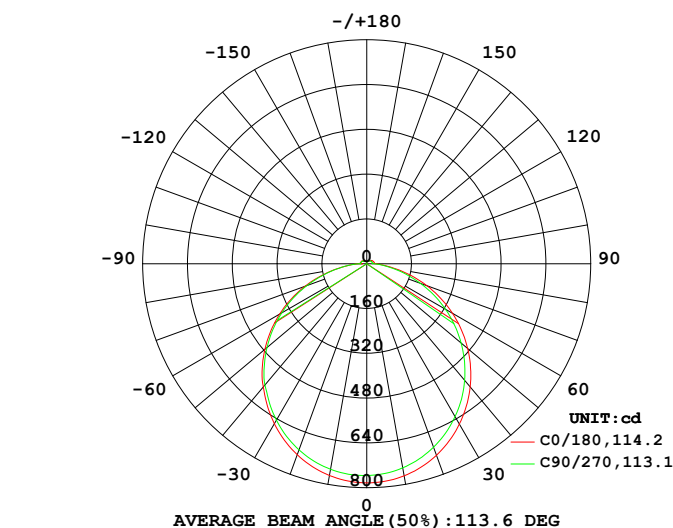


LUMINAIRE PHOTOMETRIC TEST REPORT

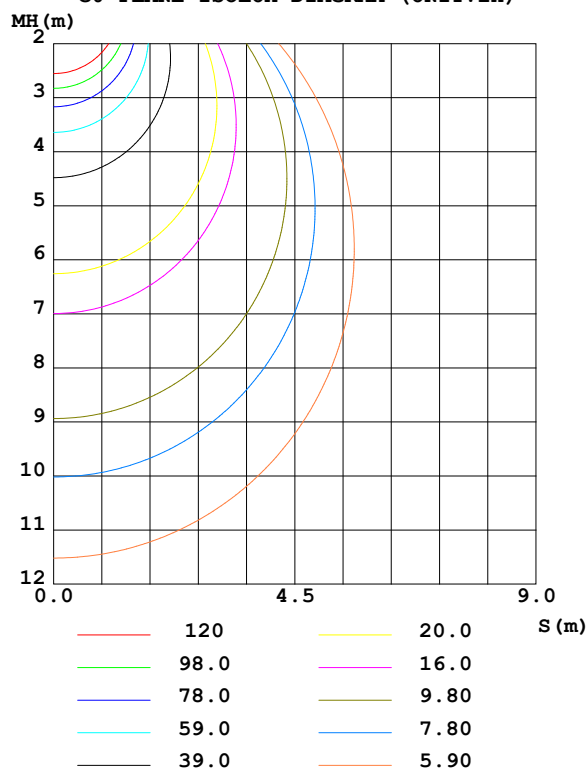
Test:U:220.11V I:0.2466A P:51.663W PF:0.9518 Freq:50.00Hz		
Lamp Flux:2339.98x1 lm		
NAME: SB-D101 50WSZ 50W		WEIGHT:
TYPE: SPEC.: 4000K	DIM.: 39.37"	SERIAL No.:
MFR.: SNOWBALL	SUR.: 1000mm	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 45.29 lm/W			
MODEL		Imax (cd)	782.7	S/MH (C0/180)	1.25
NOMINAL POWER(W)		LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	--	TOTAL FLUX(lm)	2340.0	η UP,DN (C0-180)	2.3,47.0
NOMINAL FLUX(lm)	2339.98	CIE CLASS	DIRECT	η UP,DN (C180-360)	2.3,48.4
LAMPS INSIDE	1	η up (%)	4.5	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	--	η down (%)	95.5	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:2023-09-21

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	769.1	753.3	740.3	731.2	767.9	755.4	745.3	736.8	0~ 10	71.98	71.98	3.08, 3.08
20	727.9	711.2	697.4	689.4	726.0	715.4	707.4	699.9	10~ 20	206.1	278.0	11.9, 11.9
30	661.7	644.8	630.7	624.3	659.9	651.2	645.3	639.1	20~ 30	312.2	590.2	25.2, 25.2
40	574.6	557.5	543.8	540.0	575.0	568.8	565.4	561.5	30~ 40	377.0	967.2	41.3, 41.3
50	470.6	453.4	440.0	439.6	474.7	468.2	465.1	462.2	40~ 50	393.7	1361	58.2, 58.2
60	353.4	336.1	324.5	327.1	359.0	352.9	350.2	349.5	50~ 60	358.9	1720	73.5, 73.5
70	228.0	211.0	203.1	209.1	234.2	227.9	226.3	228.2	60~ 70	279.1	1999	85.4, 85.4
80	105.7	94.13	93.90	95.69	110.9	105.9	109.1	108.7	70~ 80	168.5	2167	92.6, 92.6
90	34.35	27.98	27.59	29.44	28.87	22.58	27.29	28.21	80~ 90	66.05	2234	95.5, 95.5
100	27.25	21.50	20.67	19.85	23.51	18.05	21.74	23.61	90~100	24.05	2258	96.5, 96.5
110	24.94	20.75	19.72	19.59	21.72	18.51	20.37	22.00	100~110	22.10	2280	97.4, 97.4
120	22.71	16.12	18.37	15.38	20.55	13.79	18.02	17.23	110~120	19.30	2299	98.2, 98.2
130	15.76	15.45	16.55	15.34	13.98	14.45	15.80	16.59	120~130	14.82	2314	98.9, 98.9
140	13.69	13.12	13.04	11.06	12.25	10.70	13.81	14.13	130~140	10.98	2325	99.4, 99.4
150	11.49	11.19	10.43	9.569	10.62	9.480	11.27	11.96	140~150	7.331	2332	99.7, 99.7
160	10.40	9.802	8.914	9.624	10.32	9.225	9.514	10.25	150~160	4.673	2337	99.9, 99.9
170	8.052	7.486	7.480	7.788	8.444	7.584	7.541	7.577	160~170	2.512	2339	100, 100
180	6.530	6.245	6.177	6.116	6.563	6.273	6.197	6.134	170~180	0.6763	2340	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1165.3 lm

%lum = 49.8%

%lamp = 49.8%

Conical surface Flux(120deg): 1719.9 lm

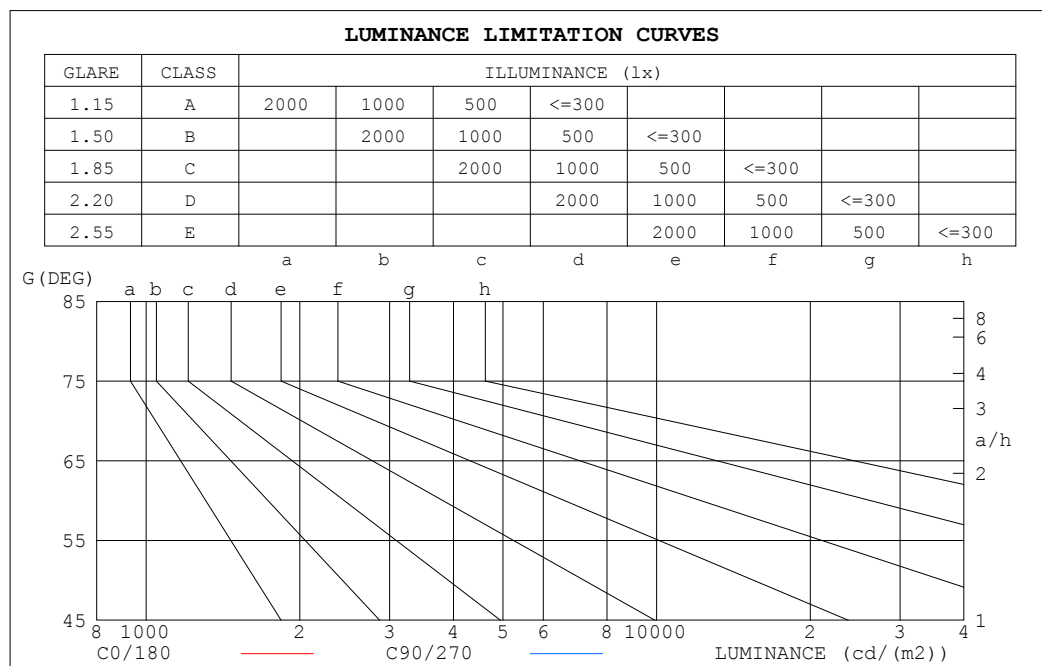
%lum = 73.5%

%lamp = 73.5%

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



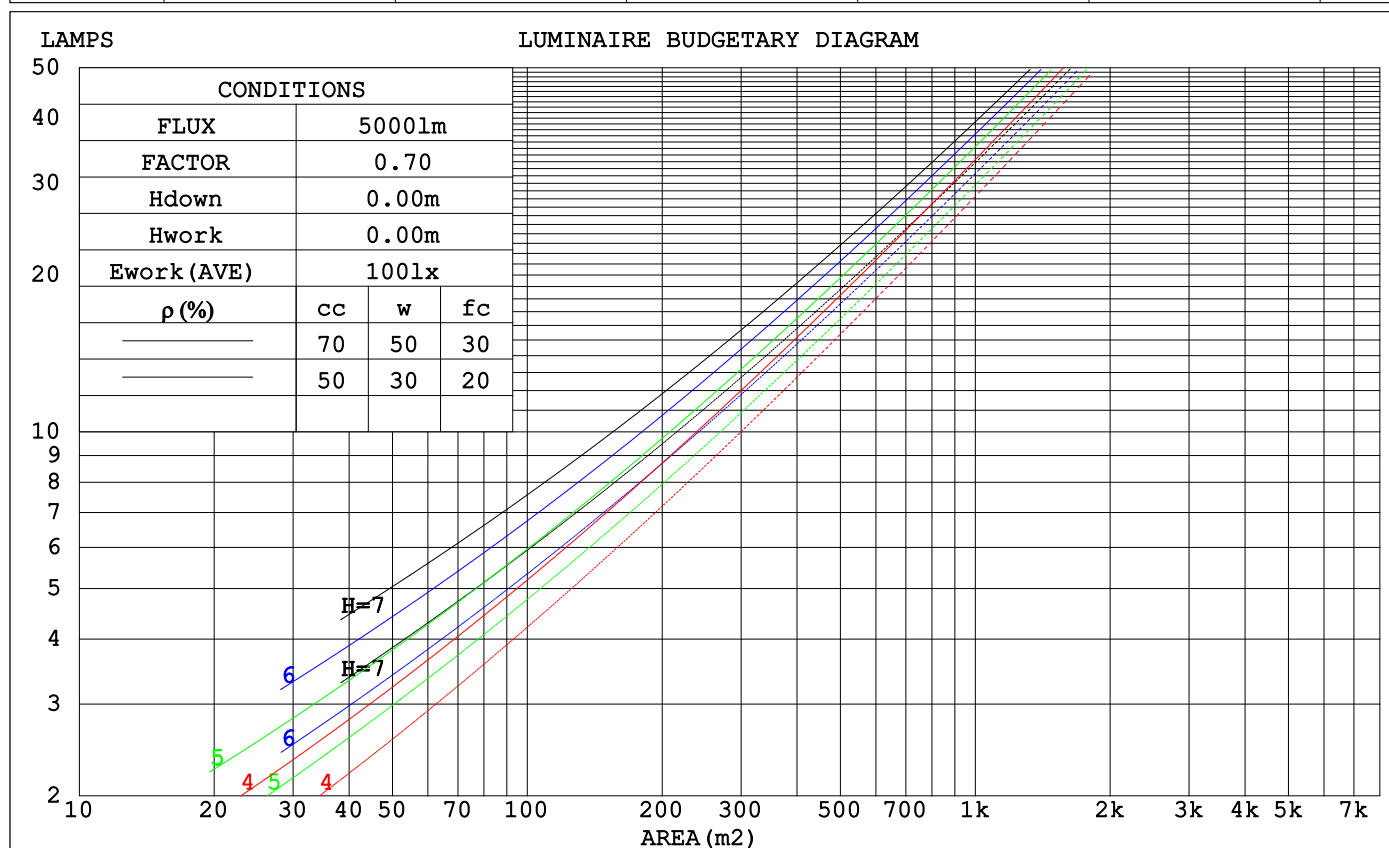
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	88302	76742
80	78028	69327
75	81521	71891
70	85447	76132
65	88362	80288
60	90616	83212
55	92416	85747
50	93856	87751
45	95090	89529

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	.95
1.0	1.02	.98	.94	.99	.95	.92	.94	.91	.88	.90	.87	.84	.85	.83	.81	.79
2.0	.89	.82	.76	.86	.80	.75	.82	.77	.72	.78	.74	.70	.75	.71	.68	.65
3.0	.78	.69	.63	.76	.68	.62	.72	.66	.60	.69	.63	.59	.66	.61	.57	.55
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	.53	.47	.42	.40
6.0	.55	.46	.40	.54	.45	.39	.52	.44	.39	.50	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.35	.49	.41	.35	.47	.39	.34	.45	.38	.34	.43	.37	.33	.31
8.0	.46	.37	.31	.45	.37	.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: 2023-09-21

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	.321	.183	.058	.313	.178	.057	.297	.170	.054	.282	.163	.052	.269	.156	.050	
2.0	.297	.163	.050	.290	.160	.049	.276	.153	.048	.263	.147	.046	.251	.142	.045	
3.0	.273	.145	.044	.267	.143	.043	.254	.138	.042	.242	.133	.041	.231	.128	.040	
4.0	.251	.131	.038	.245	.128	.038	.234	.124	.037	.223	.120	.036	.214	.116	.035	
5.0	.232	.118	.034	.226	.116	.034	.216	.112	.033	.207	.109	.032	.198	.106	.032	
6.0	.214	.107	.031	.210	.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	.174	.087	.025	.168	.085	.024	.161	.083	.024	
9.0	.174	.084	.023	.170	.083	.023	.164	.081	.023	.157	.079	.023	.151	.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	.225	.225	.225	.192	.192	.192	.131	.131	.131	.075	.075	.075	.024	.024	.024		
1.0	.216	.191	.168	.185	.164	.145	.126	.113	.100	.073	.065	.058	.023	.021	.019		
2.0	.208	.167	.133	.178	.144	.115	.122	.099	.080	.070	.058	.047	.023	.019	.015		
3.0	.200	.150	.109	.172	.129	.095	.118	.090	.066	.068	.052	.039	.022	.017	.013		
4.0	.193	.137	.094	.165	.118	.081	.114	.082	.057	.066	.048	.034	.021	.016	.011		
5.0	.185	.126	.083	.159	.109	.072	.110	.076	.051	.064	.045	.030	.020	.015	.010		
6.0	.178	.118	.075	.153	.102	.065	.106	.072	.046	.061	.042	.027	.020	.014	.009		
7.0	.171	.111	.069	.147	.096	.060	.102	.068	.043	.059	.040	.025	.019	.013	.008		
8.0	.165	.105	.065	.142	.091	.056	.098	.064	.040	.057	.038	.024	.018	.012	.008		
9.0	.159	.101	.061	.137	.087	.053	.095	.061	.038	.055	.036	.023	.018	.012	.007		
10.0	.153	.096	.058	.132	.084	.051	.092	.059	.036	.053	.035	.022	.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	28.4	29.8	28.7	30.1	30.4	28.0	29.5	28.4	29.8	30.1
3H	30.0	31.3	30.3	31.6	32.0	29.5	30.9	29.9	31.2	31.5
4H	30.6	31.9	31.0	32.3	32.6	30.1	31.4	30.5	31.7	32.1
6H	31.1	32.4	31.5	32.7	33.1	30.6	31.8	31.0	32.2	32.5
8H	31.3	32.5	31.8	32.9	33.3	30.8	31.9	31.2	32.3	32.7
12H	31.5	32.6	31.9	33.0	33.4	30.9	32.1	31.3	32.4	32.8
4H 2H	28.9	30.2	29.3	30.5	30.9	28.7	29.9	29.0	30.3	30.6
3H	30.7	31.8	31.1	32.2	32.6	30.3	31.5	30.7	31.8	32.2
4H	31.5	32.5	31.9	32.9	33.4	31.1	32.1	31.5	32.5	32.9
6H	32.2	33.1	32.6	33.5	34.0	31.7	32.6	32.1	33.0	33.5
8H	32.4	33.3	32.9	33.7	34.2	31.9	32.8	32.4	33.2	33.7
12H	32.6	33.4	33.1	33.9	34.4	32.1	32.9	32.6	33.4	33.9
8H 4H	31.7	32.6	32.2	33.0	33.5	31.3	32.2	31.8	32.6	33.1
6H	32.5	33.3	33.1	33.7	34.3	32.1	32.8	32.6	33.3	33.8
8H	32.9	33.5	33.4	34.0	34.6	32.5	33.1	33.0	33.6	34.1
12H	33.3	33.8	33.8	34.3	34.9	32.8	33.3	33.3	33.9	34.4
12H 4H	31.7	32.5	32.2	33.0	33.5	31.3	32.1	31.8	32.6	33.1
6H	32.6	33.2	33.1	33.7	34.3	32.2	32.8	32.7	33.3	33.9
8H	33.0	33.6	33.6	34.1	34.7	32.6	33.1	33.1	33.7	34.2
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 2340 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 3.0$)
Area: 0.0078 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:

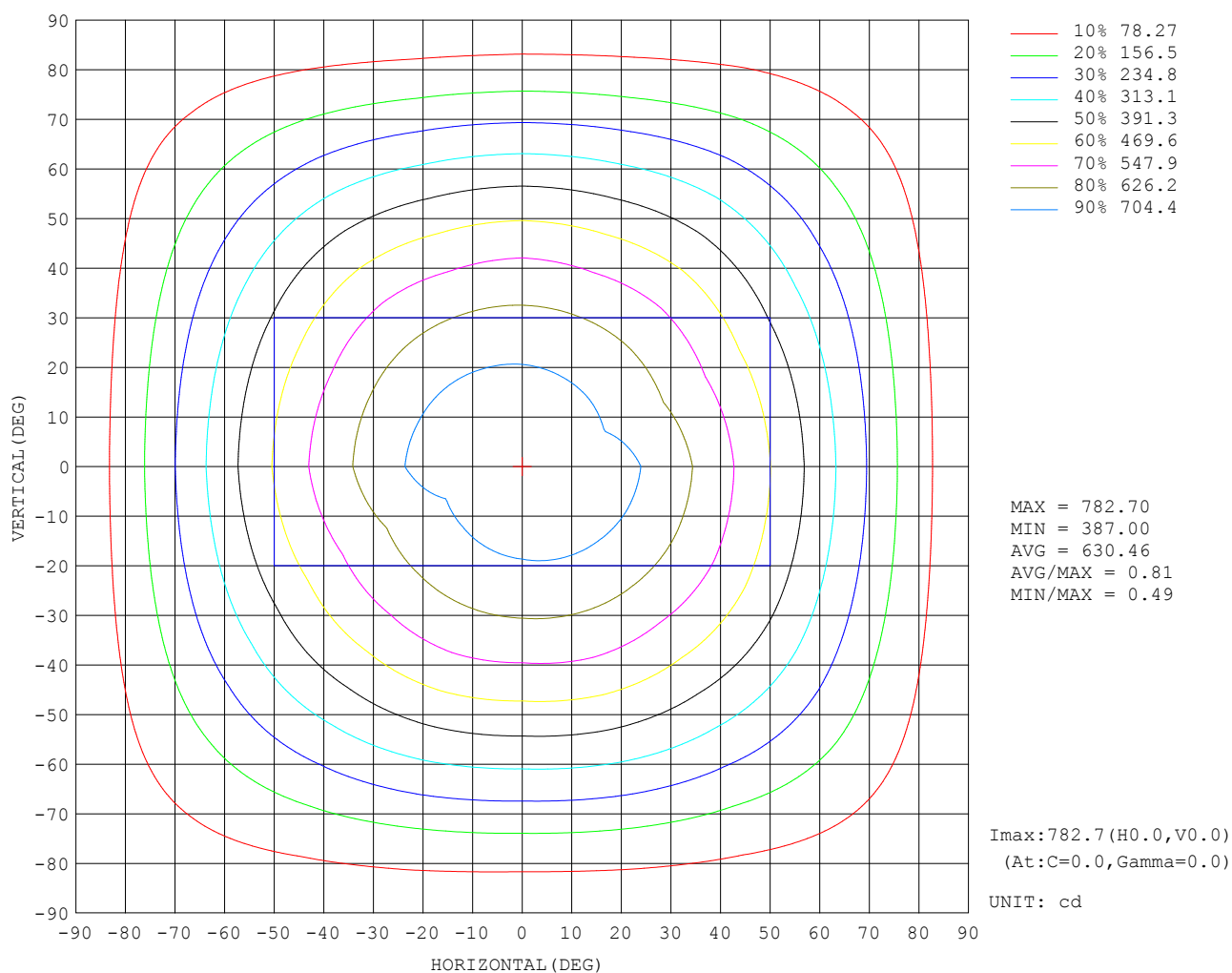
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	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	63	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	91	82	76	86	80	74	65
2.50	97	88	82	94	87	81	90	84	79	69
3.00	100	93	87	98	91	86	93	87	83	73
4.00	104	98	93	101	96	91	97	92	88	78
5.00	107	102	97	104	99	95	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:

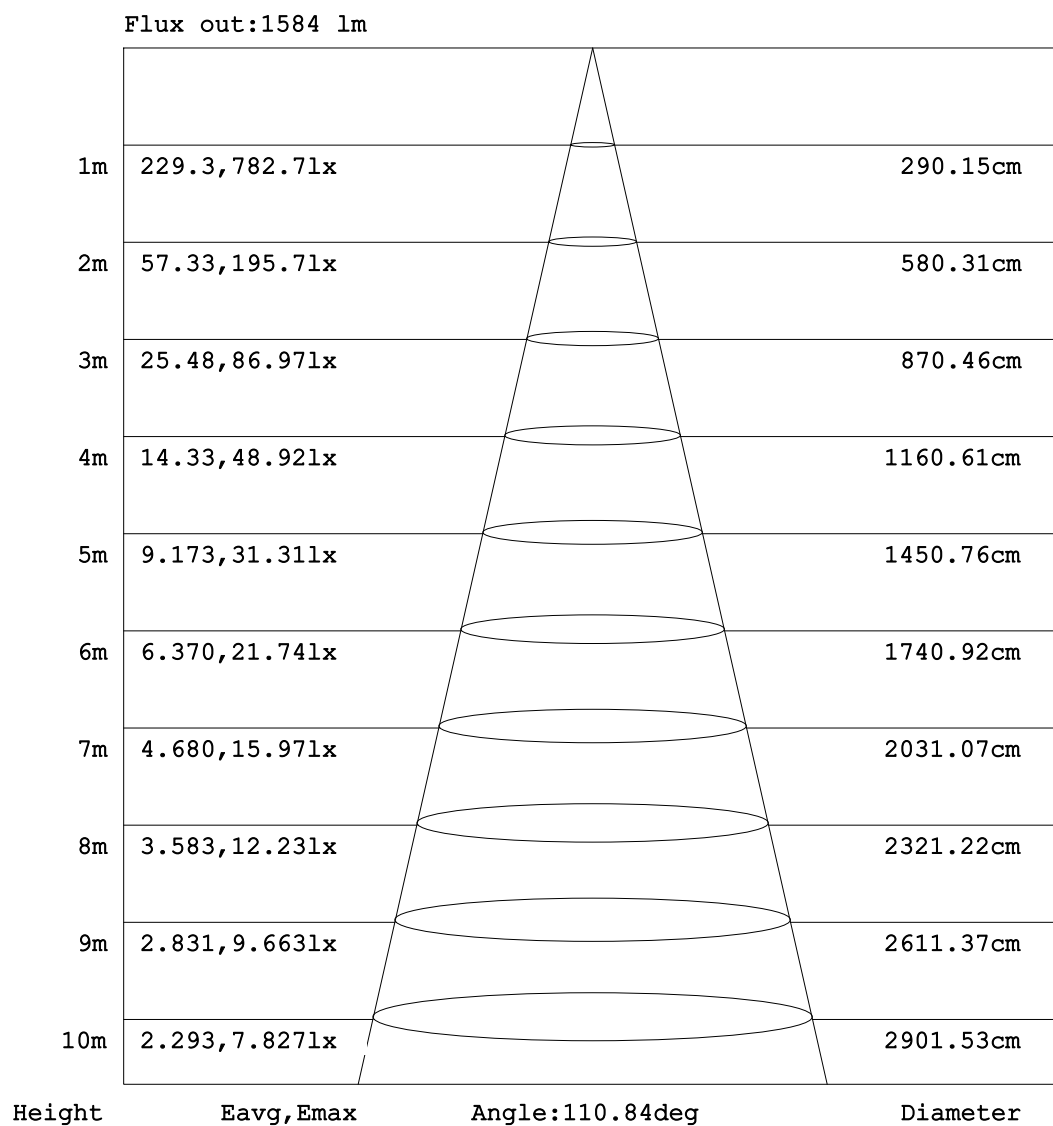
ISOCANDELA DIAGRAM



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

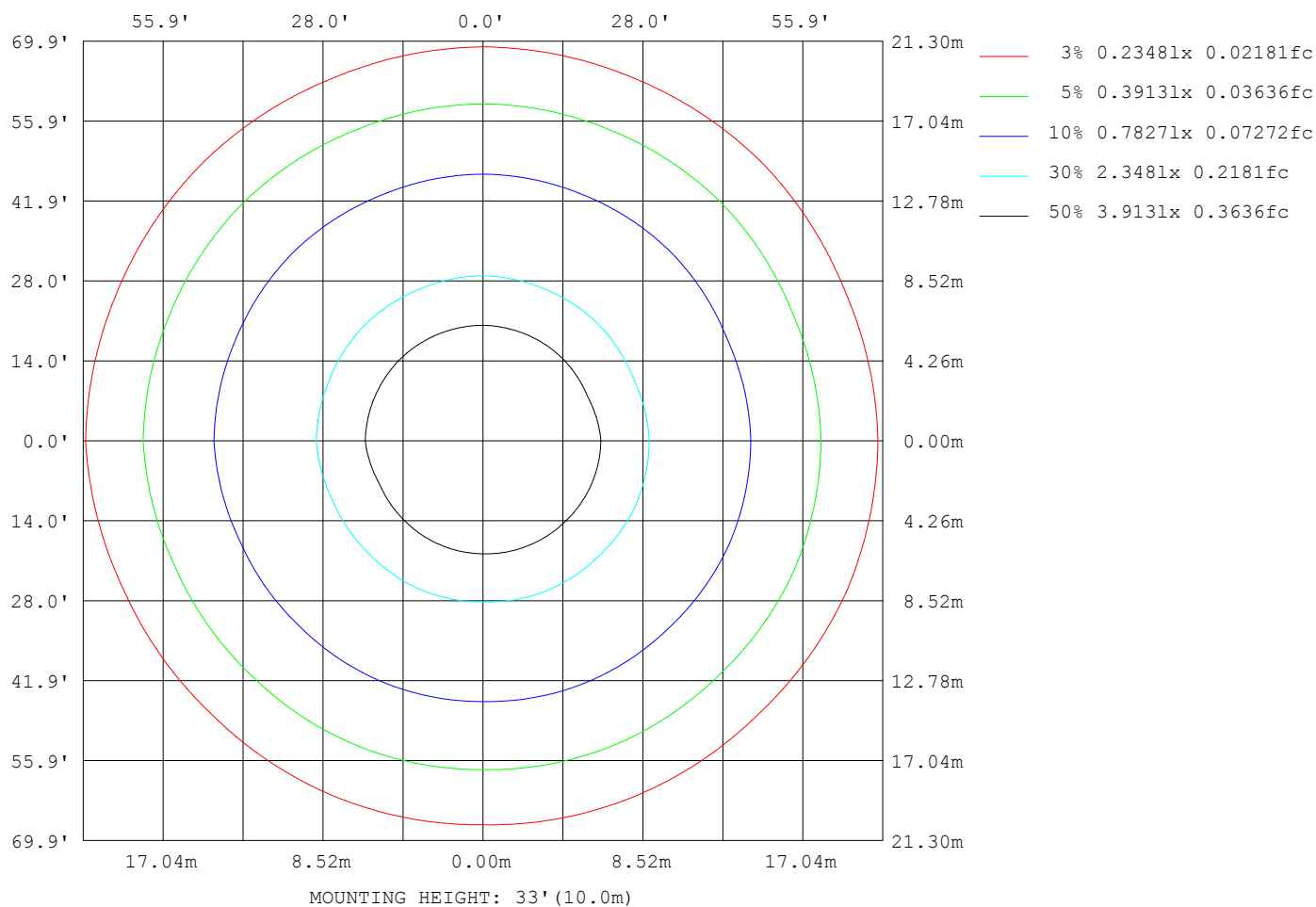


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3°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:

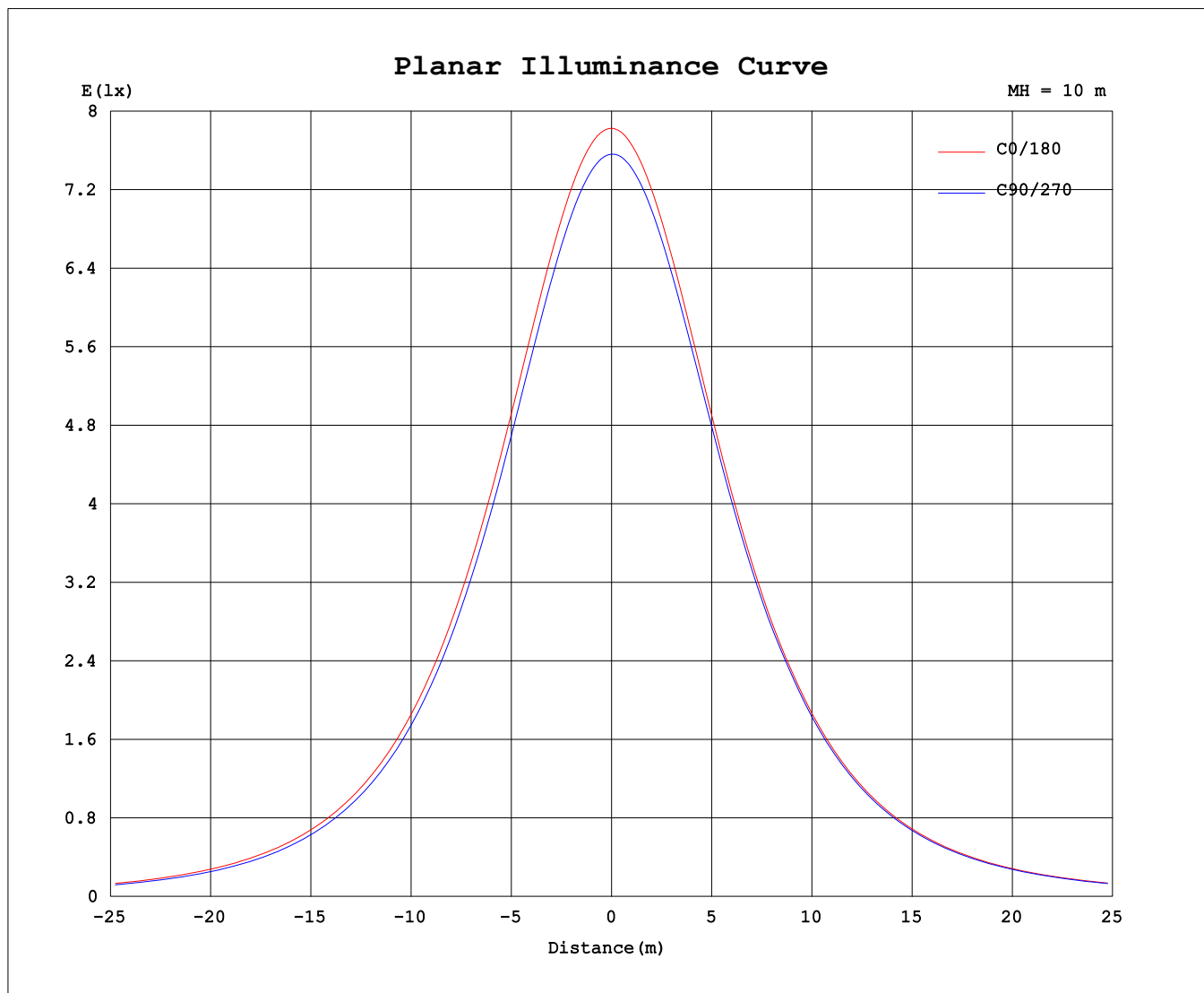
ISOLUX DIAGRAM



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	783	775	768	762	756	751	747	744	783	775	768	762	756	751	747	744			
5	779	772	764	758	752	747	743	739	779	771	765	759	754	750	745	741			
10	769	761	753	747	740	735	731	729	768	761	755	750	745	741	737	732			
15	752	744	736	729	722	717	713	711	750	743	739	734	730	725	722	717			
20	728	720	711	704	697	693	689	688	726	720	715	711	707	703	700	695			
25	698	690	681	674	667	663	659	659	696	690	686	682	679	676	672	667			
30	662	654	645	638	631	627	624	625	660	654	651	647	645	642	639	634			
35	621	613	603	597	590	587	584	586	619	614	611	607	606	603	601	595			
40	575	570	557	555	544	545	540	546	575	569	569	563	565	559	562	553			
45	524	521	507	504	494	496	492	498	528	519	521	514	518	511	514	505			
50	471	467	453	450	440	443	440	447	475	467	468	461	465	460	462	454			
55	413	410	396	392	384	386	385	393	418	411	412	405	409	405	407	400			
60	353	350	336	332	325	327	327	336	359	352	353	347	350	347	349	343			
65	291	288	274	271	265	268	268	277	297	291	291	286	289	287	289	284			
70	228	224	211	208	203	207	209	217	234	229	228	223	226	225	228	223			
75	165	161	148	147	145	147	149	158	171	167	165	160	164	162	166	163			
80	106	101	94.1	95.6	93.9	96.6	95.7	104	111	107	106	105	109	108	109	106			
85	60.0	55.8	52.1	52.8	52.2	54.4	54.5	57.4	63.7	58.5	58.7	58.6	62.7	62.4	63.8	60.0			
90	34.3	19.7	28.0	19.1	27.6	19.9	29.4	23.9	28.9	20.4	22.6	29.0	27.3	25.1	28.2	23.6			
95	28.1	24.5	20.7	19.5	21.7	19.1	19.4	22.1	24.2	20.9	18.4	19.1	23.4	23.2	23.5	25.8			
100	27.3	24.1	21.5	20.0	20.7	19.2	19.8	21.0	23.5	20.5	18.0	17.7	21.7	21.7	23.6	24.9			
105	26.0	23.6	21.2	19.1	20.1	18.4	19.8	20.8	22.3	19.7	17.8	17.4	21.1	20.9	21.9	24.1			
110	24.9	22.7	20.7	17.7	19.7	16.5	19.6	20.4	21.7	19.4	18.5	16.6	20.4	18.6	22.0	23.2			
115	23.9	21.8	19.5	18.1	19.2	17.2	18.7	19.9	21.2	19.1	17.4	15.9	19.6	18.9	21.2	22.2			
120	22.7	20.8	16.1	17.1	18.4	16.6	15.4	19.3	20.5	18.5	13.8	14.8	18.0	18.1	17.2	20.4			
125	21.4	17.1	16.5	16.4	17.5	15.7	15.0	14.4	18.3	13.8	14.0	14.6	17.2	16.8	17.3	17.6			
130	15.8	15.3	15.5	15.4	16.5	15.5	15.3	14.7	14.0	14.0	14.5	14.1	15.8	15.9	16.6	15.2			
135	15.2	14.9	14.5	15.0	15.7	13.5	13.0	13.4	13.8	13.0	12.4	11.8	15.3	15.0	15.2	15.1			
140	13.7	13.4	13.1	13.9	13.0	11.3	11.1	11.3	12.2	11.8	10.7	11.3	13.8	14.2	14.1	13.6			
145	12.5	12.2	12.1	12.3	11.5	10.1	10.0	11.0	11.3	10.9	10.2	10.3	12.4	12.9	13.1	12.5			
150	11.5	11.3	11.2	11.0	10.4	9.32	9.57	10.4	10.6	10.1	9.48	9.62	11.3	11.7	12.0	11.5			
155	10.5	10.3	10.1	9.86	9.44	8.58	9.00	9.69	10.0	9.47	8.91	9.06	10.1	10.7	10.8	10.4			
160	10.4	10.2	9.80	9.09	8.91	9.34	9.62	9.98	10.3	9.70	9.22	9.18	9.51	9.67	10.2	10.3			
165	9.30	9.11	8.58	8.27	8.47	8.63	8.76	9.00	9.49	8.88	8.45	8.46	8.55	8.61	8.84	9.03			
170	8.05	7.81	7.49	7.53	7.48	7.72	7.79	7.96	8.44	7.86	7.58	7.54	7.54	7.54	7.58	7.68			
175	6.90	6.78	6.62	6.62	6.65	6.77	6.87	7.00	7.37	6.97	6.76	6.60	6.72	6.60	6.53	6.56			
180	6.53	6.37	6.25	6.18	6.18	6.17	6.12	6.17	6.56	6.34	6.27	6.16	6.20	6.16	6.13	6.15			

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: