0	.214	.107	.031	.209	.106	.030	.200	.103	.030	.191	.099	.029	.183	.097	.029		
7.0	.199	.098	.028	.195	.097	.028	.186	.094	.027	.179	.092	.027	.171	.089	.026		
8.0	.186	.091	.026	.182	.089	.025	.174	.087	.025	.167	.085	.024	.160	.082	.024		
9.0	.174	.084	.023	.170	.083	.023	.163	.081	.023	.157	.079	.023	.151	.077	.022		
10.0	.163	.078	.022	.160	.077	.022	.154	.075	.021	.148	.073	.021	.142	.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	.227	.227	.227	.194	.194	.194	.133	.133	.133	.076	.076	.076	.024	.024	.024		
1.0	.218	.193	.171	.187	.166	.147	.128	.114	.102	.074	.066	.059	.024	.021	.019		
2.0	.211	.169	.135	.180	.146	.117	.124	.101	.081	.071	.059	.048	.023	.019	.016		
3.0	.203	.152	.112	.174	.131	.097	.119	.091	.068	.069	.053	.040	.022	.017	.013		
4.0	.195	.139	.096	.168	.120	.083	.115	.084	.059	.067	.049	.035	.021	.016	.011		
5.0	.188	.129	.085	.161	.111	.074	.111	.078	.052	.064	.046	.031	.021	.015	.010		
6.0	.181	.120	.077	.155	.104	.067	.107	.073	.048	.062	.043	.028	.020	.014	.009		
7.0	.174	.114	.071	.149	.098	.062	.103	.069	.044	.060	.041	.026	.019	.013	.009		
8.0	.167	.108	.067	.144	.094	.058	.100	.066	.041	.058	.039	.025	.019	.013	.008		
9.0	.161	.103	.064	.139	.089	.056	.096	.063	.039	.056	.037	.024	.018	.012	.008		
10.0	.156	.099	.061	.134	.086	.053	.093	.060	.038	.054	.036	.023	.018	.012	.007		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2023-09-20

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	14.5	15.9	14.8	16.2	16.5	14.1	15.6	14.4	15.8	16.1
3H	16.2	17.5	16.6	17.9	18.2	15.6	17.0	16.0	17.3	17.7
4H	16.9	18.2	17.3	18.6	18.9	16.3	17.6	16.7	17.9	18.3
6H	17.6	18.8	18.0	19.1	19.5	16.8	18.0	17.2	18.3	18.7
8H	17.8	19.0	18.2	19.4	19.8	16.9	18.1	17.4	18.5	18.9
12H	18.1	19.2	18.5	19.6	20.0	17.1	18.2	17.5	18.6	19.0
4H 2H	15.1	16.3	15.4	16.7	17.0	14.8	16.0	15.1	16.4	16.7
3H	17.0	18.1	17.4	18.5	18.9	16.5	17.6	16.9	18.0	18.4
4H	17.9	18.9	18.3	19.3	19.7	17.3	18.3	17.7	18.7	19.2
6H	18.6	19.5	19.1	20.0	20.5	17.9	18.8	18.4	19.3	19.7
8H	19.0	19.8	19.5	20.3	20.8	18.1	19.0	18.6	19.4	19.9
12H	19.3	20.1	19.8	20.5	21.1	18.3	19.1	18.8	19.6	20.1
8H 4H	18.1	19.0	18.6	19.4	19.9	17.6	18.5	18.1	18.9	19.4
6H	19.1	19.8	19.6	20.3	20.8	18.4	19.1	18.9	19.6	20.2
8H	19.5	20.2	20.1	20.7	21.2	18.8	19.4	19.3	19.9	20.5
12H	20.0	20.5	20.6	21.1	21.7	19.0	19.6	19.6	20.1	20.7
12H 4H	18.1	18.9	18.6	19.4	19.9	17.7	18.4	18.2	18.9	19.4
6H	19.2	19.8	19.7	20.3	20.9	18.5	19.2	19.1	19.7	20.2
8H	19.7	20.2	20.2	20.7	21.3	18.9	19.5	19.5	20.0	20.6
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.4				

CIE Pub.117, 1461 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.3$)
Area: 0.28 m²

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3°C
Operators:DAMIN
Test Date:2023-09-20

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:

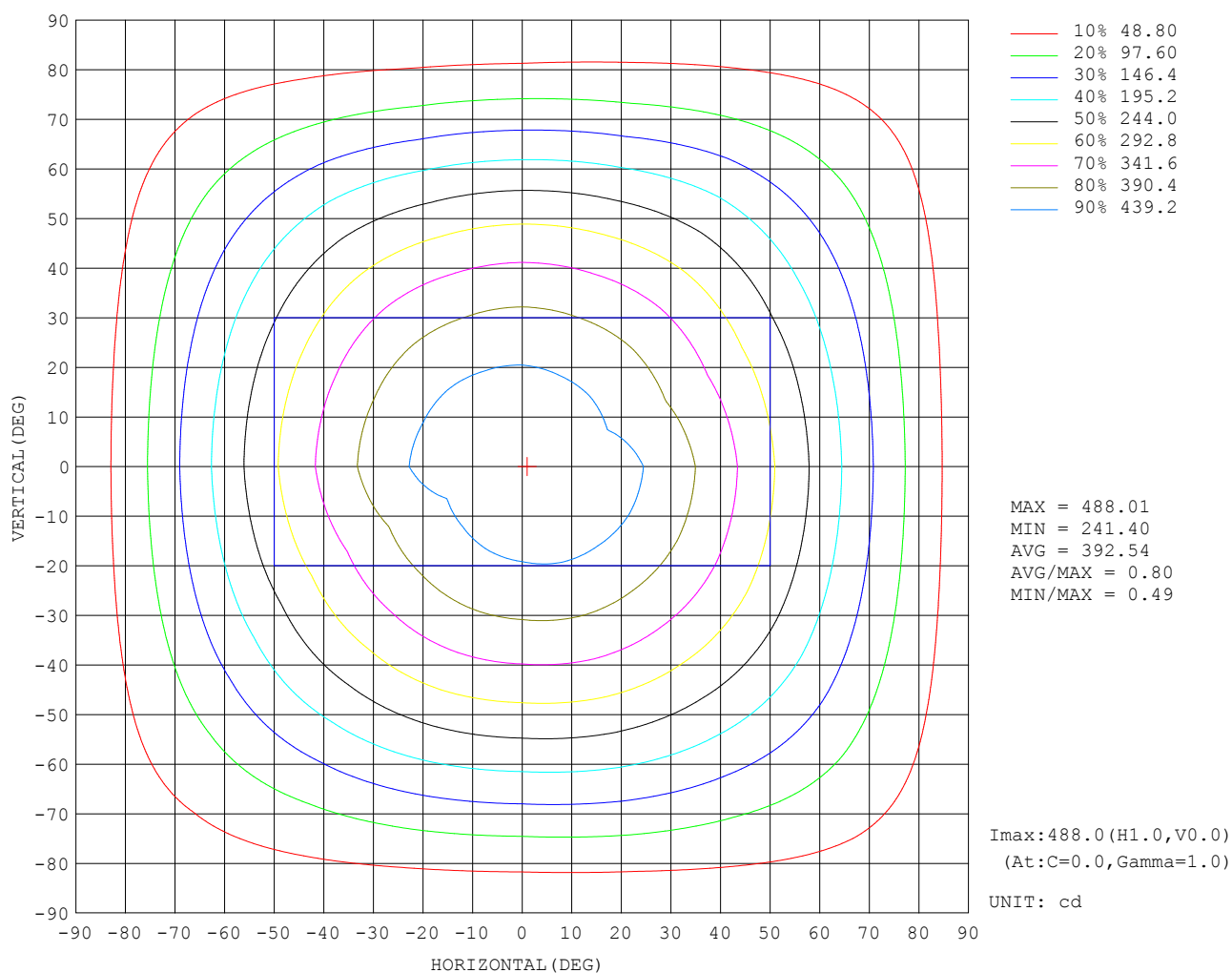
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	55	44	37	55	43	37	53	43	36	30
0.80	65	53	46	64	53	46	62	52	45	38
1.00	74	62	55	72	61	54	70	62	54	46
1.25	81	70	62	79	69	62	76	67	61	53
1.50	86	75	68	84	74	67	80	72	66	58
2.00	93	84	77	90	82	76	86	79	74	65
2.50	97	88	82	94	87	81	90	84	79	69
3.00	100	93	87	97	91	86	93	87	83	73
4.00	104	98	93	101	96	91	96	92	88	78
5.00	107	102	97	104	99	95	98	95	91	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: 2023-09-20

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:

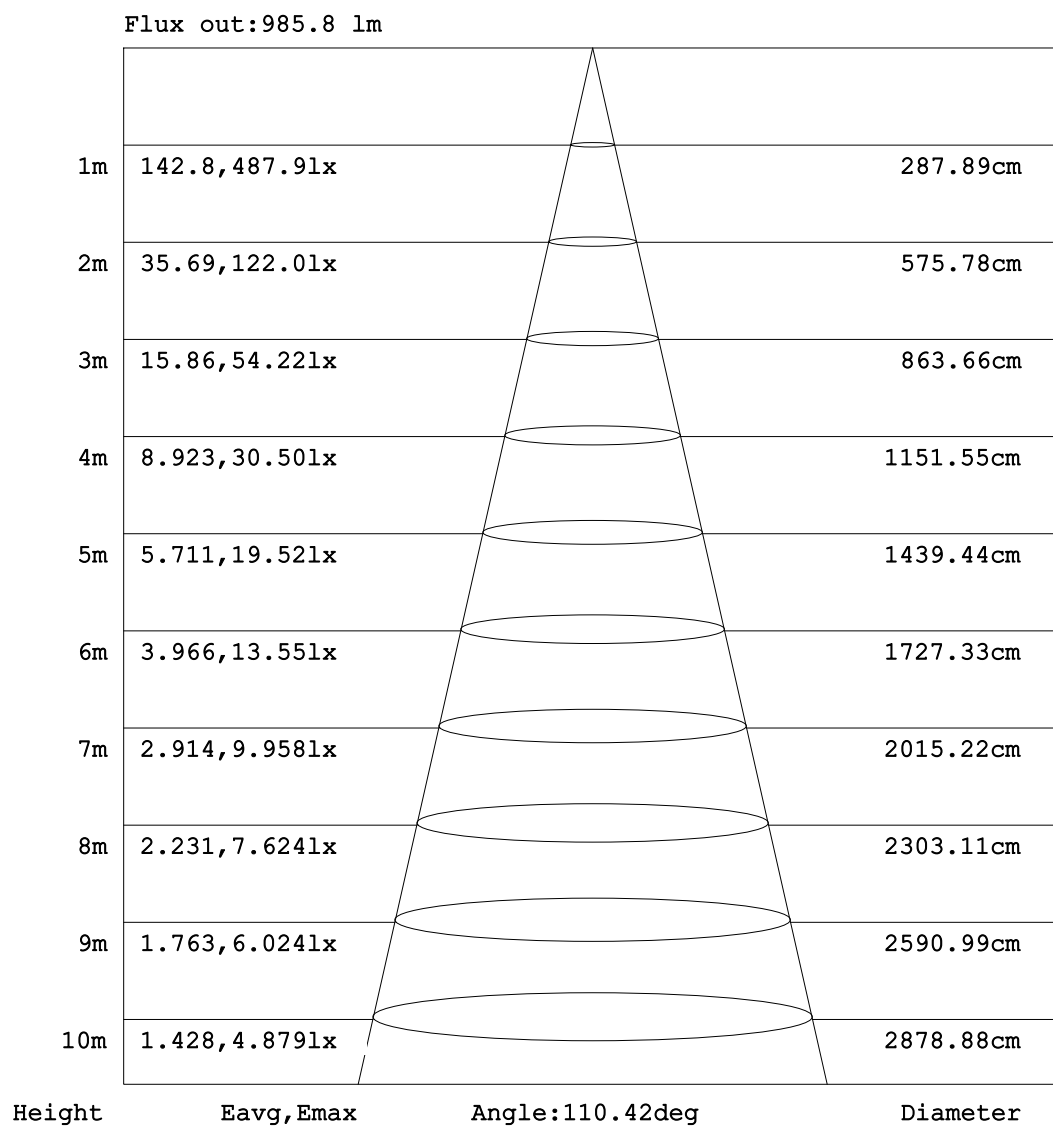
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-20

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

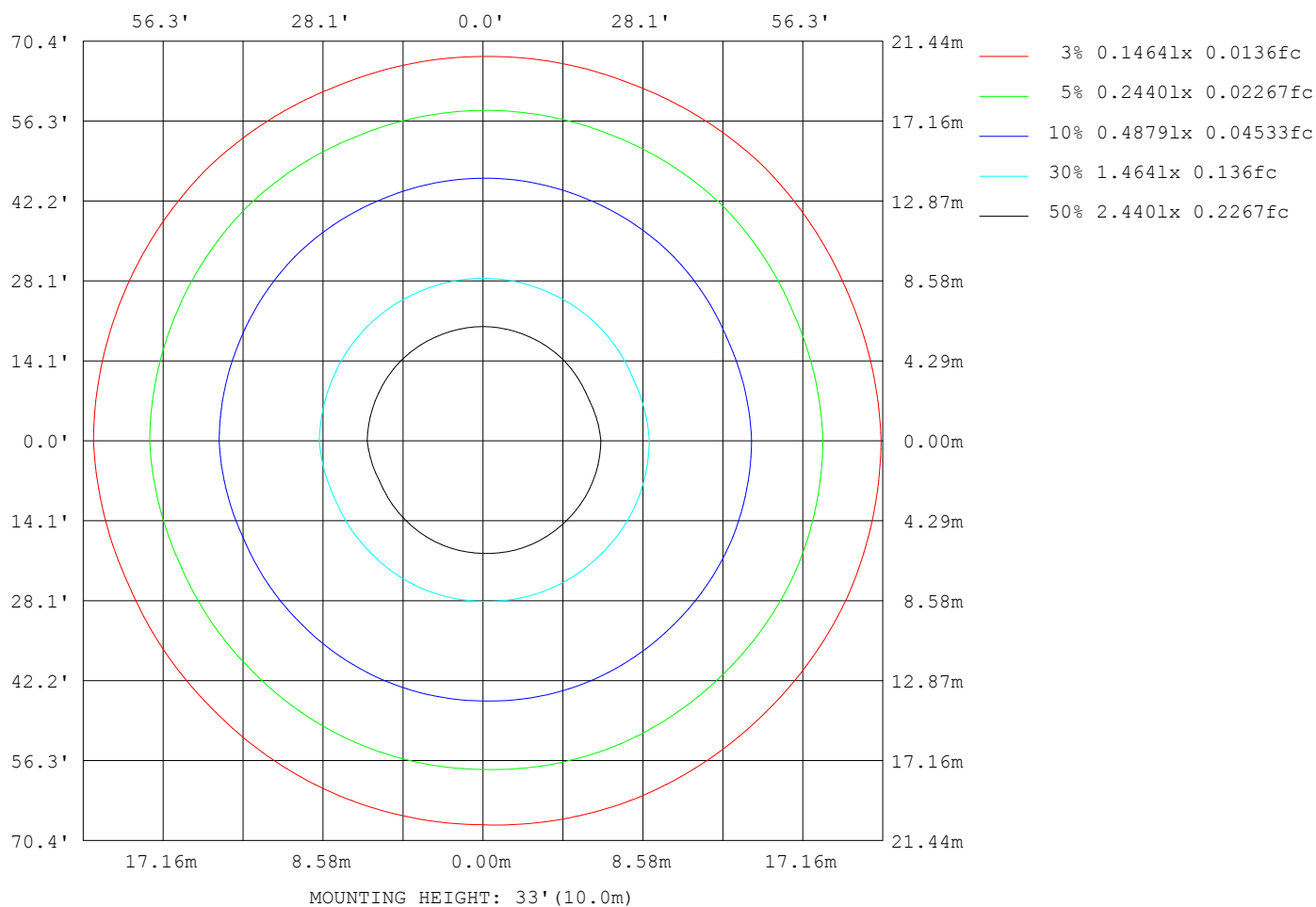


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2023-09-20

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:

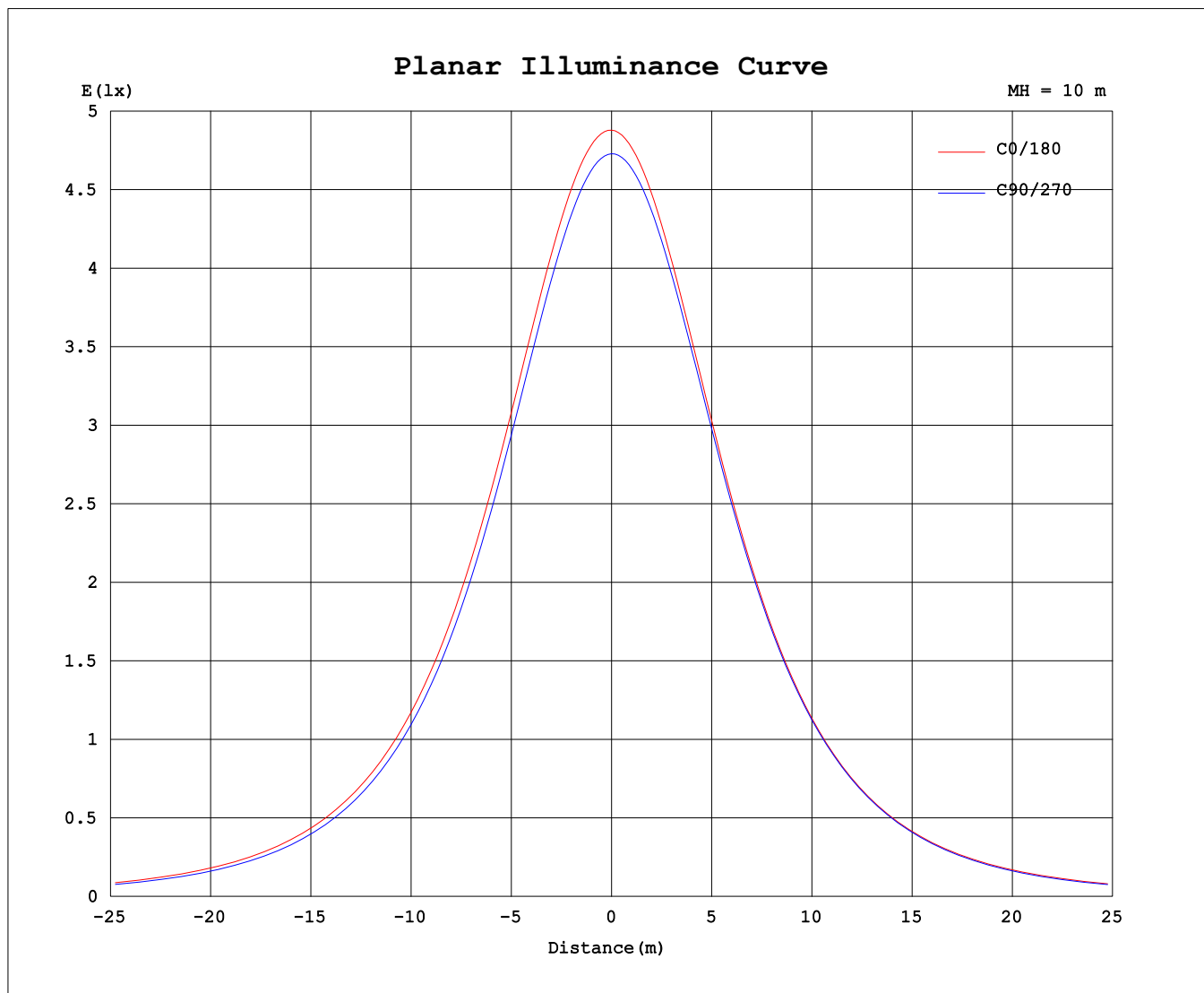
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-20

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: 2023-09-20

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	488	484	480	476	473	470	467	465	488	484	480	476	473	470	467	465			
5	486	482	478	474	470	467	464	462	485	481	477	474	471	468	466	464			
10	480	476	472	468	463	460	457	455	478	473	470	467	465	463	461	458			
15	470	466	461	457	452	449	445	443	466	462	459	456	455	453	451	449			
20	455	452	446	442	436	433	429	428	450	446	444	441	441	439	438	435			
25	437	434	428	423	417	414	410	409	430	426	425	423	423	421	421	418			
30	415	412	405	401	395	391	388	387	407	403	403	401	401	399	400	398			
35	390	387	380	376	369	366	362	362	381	377	377	375	376	375	376	374			
40	362	359	352	348	341	338	334	334	352	349	349	347	348	348	349	347			
45	332	329	322	317	310	308	303	304	321	318	318	316	318	318	320	319			
50	299	296	289	284	277	274	271	272	287	285	285	283	285	286	289	288			
55	265	262	254	250	242	240	237	238	252	250	251	247	249	250	255	255			
60	228	226	218	214	206	204	201	203	215	213	214	208	210	213	220	220			
65	191	189	181	176	169	167	164	167	177	175	174	168	169	172	182	184			
70	152	150	143	138	131	130	127	130	139	137	133	127	129	132	142	147			
75	114	112	105	101	94.4	93.4	91.1	94.0	102	99.2	93.8	89.0	91.2	93.6	102	110			
80	78.0	76.1	69.2	65.0	60.1	59.7	58.7	61.1	67.2	63.2	58.4	54.8	56.8	60.6	67.2	72.3			
85	47.1	44.2	38.1	33.0	30.3	30.7	33.2	35.2	39.0	36.7	33.2	30.9	32.0	34.7	39.3	43.1			
90	27.0	23.2	13.6	8.12	6.82	7.23	9.97	12.3	14.1	13.7	12.9	12.6	12.3	15.3	20.6	22.0			
95	18.2	17.2	13.6	9.56	8.16	9.37	13.9	17.6	19.7	18.7	14.6	9.32	7.64	9.53	13.9	16.9			
100	17.2	15.7	13.5	11.5	12.1	12.2	14.8	16.7	18.9	17.6	15.4	11.9	11.1	10.8	14.1	15.5			
105	16.5	15.5	13.2	11.7	11.5	12.2	14.4	16.3	18.1	17.1	14.1	11.2	11.3	10.6	13.7	15.1			
110	16.0	15.1	13.1	11.7	11.0	12.0	14.0	15.8	17.3	16.4	13.9	12.0	10.5	11.3	13.3	14.7			
115	15.5	14.7	12.8	10.7	10.8	11.3	13.4	15.2	16.5	15.7	13.5	10.8	10.8	11.3	12.7	14.3			
120	15.0	14.2	12.4	9.42	10.5	9.52	12.8	14.4	15.7	14.9	13.0	9.59	10.6	9.52	12.3	13.8			
125	14.4	13.6	11.9	9.91	10.1	9.79	12.1	13.6	14.8	14.1	12.5	9.93	10.2	9.75	11.7	13.2			
130	13.7	13.0	10.6	9.82	9.71	9.55	10.4	12.8	13.9	13.3	10.7	9.58	9.68	9.53	10.3	12.1			
135	12.9	12.3	9.19	9.50	9.05	8.80	8.22	11.0	11.4	11.4	8.47	8.83	9.23	9.35	9.07	11.6			
140	10.9	9.80	9.39	8.67	8.43	8.52	8.69	8.51	10.2	8.83	8.80	8.50	8.47	8.57	9.04	9.18			
145	8.94	8.81	8.64	8.28	7.94	7.95	8.35	8.44	8.31	8.76	8.60	8.02	8.04	7.91	8.13	8.24			
150	8.16	8.38	7.92	7.39	6.93	6.92	7.06	7.17	7.60	7.33	7.33	7.00	6.69	7.35	7.71	8.01			
155	7.70	7.66	7.18	6.79	6.47	6.35	6.22	6.52	7.00	6.66	6.36	6.49	6.55	6.68	7.00	7.35			
160	7.10	6.98	6.54	6.31	6.05	5.90	5.74	5.96	6.43	6.10	5.83	5.97	6.01	6.22	6.42	6.64			
165	6.54	6.37	6.03	5.96	5.74	5.50	5.39	5.39	5.91	5.62	5.44	5.49	5.65	5.79	5.88	6.03			
170	6.28	6.11	5.80	5.66	5.42	5.33	5.01	5.31	5.73	5.51	5.41	5.42	5.42	5.58	5.70	5.85			
175	5.58	5.47	5.18	5.04	4.91	4.76	4.61	4.76	5.10	4.89	4.84	4.83	4.92	4.98	5.07	5.16			
180	4.27	4.17	4.11	4.09	4.05	4.04	4.01	4.02	4.29	4.15	4.13	4.07	4.06	4.03	4.02	4.01			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3℃
Operators:DAMIN
Test Date:2023-09-20

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: