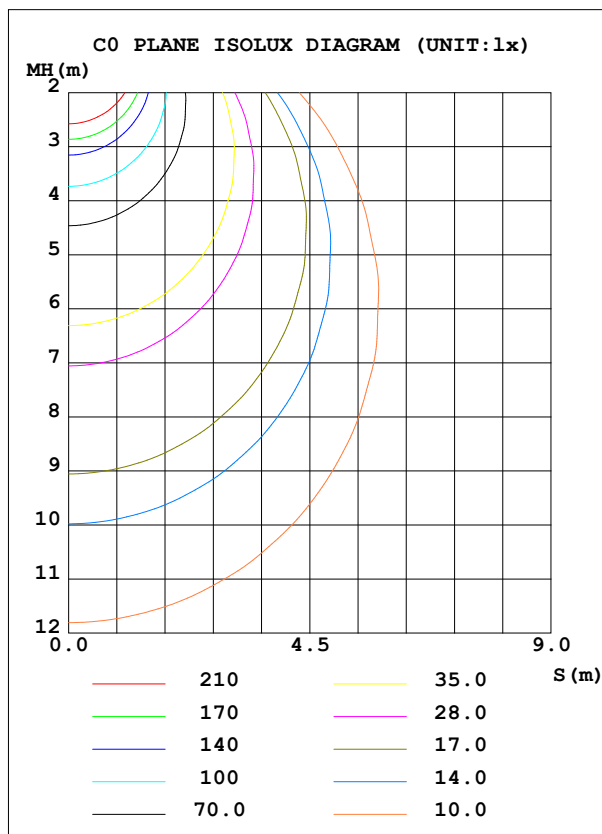
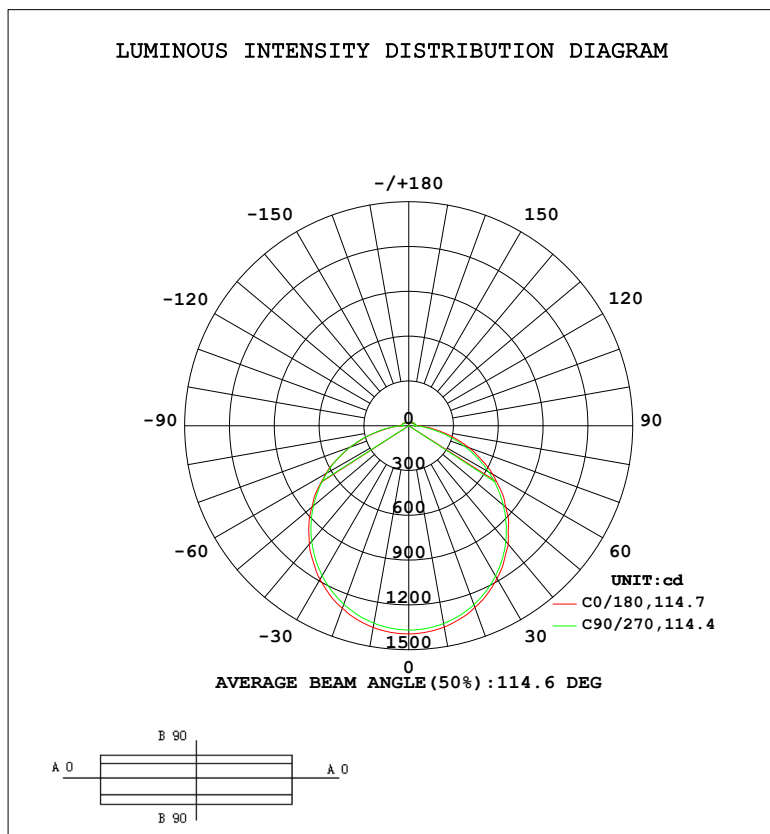


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.05V I:0.3784A P:81.257W PF:0.9758 Freq:50.00Hz Lamp Flux:4301.76x1 lm		
NAME: SB-D101 80WSZ 80W		WEIGHT:
TYPE: SPEC.: 4000K	DIM.: 70.87"	SERIAL No.:
MFR.: SNOWBALL	SUR.: 1800mm	

DATA OF LAMP			PHOTOMETRIC DATA Eff: 52.94 lm/W			
MODEL			Imax (cd)	1394	S/MH (C0/180)	1.27
NOMINAL POWER (W)			LOR (%)	100.0	S/MH (C90/270)	1.26
RATED VOLTAGE (V)		--	TOTAL FLUX (lm)	4301.8	η UP, DN (C0-180)	2.5, 47.4
NOMINAL FLUX (lm)		4301.76	CIE CLASS	DIRECT	η UP, DN (C180-360)	2.5, 47.6
LAMPS INSIDE		1	η up (%)	5.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)		--	η down (%)	95.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-22

```

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:

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ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1369	1361	1345	1333	1372	1350	1342	1340	0~ 10	129.9	129.9	3.02, 3.02
20	1295	1294	1275	1260	1300	1274	1272	1274	10~ 20	372.4	502.2	11.7, 11.7
30	1182	1186	1162	1145	1189	1156	1159	1168	20~ 30	565.6	1068	24.8, 24.8
40	1036	1039	1010	991.2	1036	1001	1011	1026	30~ 40	685.3	1753	40.8, 40.8
50	847.7	859.0	827.3	803.7	846.1	815.7	832.8	853.4	40~ 50	716.7	2470	57.4, 57.4
60	648.7	653.9	617.4	592.9	640.4	611.4	633.2	658.7	50~ 60	656.7	3127	72.7, 72.7
70	430.3	433.9	392.8	367.9	416.5	384.5	416.6	449.7	60~ 70	516.2	3643	84.7, 84.7
80	211.8	216.2	179.7	159.3	191.3	170.4	202.3	236.5	70~ 80	316.9	3960	92, 92
90	70.51	66.78	49.00	55.75	58.54	48.56	50.03	81.64	80~ 90	126.9	4087	95, 95
100	41.84	38.21	37.87	40.85	45.08	40.19	41.71	42.77	90~100	49.88	4137	96.2, 96.2
110	42.32	39.76	43.16	38.67	43.26	35.09	40.66	39.90	100~110	43.28	4180	97.2, 97.2
120	30.86	35.97	39.38	37.48	34.57	34.92	37.64	37.23	110~120	38.08	4218	98, 98
130	30.00	30.91	31.19	28.56	29.96	28.27	31.19	30.84	120~130	29.58	4247	98.7, 98.7
140	25.58	26.06	25.56	23.55	24.87	23.91	26.79	26.93	130~140	21.46	4269	99.2, 99.2
150	26.84	25.11	23.76	22.83	24.25	22.23	25.02	26.50	140~150	16.15	4285	99.6, 99.6
160	21.83	20.35	19.01	17.88	19.55	18.23	20.40	21.93	150~160	10.33	4295	99.9, 99.9
170	17.07	16.08	14.71	13.57	14.94	14.19	15.75	16.81	160~170	5.026	4300	100, 100
180	13.09	13.13	13.21	13.02	13.12	13.14	13.23	13.02	170~180	1.363	4302	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 2113.3 lm

%lum = 49.1%

%lamp = 49.1%

Conical surface Flux(120deg): 3126.5 lm

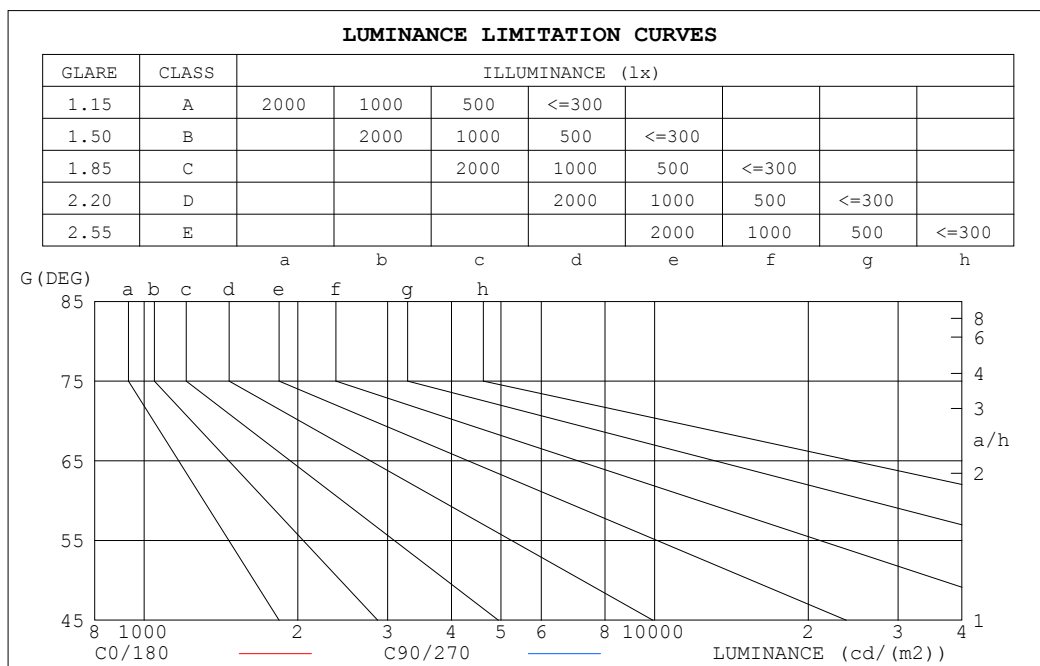
%lum = 72.7%

%lamp = 72.7%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2023-09-22

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



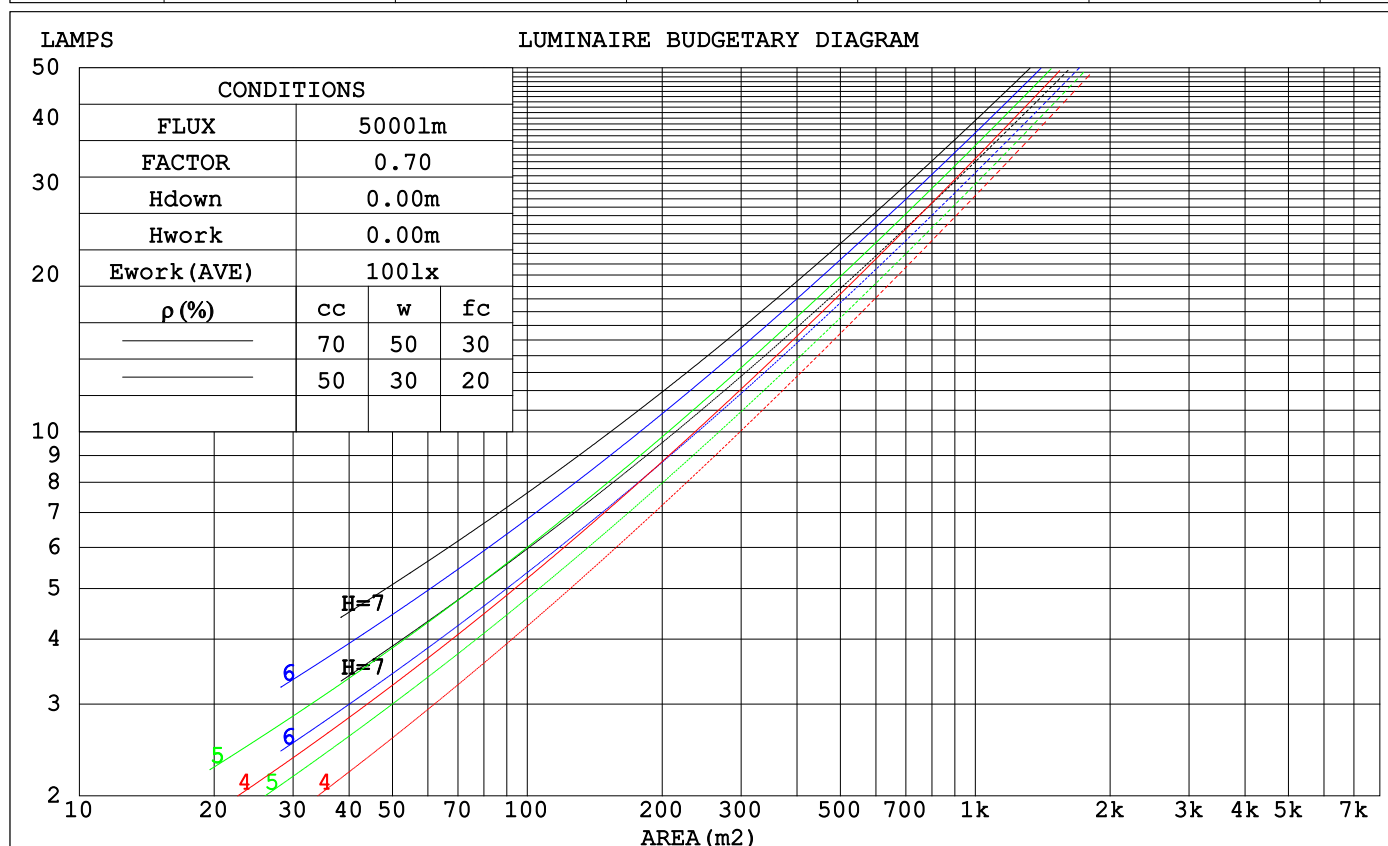
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	564	439
80	480	407
75	485	428
70	495	452
65	499	472
60	510	486
55	516	496
50	518	506
45	526	513

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-22

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	.97	.97	.97	.95
1.0	1.02	.97	.93	.99	.95	.91	.94	.91	.88	.89	.86	.84	.85	.83	.81	.78
2.0	.88	.81	.75	.86	.80	.74	.82	.76	.72	.78	.73	.69	.74	.70	.67	.65
3.0	.77	.69	.62	.75	.68	.62	.72	.65	.60	.68	.63	.58	.65	.60	.56	.54
4.0	.68	.59	.53	.67	.58	.52	.64	.56	.51	.61	.55	.50	.58	.53	.48	.46
5.0	.61	.52	.45	.60	.51	.45	.57	.49	.44	.54	.48	.43	.52	.46	.42	.40
6.0	.55	.46	.39	.54	.45	.39	.51	.44	.38	.49	.43	.37	.47	.41	.37	.35
7.0	.50	.41	.35	.49	.40	.34	.47	.39	.34	.45	.38	.33	.43	.37	.33	.30
8.0	.45	.37	.31	.44	.36	.31	.43	.35	.30	.41	.34	.30	.39	.34	.29	.27
9.0	.42	.33	.28	.41	.33	.27	.39	.32	.27	.38	.31	.27	.36	.31	.26	.24
10.0	.38	.30	.25	.38	.30	.25	.36	.29	.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: 2023-09-22

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	.324	.184	.058	.315	.180	.057	.299	.172	.055	.284	.164	.053	.271	.157	.051	
2.0	.299	.164	.050	.291	.161	.049	.277	.154	.048	.264	.148	.046	.252	.142	.045	
3.0	.274	.146	.044	.268	.143	.043	.255	.138	.042	.243	.133	.041	.232	.128	.040	
4.0	.252	.131	.039	.246	.129	.038	.234	.124	.037	.224	.120	.036	.214	.116	.035	
5.0	.232	.118	.034	.227	.116	.034	.216	.113	.033	.207	.109	.032	.198	.106	.032	
6.0	.215	.108	.031	.210	.106	.031	.201	.103	.030	.192	.100	.029	.184	.097	.029	
7.0	.200	.099	.028	.195	.097	.028	.187	.094	.027	.179	.092	.027	.172	.089	.026	
8.0	.186	.091	.026	.182	.090	.025	.175	.087	.025	.167	.085	.024	.161	.083	.024	
9.0	.174	.084	.024	.171	.083	.023	.164	.081	.023	.157	.079	.023	.151	.077	.022	
10.0	.164	.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	.229	.229	.229	.195	.195	.195	.133	.133	.133	.077	.077	.077	.024	.024	.024		
1.0	.220	.194	.172	.188	.167	.148	.129	.115	.102	.074	.066	.059	.024	.021	.019		
2.0	.212	.171	.136	.181	.147	.117	.124	.102	.082	.072	.059	.048	.023	.019	.016		
3.0	.204	.153	.113	.175	.132	.098	.120	.092	.068	.069	.054	.040	.022	.017	.013		
4.0	.197	.140	.097	.169	.121	.084	.116	.084	.059	.067	.049	.035	.022	.016	.012		
5.0	.189	.130	.086	.162	.112	.075	.112	.078	.053	.065	.046	.031	.021	.015	.010		
6.0	.182	.122	.078	.156	.105	.068	.108	.074	.048	.063	.043	.029	.020	.014	.009		
7.0	.175	.115	.073	.151	.099	.063	.104	.070	.045	.060	.041	.027	.020	.013	.009		
8.0	.169	.109	.068	.145	.095	.059	.100	.066	.042	.058	.039	.025	.019	.013	.008		
9.0	.163	.104	.065	.140	.090	.056	.097	.064	.040	.057	.038	.024	.018	.012	.008		
10.0	.157	.100	.062	.135	.087	.054	.094	.061	.038	.055	.036	.023	.018	.012	.008		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:2023-09-22

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	10.5	11.9	10.8	12.2	12.5	10.3	11.7	10.6	12.0	12.3
3H	12.1	13.5	12.5	13.8	14.2	11.9	13.2	12.2	13.5	13.9
4H	12.9	14.1	13.2	14.5	14.8	12.5	13.8	12.9	14.1	14.5
6H	13.4	14.7	13.9	15.0	15.4	13.0	14.2	13.4	14.6	15.0
8H	13.7	14.9	14.1	15.2	15.6	13.2	14.4	13.6	14.7	15.1
12H	13.9	15.0	14.3	15.4	15.8	13.3	14.4	13.7	14.8	15.2
4H 2H	11.1	12.4	11.5	12.7	13.1	11.0	12.2	11.3	12.6	12.9
3H	13.0	14.1	13.4	14.5	14.9	12.7	13.9	13.2	14.3	14.7
4H	13.8	14.9	14.3	15.3	15.7	13.5	14.6	14.0	15.0	15.4
6H	14.6	15.5	15.1	15.9	16.4	14.2	15.1	14.6	15.5	16.0
8H	14.9	15.8	15.4	16.2	16.7	14.4	15.3	14.9	15.7	16.2
12H	15.2	16.0	15.7	16.4	17.0	14.6	15.4	15.1	15.9	16.4
8H 4H	14.2	15.0	14.6	15.5	16.0	13.9	14.7	14.4	15.2	15.7
6H	15.1	15.8	15.6	16.3	16.8	14.7	15.4	15.2	15.9	16.5
8H	15.5	16.2	16.1	16.7	17.2	15.1	15.7	15.6	16.2	16.8
12H	16.0	16.5	16.5	17.0	17.6	15.4	16.0	16.0	16.5	17.1
12H 4H	14.2	15.0	14.7	15.4	16.0	13.9	14.7	14.4	15.2	15.7
6H	15.2	15.8	15.7	16.3	16.9	14.8	15.5	15.4	16.0	16.5
8H	15.7	16.2	16.2	16.8	17.3	15.3	15.8	15.8	16.3	16.9
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 / - 0.4					+ 0.1 / - 0.4				

CIE Pub.117, 4302 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 5.1$)
Area: 2.5434 m²

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3°C
Operators:DAMIN
Test Date:2023-09-22

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:

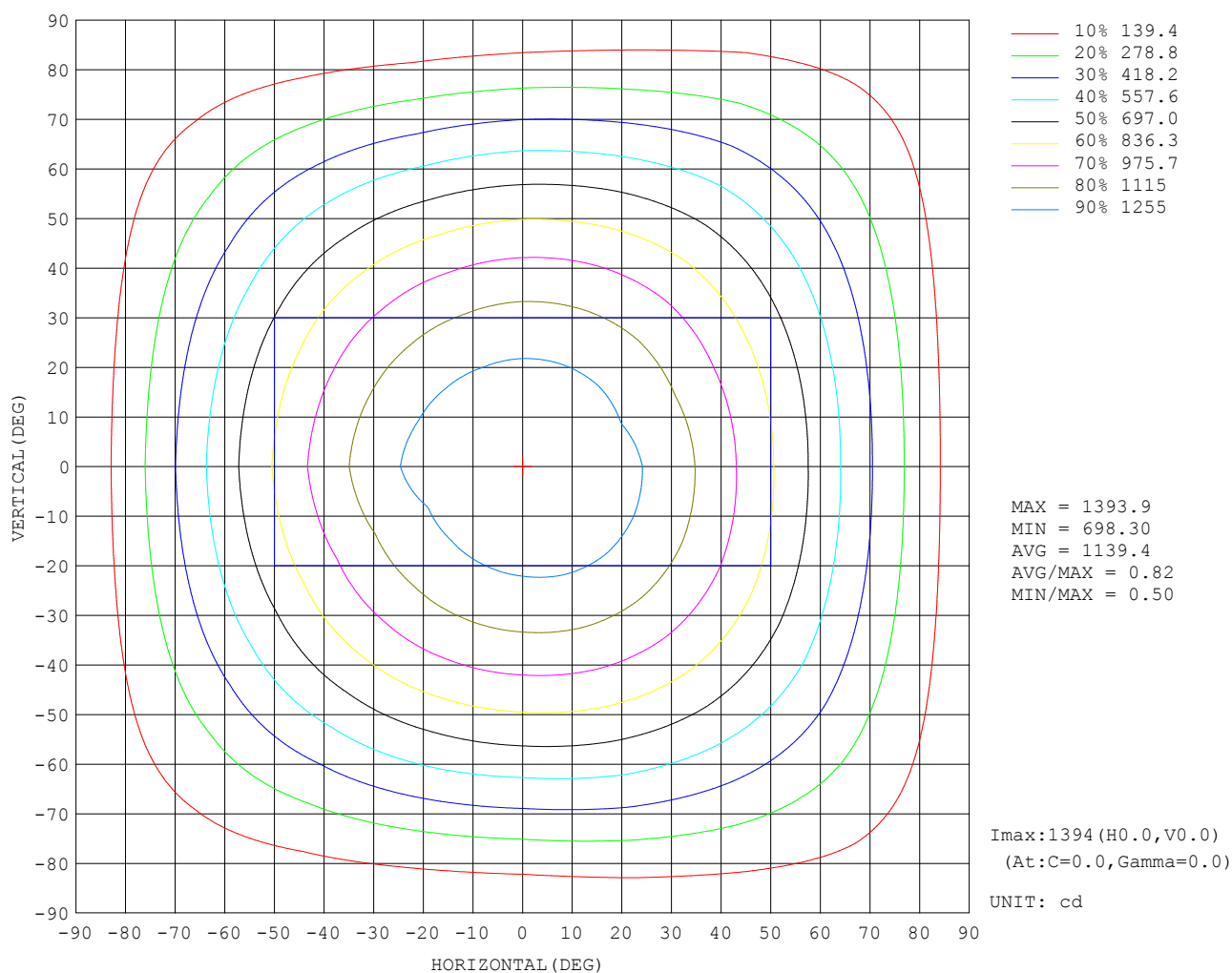
UTILIZATION FACTORS TABLE

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	43	36	54	43	36	53	42	36	29
0.80	65	53	46	64	53	45	62	52	45	38
1.00	73	62	54	72	61	54	69	62	53	46
1.25	80	69	62	79	68	61	75	67	60	52
1.50	85	75	68	83	74	67	80	72	66	57
2.00	92	83	76	90	82	75	86	79	74	65
2.50	96	88	82	94	86	80	89	83	78	69
3.00	100	92	87	97	91	85	92	87	82	73
4.00	104	98	93	101	96	91	96	92	88	77
5.00	107	101	97	104	99	95	98	95	91	80
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: 2023-09-22

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:

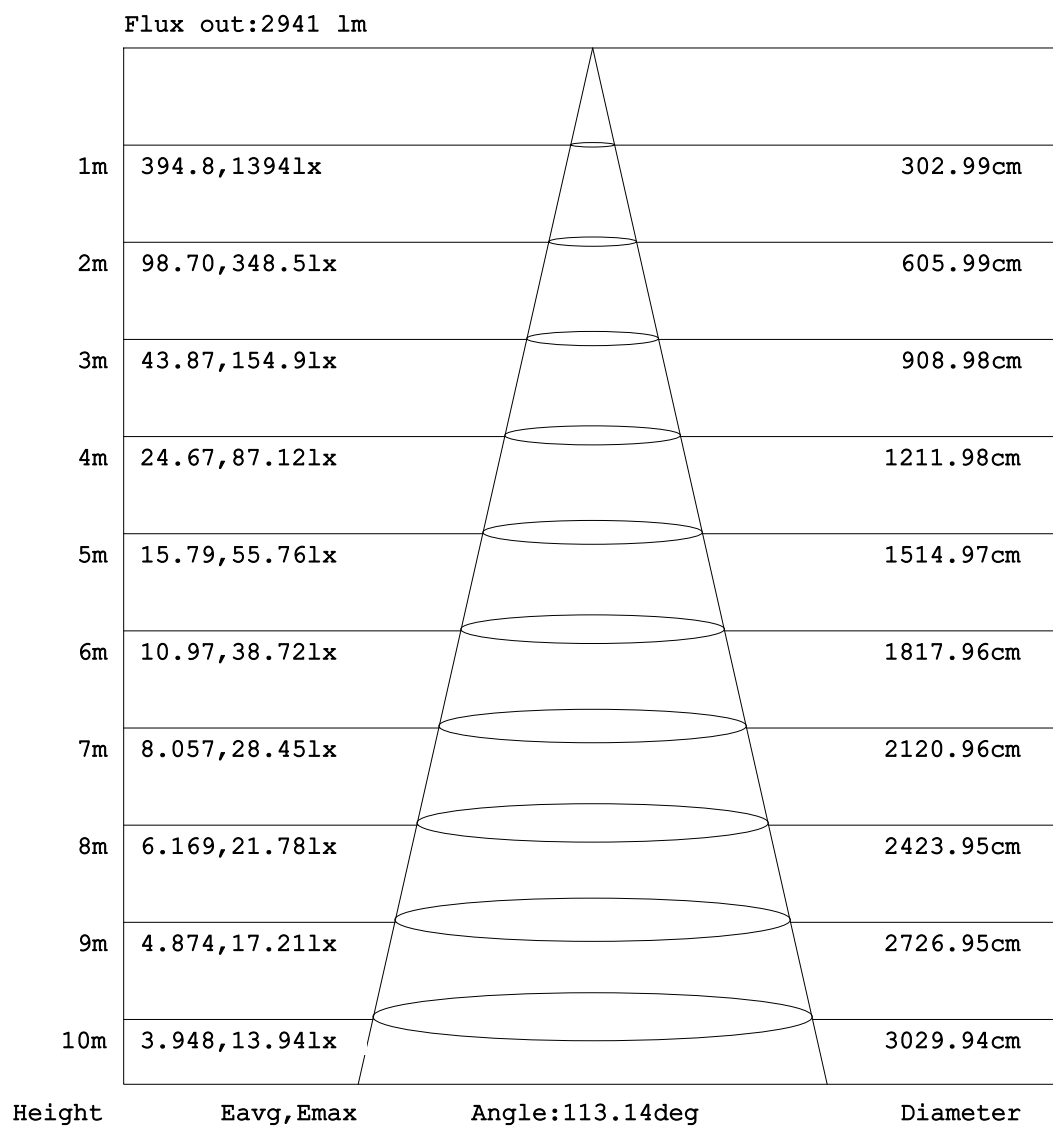
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3°C
Operators:DAMIN
Test Date:2023-09-22

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

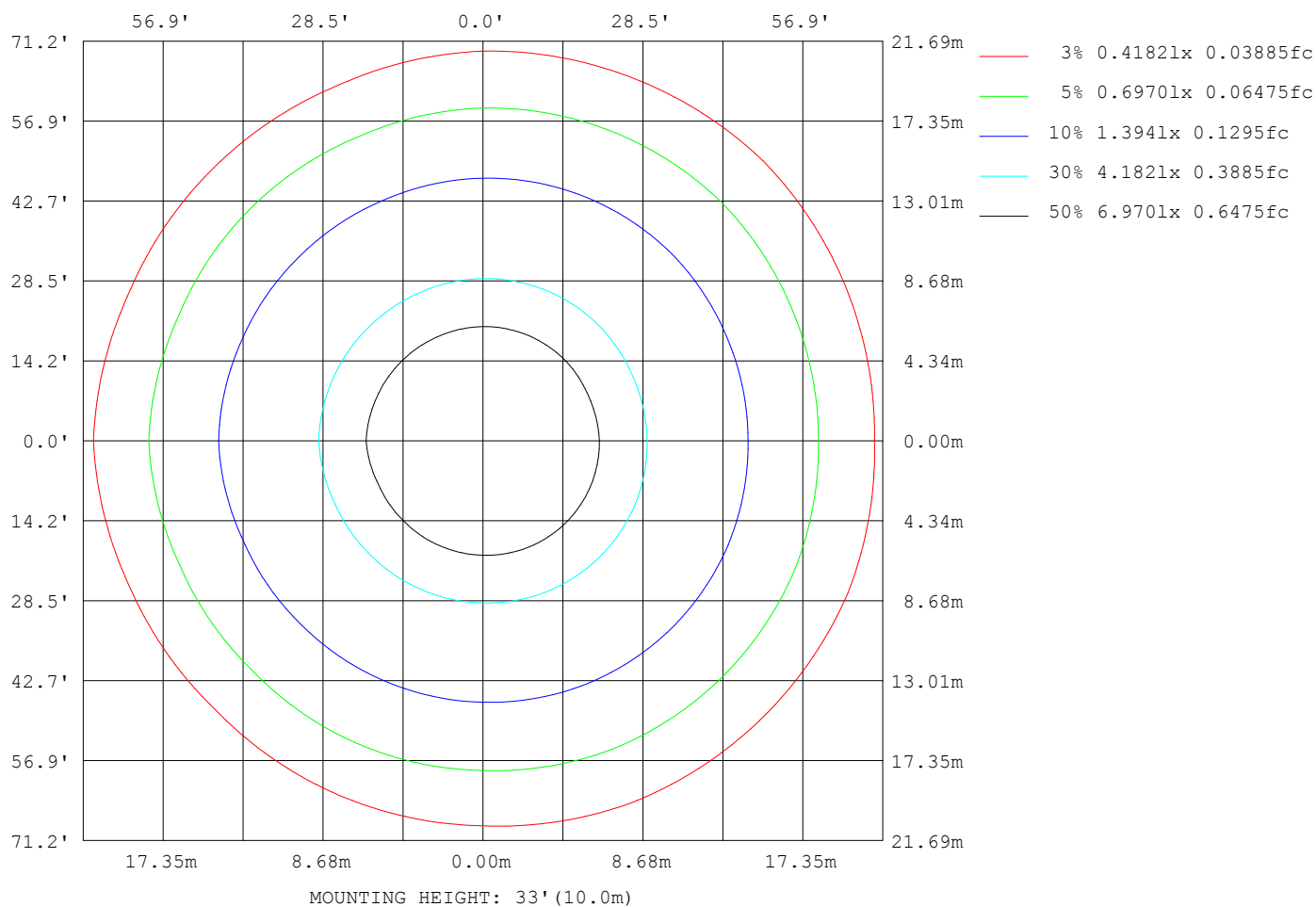


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-09-22

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:

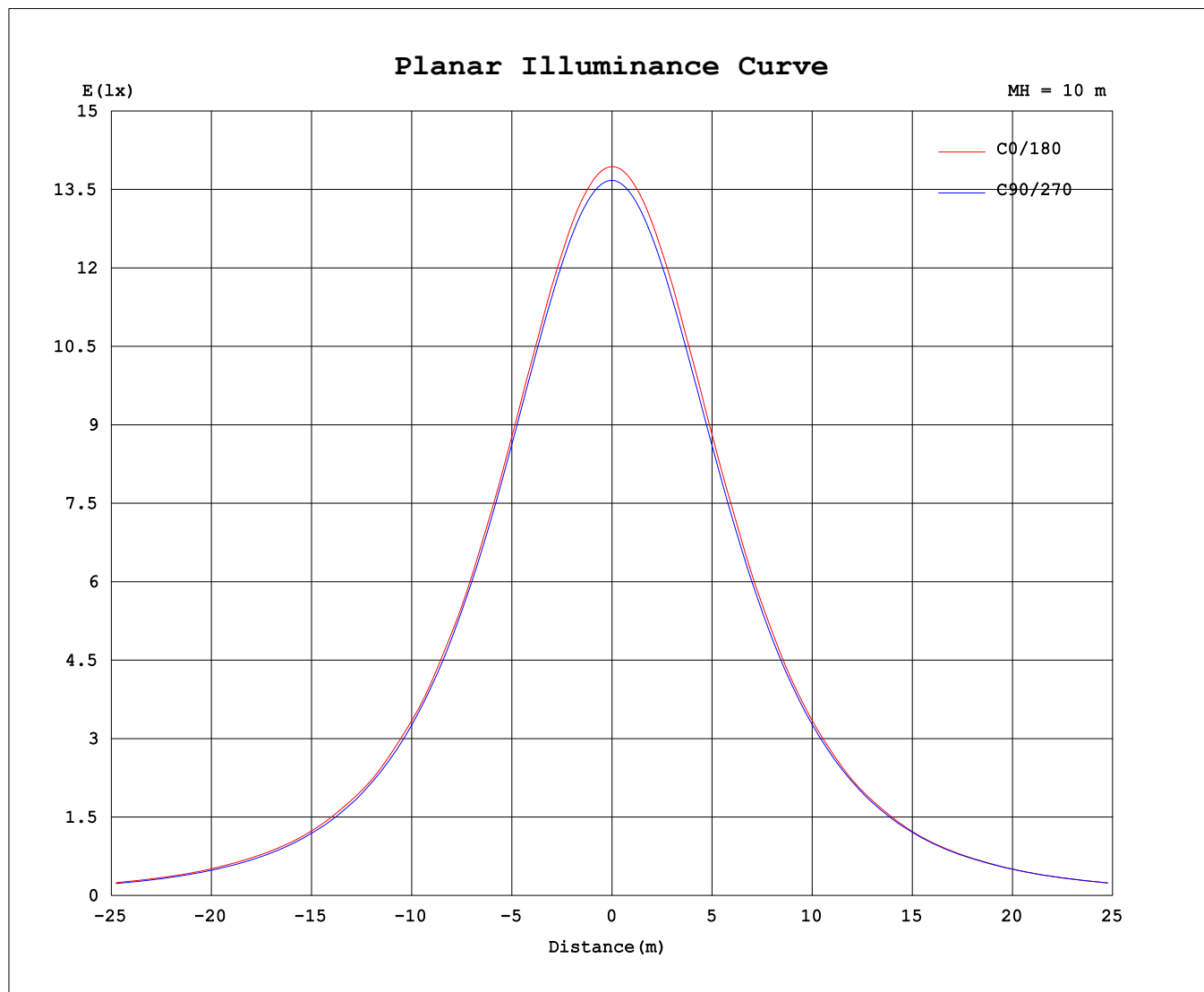
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-09-22

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: 2023-09-22

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	1394	1386	1379	1373	1368	1363	1360	1357	1394	1386	1379	1373	1368	1363	1360	1357			
5	1387	1382	1376	1369	1362	1357	1353	1351	1389	1378	1371	1364	1361	1358	1356	1352			
10	1369	1366	1361	1353	1345	1338	1333	1332	1372	1358	1350	1344	1342	1341	1340	1336			
15	1338	1338	1333	1326	1316	1308	1302	1303	1343	1327	1318	1312	1313	1312	1313	1308			
20	1295	1298	1294	1287	1275	1267	1260	1261	1300	1284	1274	1269	1272	1273	1274	1269			
25	1245	1248	1245	1237	1224	1214	1207	1209	1250	1230	1220	1216	1220	1224	1226	1220			
30	1182	1188	1186	1177	1162	1152	1145	1148	1189	1167	1156	1153	1159	1164	1168	1162			
35	1111	1119	1117	1107	1091	1079	1073	1077	1114	1094	1083	1080	1089	1096	1100	1094			
40	1036	1041	1039	1028	1010	998	991	997	1036	1013	1001	999	1011	1020	1026	1020			
45	945	956	953	942	922	910	901	907	947	919	912	912	925	937	942	936			
50	848	862	859	847	827	812	804	812	846	825	816	817	833	844	853	847			
55	753	763	759	746	724	710	701	710	748	724	714	717	734	749	758	752			
60	649	659	654	642	617	607	593	605	640	612	611	611	633	646	659	650			
65	536	554	545	536	507	495	481	493	526	500	498	502	529	541	558	548			
70	430	442	434	423	393	381	368	379	417	385	384	389	417	433	450	440			
75	319	330	322	310	282	269	258	268	302	274	273	282	306	325	341	334			
80	212	224	216	204	180	168	159	169	191	171	170	176	202	220	237	231			
85	125	133	125	114	97.3	92.2	87.9	94.6	110	93.9	92.0	95.8	115	130	145	139			
90	70.5	68.3	66.8	48.4	49.0	54.6	55.7	58.2	58.5	55.9	48.6	42.9	50.0	72.3	81.6	79.8			
95	51.5	49.7	44.7	40.5	43.4	41.2	45.8	44.7	49.6	43.6	42.9	43.1	44.5	41.9	48.7	53.1			
100	41.8	39.0	38.2	35.7	37.9	39.7	40.9	42.2	45.1	42.5	40.2	39.3	41.7	42.9	42.8	40.5			
105	43.6	40.2	39.0	38.5	41.5	42.0	44.3	43.6	44.7	42.3	39.3	38.2	40.1	39.3	39.2	41.0			
110	42.3	41.4	39.8	37.8	43.2	41.4	38.7	42.8	43.3	42.0	35.1	39.2	40.7	38.4	39.9	43.0			
115	42.7	39.1	37.4	37.8	41.1	39.1	39.0	35.5	42.4	34.4	35.8	37.3	39.4	39.5	33.9	39.3			
120	30.9	34.0	36.0	36.4	39.4	37.3	37.5	35.9	34.6	35.5	34.9	35.9	37.6	37.3	37.2	33.3			
125	32.4	32.2	33.6	34.0	34.2	32.0	31.5	31.7	32.4	32.1	30.4	31.3	33.5	34.7	34.6	32.0			
130	30.0	30.3	30.9	30.8	31.2	29.2	28.6	29.8	30.0	29.4	28.3	28.9	31.2	31.8	30.8	29.6			
135	28.1	28.3	28.6	28.2	27.8	26.1	25.9	27.1	27.6	26.4	26.0	26.6	28.6	29.1	29.3	27.7			
140	25.6	26.1	26.1	25.9	25.6	24.0	23.5	24.8	24.9	23.9	23.9	24.8	26.8	27.2	26.9	25.5			
145	27.7	27.7	27.1	25.6	25.9	24.9	24.9	25.5	25.8	24.6	24.3	25.5	27.1	27.6	28.5	27.8			
150	26.8	26.5	25.1	24.0	23.8	23.2	22.8	23.3	24.3	22.8	22.2	23.5	25.0	25.8	26.5	26.7			
155	24.4	23.9	22.8	21.7	21.2	20.7	20.3	20.5	21.9	20.2	20.0	21.4	22.7	23.6	24.4	24.9			
160	21.8	21.3	20.3	19.5	19.0	18.2	17.9	18.0	19.5	18.2	18.2	19.1	20.4	21.1	21.9	22.5			
165	19.4	19.0	18.1	17.2	16.5	15.9	15.5	15.7	17.1	16.1	16.2	16.9	17.9	18.6	19.3	19.8			
170	17.1	16.7	16.1	15.3	14.7	14.0	13.6	13.7	14.9	14.1	14.2	15.0	15.7	16.4	16.8	17.3			
175	14.7	14.6	14.4	14.0	13.5	13.2	12.8	12.6	12.9	12.8	13.0	13.2	14.2	14.7	15.0	14.9			
180	13.1	13.1	13.1	13.0	13.2	13.1	13.0	12.9	13.1	13.1	13.1	13.0	13.2	13.1	13.0	12.9			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: 10.0deg/s
Temperature:25.3℃
Operators:DAMIN
Test Date:2023-09-22

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: