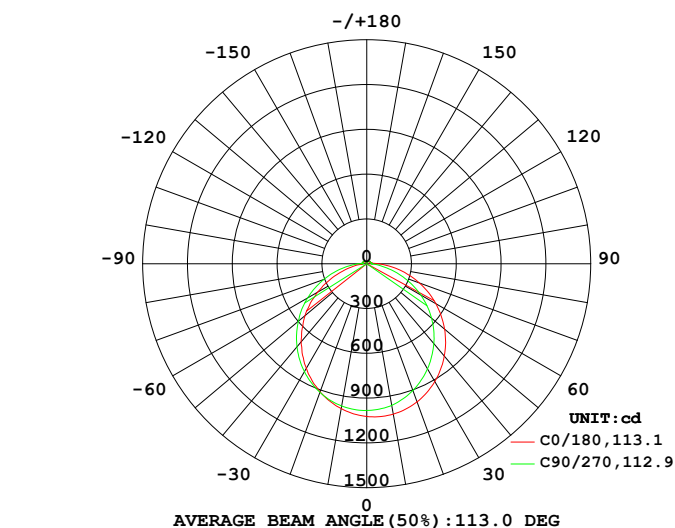


LUMINAIRE PHOTOMETRIC TEST REPORT

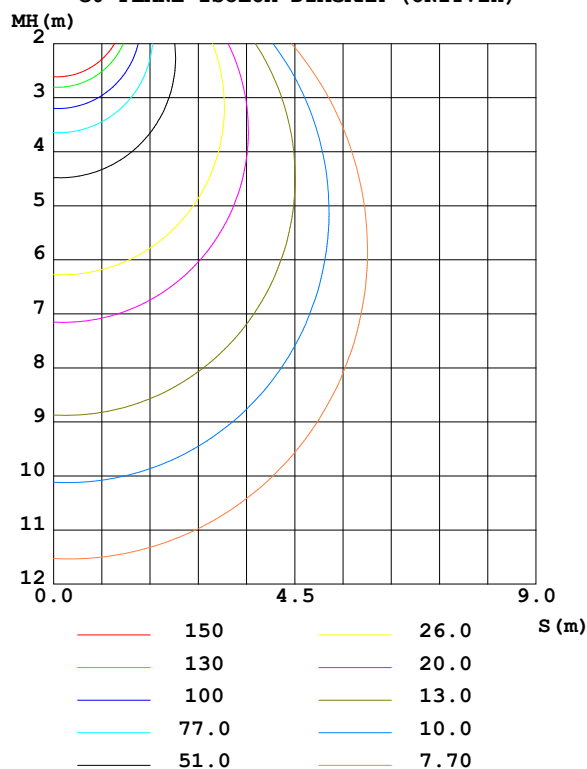
Test:U:220.06V I:0.2856A P:60.736W PF:0.9664 Freq:50.00Hz		
Lamp Flux:3057.04x1 lm		
NAME: SB-D101 60WSZ 60W		WEIGHT:
TYPE: SPEC.: 4000K	DIM.: 47.24"	SERIAL No.:
MFR.: SNOWBALL	SUR.: 1200mm	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 50.33 lm/W			
MODEL		I _{max} (cd)	1028	S/MH (C0/180)	1.18
NOMINAL POWER(W)		LOR (%)	100.0	S/MH (C90/270)	1.26
RATED VOLTAGE (V)	--	TOTAL FLUX(lm)	3057.0	η UP,DN (C0-180)	2.5,47.1
NOMINAL FLUX(lm)	3057.04	CIE CLASS	DIRECT	η UP,DN (C180-360)	2.5,47.8
LAMPS INSIDE	1	η up (%)	5.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	--	η down (%)	95.0	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	1023	999.7	962.9	935.1	985.1	972.4	967.5	972.1	0~ 10	93.74	93.74	3.07,3.07
20	984.5	956.6	903.5	862.1	913.5	906.0	916.6	937.4	10~ 20	268.2	361.9	11.8,11.8
30	911.2	878.9	813.6	759.3	808.8	809.5	834.8	869.5	20~ 30	405.2	767.1	25.1,25.1
40	807.8	771.8	699.2	634.7	684.1	688.5	726.8	772.6	30~ 40	487.5	1255	41,41
50	680.3	643.0	566.6	494.2	539.1	552.9	597.6	653.7	40~ 50	506.4	1761	57.6,57.6
60	534.7	499.3	417.5	342.3	380.5	401.2	456.8	520.3	50~ 60	461.8	2223	72.7,72.7
70	374.7	341.0	259.6	187.4	213.5	241.8	305.5	367.8	60~ 70	360.2	2583	84.5,84.5
80	212.7	183.5	111.8	64.66	83.06	104.4	157.4	213.5	70~ 80	222.7	2806	91.8,91.8
90	78.80	64.52	37.82	31.47	39.21	41.74	53.45	82.43	80~ 90	97.43	2903	95,95
100	37.00	29.31	29.18	25.00	27.57	28.61	32.37	31.09	90~100	39.98	2943	96.3,96.3
110	26.10	27.70	28.98	23.93	28.82	28.49	28.96	21.70	100~110	28.84	2972	97.2,97.2
120	28.11	27.75	27.13	19.52	27.12	23.59	28.90	23.06	110~120	25.94	2998	98.1,98.1
130	25.60	24.83	23.77	19.94	19.80	22.88	24.77	21.12	120~130	21.51	3019	98.8,98.8
140	19.46	21.11	18.62	15.52	17.65	16.71	17.95	17.72	130~140	15.62	3035	99.3,99.3
150	17.02	17.73	15.96	12.94	15.04	14.33	15.28	15.04	140~150	10.45	3045	99.6,99.6
160	16.44	15.96	14.14	11.29	13.08	13.88	15.04	14.81	150~160	6.870	3052	99.8,99.8
170	13.73	12.92	11.44	9.549	10.20	11.25	12.31	12.76	160~170	3.719	3056	100,100
180	10.51	10.37	10.41	10.24	10.58	10.40	10.44	10.26	170~180	1.056	3057	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1509.4 lm

%lum = 49.4%

%lamp = 49.4%

Conical surface Flux(120deg): 2222.8 lm

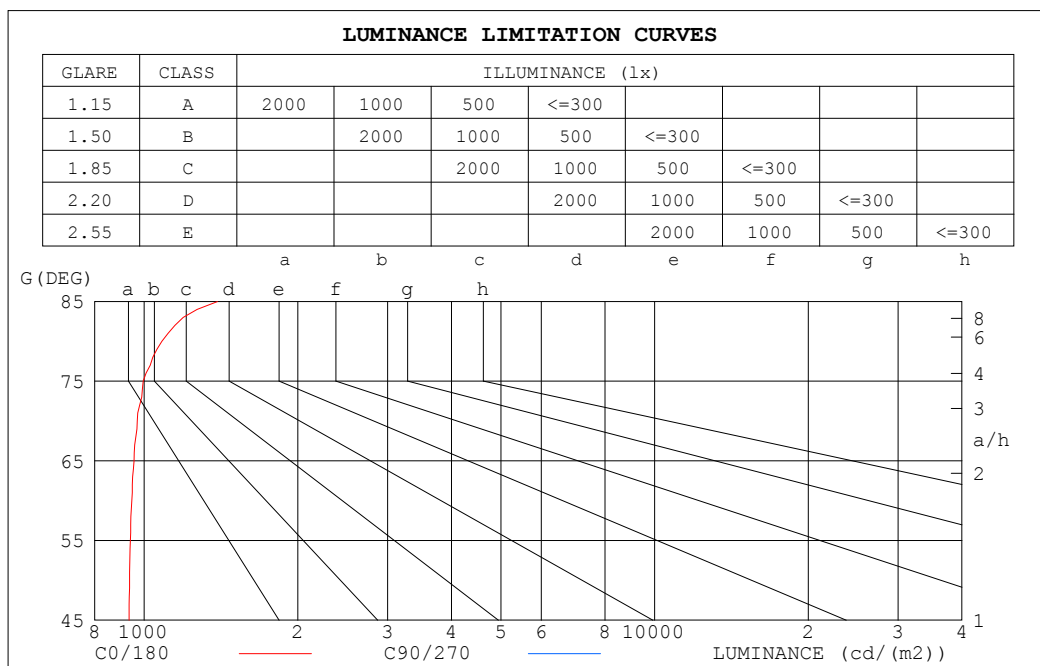
%lum = 72.7%

%lamp = 72.7%

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

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



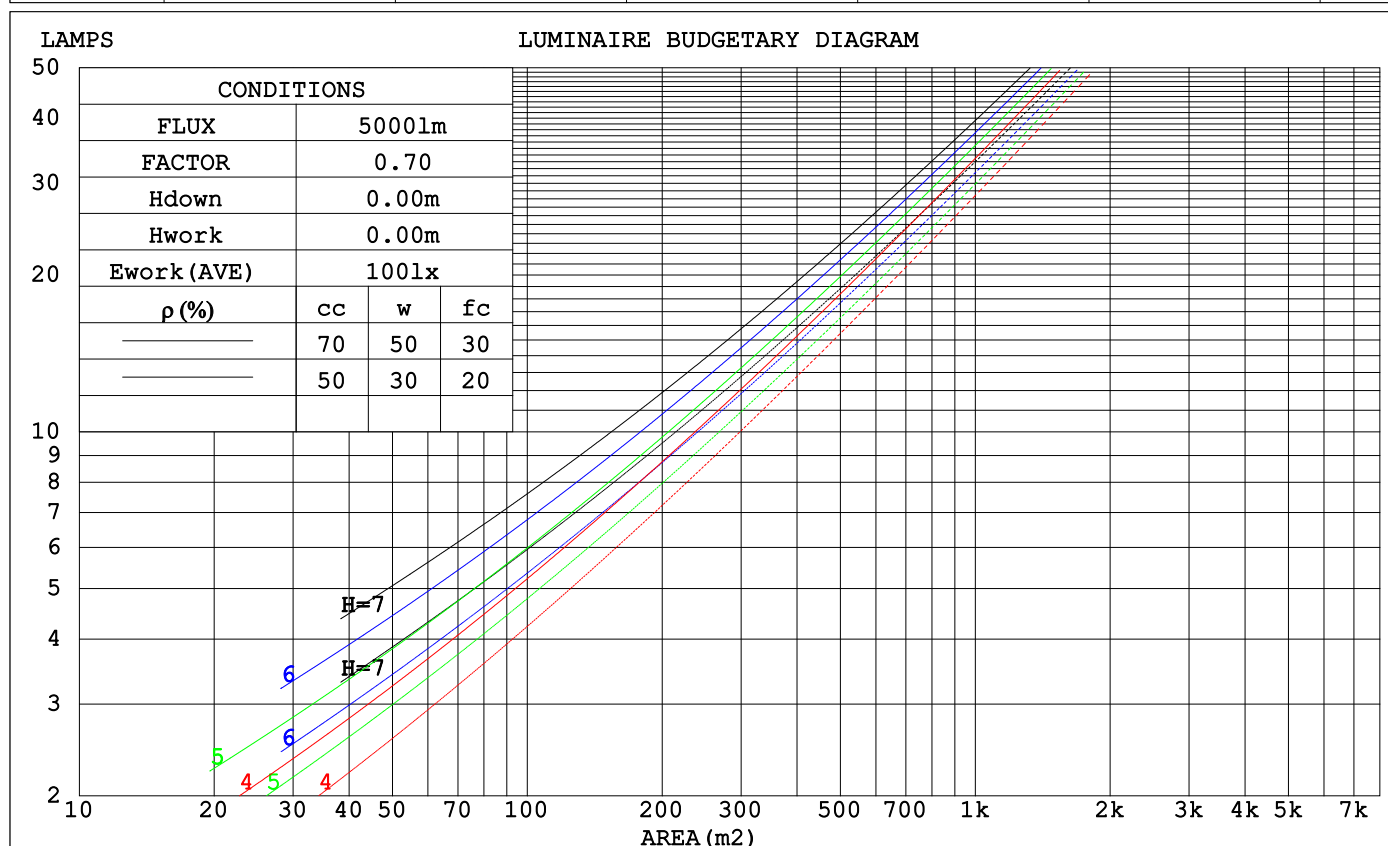
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1392	622
80	1084	570
75	996	620
70	970	672
65	956	710
60	946	739
55	940	762
50	937	780
45	935	795

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	1.08	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	.87	.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	.76	.68	.62	.72	.65	.60	.68	.63	.58	.65	.61	.57	.54
4.0	.69	.60	.53	.67	.59	.52	.64	.57	.51	.61	.55	.50	.58	.53	.48	.46
5.0	.61	.52	.45	.60	.51	.45	.57	.50	.44	.54	.48	.43	.52	.47	.42	.40
6.0	.55	.46	.39	.54	.45	.39	.51	.44	.38	.49	.43	.38	.47	.41	.37	.35
7.0	.50	.41	.35	.49	.40	.34	.47	.39	.34	.45	.38	.33	.43	.37	.33	.31
8.0	.45	.37	.31	.44	.36	.31	.43	.35	.30	.41	.35	.30	.40	.34	.29	.27
9.0	.42	.33	.28	.41	.33	.28	.39	.32	.27	.38	.31	.27	.37	.31	.26	.25
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: 2023-09-21

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	.325	.185	.059	.316	.180	.057	.300	.172	.055	.285	.165	.053	.272	.157	.051		
2.0	.299	.164	.050	.291	.161	.049	.277	.154	.048	.264	.148	.046	.252	.142	.045		
3.0	.274	.146	.044	.267	.143	.043	.254	.138	.042	.243	.133	.041	.232	.128	.040		
4.0	.252	.131	.038	.246	.128	.038	.234	.124	.037	.223	.120	.036	.213	.116	.035		
5.0	.232	.118	.034	.226	.116	.034	.216	.112	.033	.206	.109	.032	.197	.105	.032		
6.0	.214	.107	.031	.210	.106	.030	.200	.103	.030	.192	.100	.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	.090	.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	.229	.229	.229	.196	.196	.196	.133	.133	.133	.077	.077	.077	.025	.025	.025		
1.0	.220	.195	.172	.188	.167	.148	.129	.115	.102	.074	.067	.059	.024	.021	.019		
2.0	.212	.171	.136	.182	.147	.118	.125	.102	.082	.072	.059	.048	.023	.019	.016		
3.0	.204	.153	.113	.175	.132	.098	.120	.092	.069	.070	.054	.040	.022	.017	.013		
4.0	.197	.140	.097	.169	.121	.085	.116	.085	.060	.067	.050	.035	.022	.016	.012		
5.0	.189	.130	.086	.163	.113	.075	.112	.079	.053	.065	.046	.031	.021	.015	.010		
6.0	.182	.122	.079	.157	.106	.068	.108	.074	.048	.063	.043	.029	.020	.014	.010		
7.0	.175	.115	.073	.151	.100	.063	.104	.070	.045	.061	.041	.027	.020	.013	.009		
8.0	.169	.109	.068	.145	.095	.060	.101	.067	.042	.058	.039	.025	.019	.013	.008		
9.0	.163	.104	.065	.140	.091	.057	.097	.064	.040	.057	.038	.024	.018	.012	.008		
10.0	.157	.100	.062	.135	.087	.054	.094	.061	.039	.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:2023-09-21

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	12.8	14.3	13.2	14.6	14.9	12.0	13.5	12.3	13.7	14.1
3H	14.7	16.1	15.1	16.4	16.7	13.5	14.9	13.9	15.2	15.5
4H	15.6	16.9	16.0	17.2	17.6	14.1	15.4	14.5	15.7	16.1
6H	16.4	17.6	16.8	17.9	18.3	14.5	15.7	14.9	16.1	16.5
8H	16.7	17.9	17.1	18.3	18.7	14.7	15.8	15.1	16.2	16.6
12H	17.1	18.2	17.5	18.6	19.0	14.8	15.9	15.2	16.3	16.7
4H 2H	13.4	14.7	13.8	15.1	15.4	12.8	14.1	13.2	14.4	14.8
3H	15.5	16.6	15.9	17.0	17.4	14.5	15.7	15.0	16.1	16.5
4H	16.5	17.6	17.0	18.0	18.4	15.3	16.3	15.7	16.7	17.2
6H	17.5	18.4	18.0	18.9	19.3	15.9	16.8	16.4	17.2	17.7
8H	17.9	18.8	18.4	19.3	19.7	16.1	17.0	16.6	17.4	17.9
12H	18.4	19.2	18.9	19.6	20.1	16.3	17.1	16.8	17.5	18.1
8H 4H	16.8	17.7	17.3	18.1	18.6	15.8	16.6	16.3	17.1	17.6
6H	18.0	18.7	18.5	19.2	19.8	16.6	17.3	17.1	17.8	18.3
8H	18.6	19.2	19.1	19.7	20.3	16.9	17.6	17.5	18.1	18.6
12H	19.2	19.8	19.8	20.3	20.9	17.3	17.8	17.8	18.3	18.9
12H 4H	16.9	17.6	17.4	18.1	18.6	15.8	16.6	16.4	17.1	17.6
6H	18.1	18.7	18.6	19.2	19.8	16.8	17.4	17.3	17.9	18.5
8H	18.8	19.3	19.3	19.8	20.4	17.2	17.7	17.7	18.3	18.9
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.5				

CIE Pub.117, 3057 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 3.9$)
Area: 1.13 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:

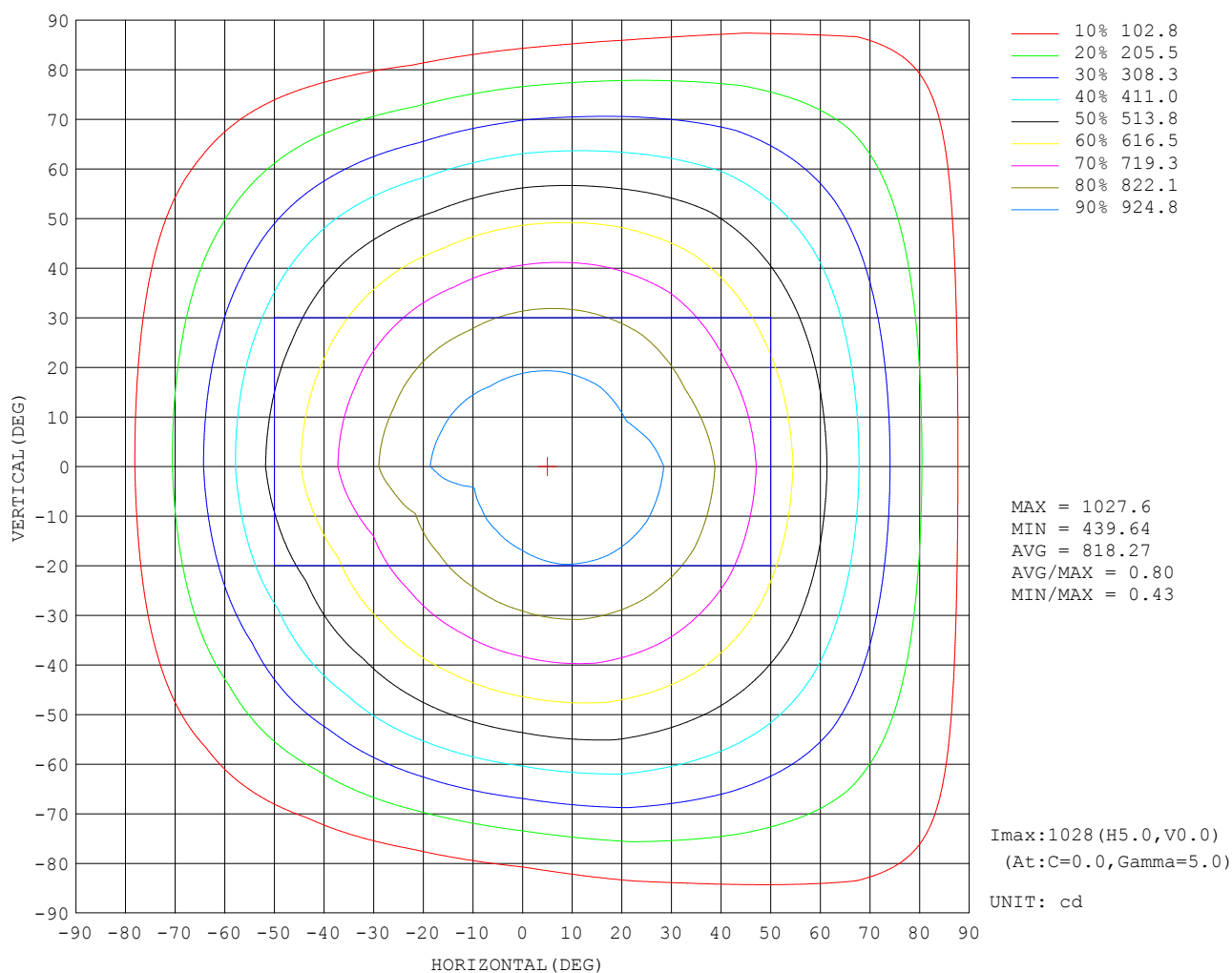
UTILIZATION FACTORS TABLE

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	54	43	36	53	43	36	30
0.80	65	53	46	64	53	46	62	52	45	38
1.00	73	62	54	72	61	54	69	62	53	46
1.25	80	69	62	79	69	61	76	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	86	97	91	85	92	87	82	73
4.00	104	98	93	101	96	91	96	92	88	77
5.00	106	101	97	104	99	95	98	94	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: 2023-09-21

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:

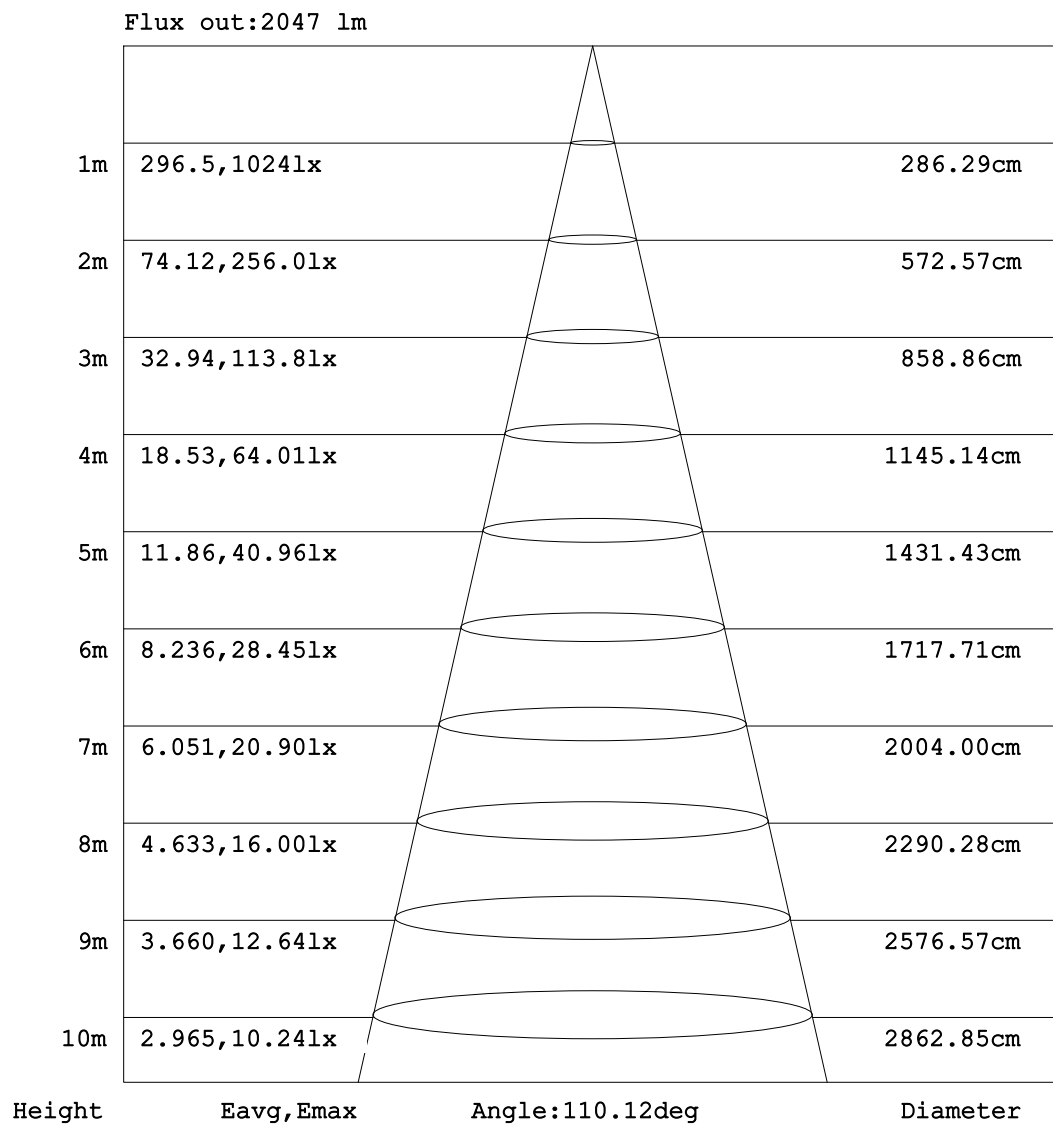
ISOCANDELA DIAGRAM



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

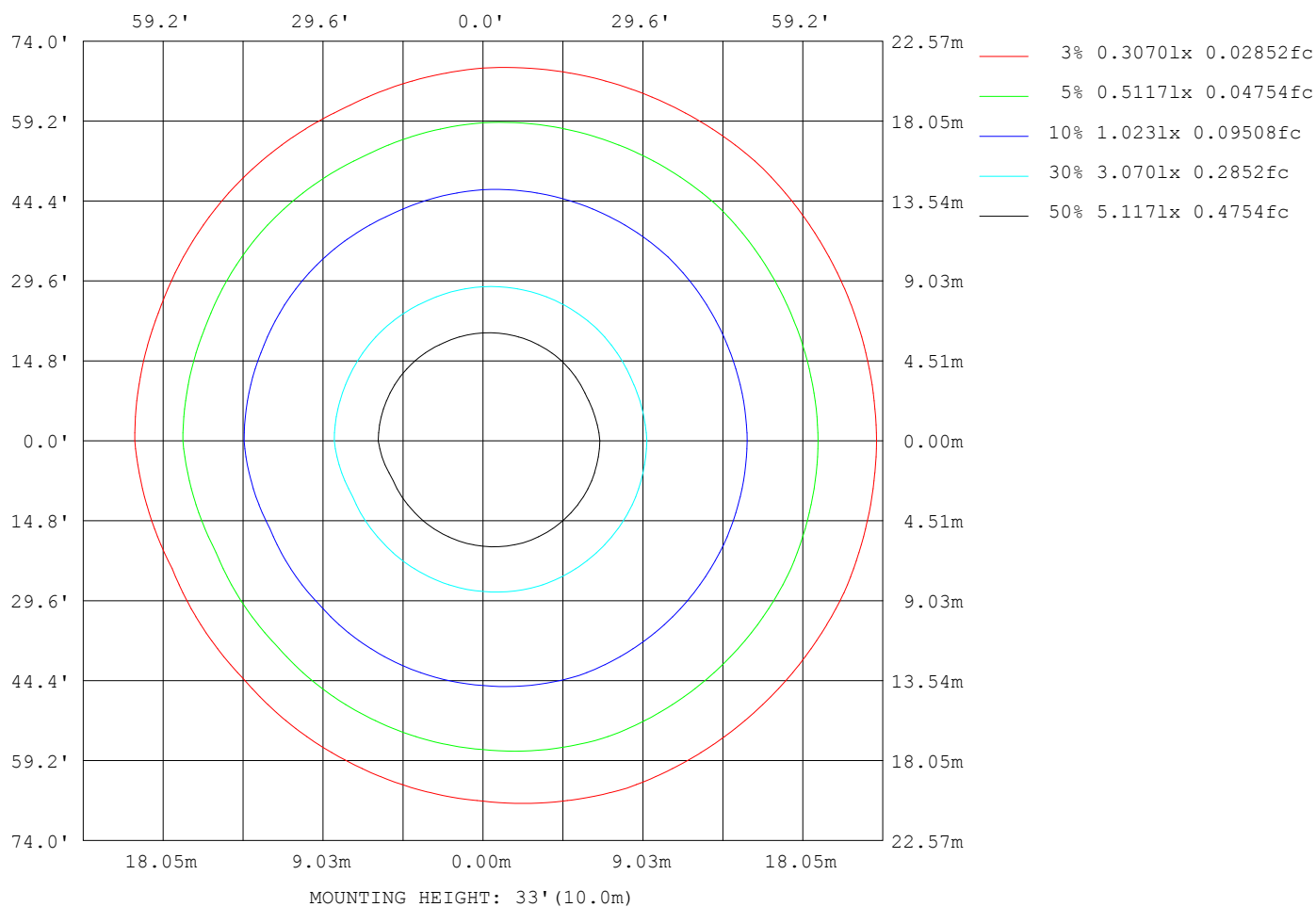


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

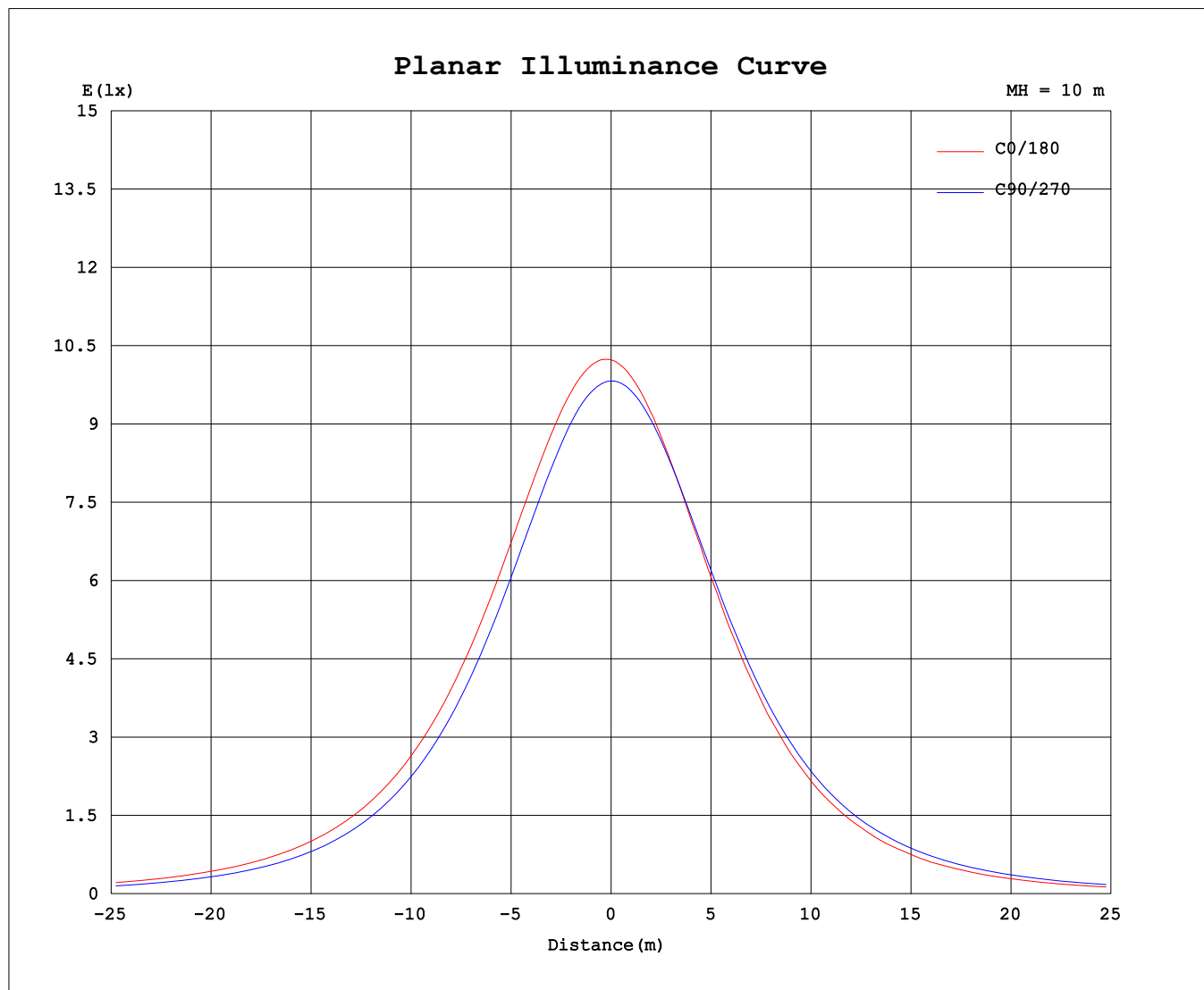
ISOLUX DIAGRAM



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	1023	1013	1004	992	982	976	971	967	1023	1013	1004	992	982	976	971	967			
5	1028	1017	1006	992	977	966	957	951	1009	999	992	984	980	978	976	973			
10	1023	1012	1000	983	963	947	935	927	985	977	972	967	967	970	972	971			
15	1008	999	983	962	937	918	904	896	953	945	944	941	946	953	959	959			
20	985	976	957	933	903	880	862	856	914	905	906	906	917	928	937	938			
25	952	943	922	896	862	834	814	809	865	858	861	864	879	895	907	909			
30	911	901	879	851	814	782	759	753	809	806	810	815	835	854	870	874			
35	862	852	828	799	758	724	699	692	749	746	752	760	784	806	824	832			
40	808	796	772	742	699	662	635	626	684	680	689	700	727	752	773	780			
45	747	735	710	680	635	596	567	561	611	611	620	634	665	692	715	722			
50	680	668	643	614	567	529	494	490	539	538	553	564	598	628	654	661			
55	609	596	573	546	494	455	419	413	462	460	480	492	531	559	588	598			
60	535	525	499	471	417	377	342	334	380	380	401	417	457	487	520	528			
65	456	450	421	393	339	298	264	256	294	300	320	340	382	413	445	452			
70	375	369	341	313	260	219	187	183	214	222	242	263	305	337	368	374			
75	291	285	261	232	181	144	117	116	141	148	168	189	229	261	290	297			
80	213	206	183	156	112	81.8	64.7	66.4	83.1	87.0	104	121	157	188	214	223			
85	137	135	114	91.7	61.3	31.0	35.2	37.2	29.2	53.4	54.3	70.4	94.9	119	142	150			
90	78.8	78.1	64.5	42.3	37.8	32.4	31.5	33.1	39.2	41.4	41.7	42.4	53.4	66.7	82.4	87.3			
95	27.7	34.8	40.5	36.2	32.1	27.3	27.3	22.5	34.9	32.4	34.0	35.5	37.2	25.7	43.0	46.6			
100	37.0	35.9	29.3	30.8	29.2	25.6	25.0	25.7	27.6	27.4	28.6	29.1	32.4	30.3	31.1	32.5			
105	27.0	23.9	29.6	29.0	28.5	25.2	25.6	26.0	27.9	27.2	26.2	25.1	29.4	25.4	25.2	23.4			
110	26.1	27.7	27.7	27.7	29.0	24.5	23.9	25.9	28.8	29.0	28.5	26.6	29.0	21.6	21.7	22.5			
115	28.0	28.3	28.5	26.8	27.9	23.6	23.7	24.7	27.8	28.4	29.0	27.2	30.1	22.5	21.2	22.3			
120	28.1	28.4	27.7	26.3	27.1	23.0	19.5	24.0	27.1	27.1	23.6	26.2	28.9	23.3	23.1	23.5			
125	27.9	28.1	22.7	26.2	25.1	22.2	20.9	19.4	23.7	21.5	22.9	25.1	27.1	23.2	19.8	23.7			
130	25.6	23.5	24.8	24.8	23.8	20.5	19.9	19.2	19.8	21.6	22.9	23.0	24.8	21.9	21.1	21.2			
135	20.0	22.6	23.8	22.7	21.0	17.6	17.3	17.4	19.1	18.9	18.9	19.3	21.1	20.2	20.0	20.0			
140	19.5	20.8	21.1	20.4	18.6	15.9	15.5	15.5	17.7	17.0	16.7	16.9	18.0	17.9	17.7	19.0			
145	18.2	19.2	19.3	18.7	17.2	14.9	14.2	13.9	16.3	15.9	15.4	15.4	16.5	16.0	16.6	17.1			
150	17.0	17.8	17.7	17.3	16.0	13.8	12.9	12.5	15.0	14.7	14.3	14.4	15.3	14.7	15.0	15.8			
155	16.0	16.9	17.4	16.5	15.4	13.6	12.2	11.8	14.2	14.5	14.9	15.4	15.7	15.0	14.7	14.7			
160	16.4	16.7	16.0	15.3	14.1	12.5	11.3	11.1	13.1	13.2	13.9	14.6	15.0	14.7	14.8	15.6			
165	15.1	15.2	14.4	13.8	12.7	11.4	10.3	10.1	11.5	11.8	12.5	13.3	13.8	13.8	13.9	14.3			
170	13.7	13.6	12.9	12.4	11.4	10.5	9.55	8.57	10.2	10.5	11.3	11.9	12.3	12.5	12.8	12.7			
175	12.0	11.9	11.6	11.4	10.7	10.2	9.27	9.12	9.77	9.87	10.4	10.8	11.1	11.3	11.5	11.6			
180	10.5	10.3	10.4	10.6	10.4	10.4	10.2	10.1	10.6	10.3	10.4	10.5	10.4	10.3	10.3	10.1			

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: