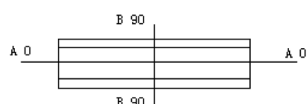
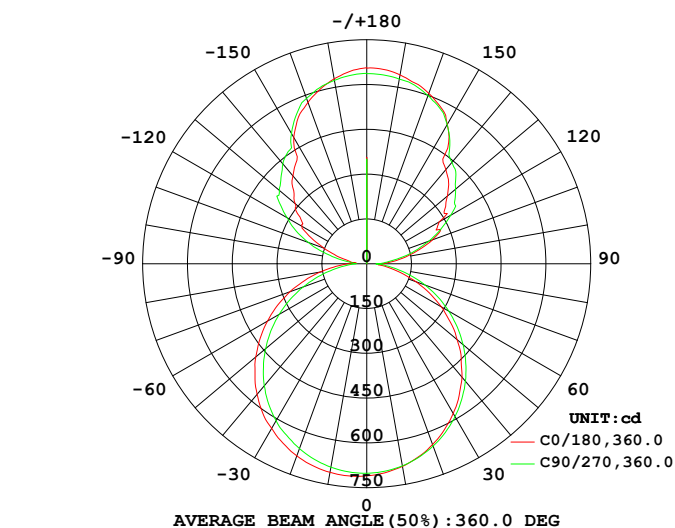


LUMINAIRE PHOTOMETRIC TEST REPORT

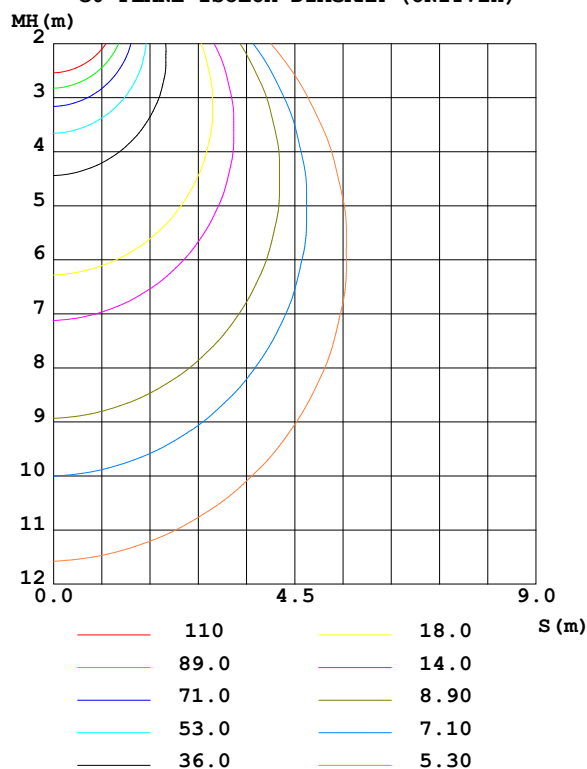
Test:U:220.13V I:0.3332A P:70.925W PF:0.9671 Freq:50.00Hz		
Lamp Flux:3975.28x1 lm		
NAME: SB-U101 70WSZ 70W		WEIGHT:
TYPE: SPEC.: 4000K	DIM.: 59.06"	SERIAL No.:
MFR.: SNOWBALL	SUR.: 1500mm	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 56.05 lm/W			
MODEL		I _{max} (cd)	712.9	S/MH (C0/180)	1.34
NOMINAL POWER(W)		LOR (%)	100.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	--	TOTAL FLUX(lm)	3975.3	η UP,DN (C0-180)	23.6,26.3
NOMINAL FLUX(lm)	3975.28	CIE CLASS	DIFFUSE	η UP,DN (C180-360)	22.6,27.5
LAMPS INSIDE	1	η up (%)	46.2	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	--	η down (%)	53.8	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	688.8	689.7	687.1	689.0	709.2	701.6	691.7	682.2	0~ 10	66.53	66.53	1.67,1.67
20	644.0	649.4	649.9	658.1	684.6	671.6	658.7	644.7	10~ 20	191.0	257.5	6.48,6.48
30	578.6	587.3	591.1	604.7	636.5	622.7	607.4	589.8	20~ 30	291.1	548.7	13.8,13.8
40	496.4	507.4	513.4	532.7	571.0	550.8	533.5	511.9	30~ 40	354.2	902.8	22.7,22.7
50	394.6	410.7	421.3	443.1	484.7	460.7	442.0	419.0	40~ 50	371.6	1274	32.1,32.1
60	288.3	305.1	316.8	342.8	382.9	357.8	338.8	313.9	50~ 60	342.5	1617	40.7,40.7
70	173.8	193.2	206.7	233.9	273.6	244.5	225.1	201.5	60~ 70	271.9	1889	47.5,47.5
80	73.64	89.16	100.6	124.6	156.9	131.2	115.6	95.60	70~ 80	172.3	2061	51.8,51.8
90	56.79	45.57	38.53	43.66	62.47	47.78	35.94	42.96	80~ 90	77.48	2139	53.8,53.8
100	131.7	120.8	112.3	90.32	65.81	79.54	97.77	105.9	90~100	70.83	2209	55.6,55.6
110	234.0	208.6	220.4	188.8	151.7	178.6	207.2	208.0	100~110	157.9	2367	59.6,59.6
120	279.1	297.4	324.6	271.8	249.3	276.8	307.9	293.6	110~120	240.8	2608	65.6,65.6
130	352.6	366.4	388.2	341.8	312.8	349.4	382.3	359.0	120~130	293.6	2902	73,73
140	411.9	438.1	444.4	407.5	384.4	401.2	437.1	420.9	130~140	299.9	3202	80.5,80.5
150	539.4	541.9	538.2	499.2	488.6	488.9	504.1	513.9	140~150	285.5	3487	87.7,87.7
160	607.2	597.8	599.8	584.1	575.4	583.7	589.8	583.6	150~160	255.8	3743	94.2,94.2
170	642.1	630.4	628.3	620.0	628.9	624.9	623.4	617.8	160~170	172.1	3915	98.5,98.5
180	654.9	642.9	636.7	631.6	656.7	644.2	638.0	632.6	170~180	60.31	3975	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1089.4 lm

%lum = 27.4%

%lamp = 27.4%

Conical surface Flux(120deg): 1617 lm

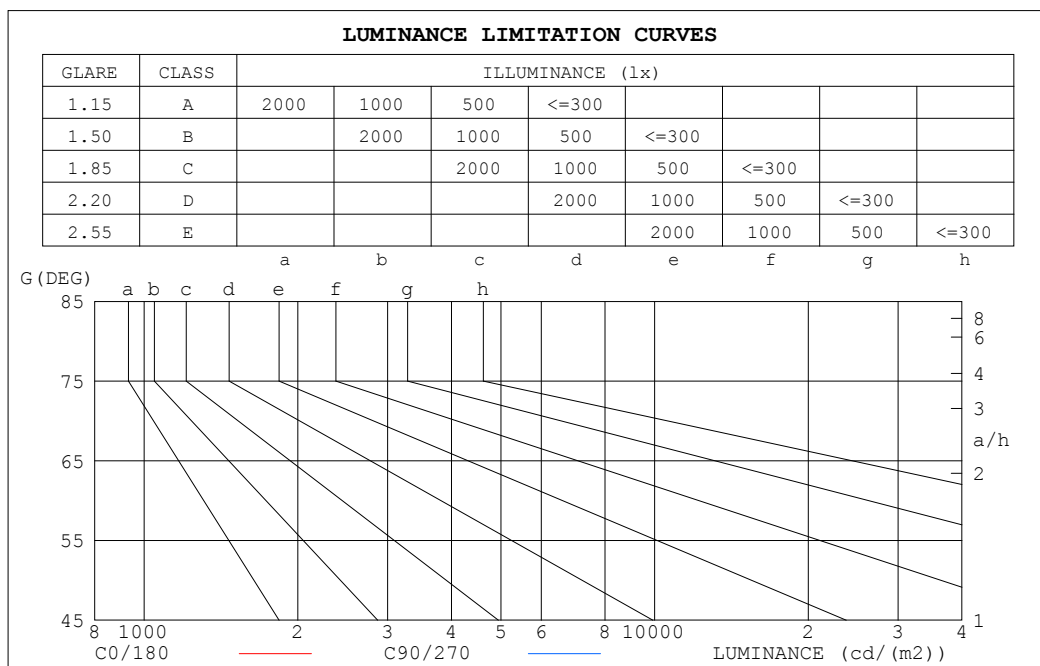
%lum = 40.7%

%lamp = 40.7%

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



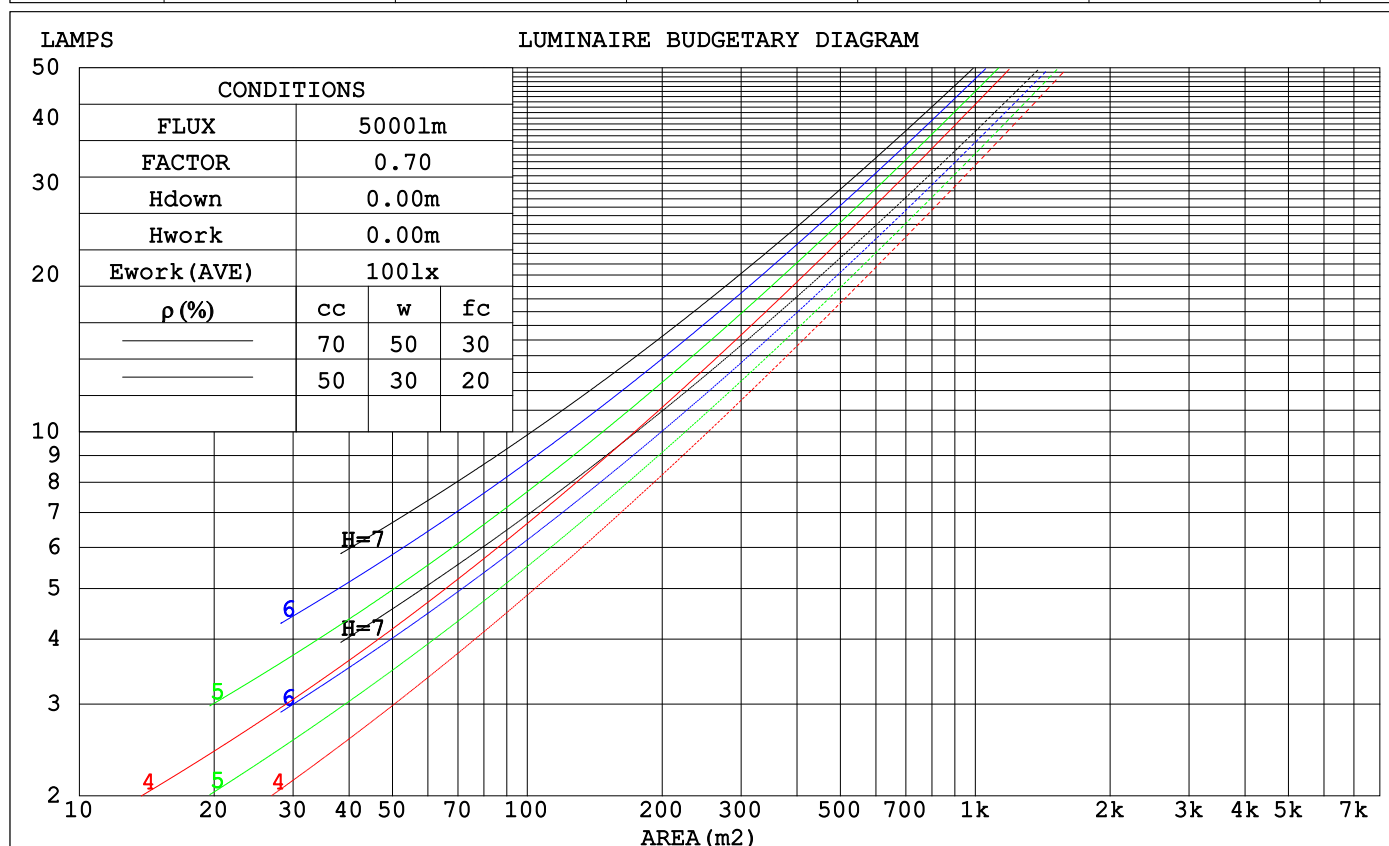
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	250	392
80	240	328
75	262	332
70	288	342
65	310	352
60	326	359
55	338	366
50	348	371
45	358	376

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	1.08	1.08	1.08	1.00	1.00	1.00	.85	.85	.85	.72	.72	.72	.60	.60	.60	.54
1.0	.93	.89	.85	.87	.83	.80	.74	.71	.69	.62	.60	.59	.52	.50	.49	.44
2.0	.81	.75	.69	.75	.70	.65	.64	.60	.56	.54	.51	.48	.45	.43	.41	.36
3.0	.71	.63	.57	.66	.59	.54	.56	.51	.47	.48	.44	.41	.40	.37	.34	.30
4.0	.63	.54	.48	.58	.51	.45	.50	.44	.40	.42	.38	.34	.35	.32	.29	.26
5.0	.56	.47	.41	.52	.44	.39	.45	.39	.34	.38	.33	.30	.32	.28	.25	.22
6.0	.50	.42	.36	.46	.39	.34	.40	.34	.30	.34	.29	.26	.29	.25	.22	.19
7.0	.45	.37	.31	.42	.35	.29	.36	.30	.26	.31	.26	.23	.26	.22	.20	.17
8.0	.41	.33	.27	.38	.31	.26	.33	.27	.23	.28	.24	.20	.24	.20	.17	.15
9.0	.37	.29	.24	.35	.28	.23	.30	.25	.21	.26	.21	.18	.22	.18	.16	.14
10.0	.34	.27	.22	.32	.25	.21	.28	.22	.19	.24	.20	.16	.20	.17	.14	.12



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	.299	.170	.054	.278	.158	.050	.239	.137	.044	.202	.117	.037	.169	.098	.032		
2.0	.274	.150	.046	.255	.141	.043	.219	.122	.038	.186	.105	.033	.156	.088	.028		
3.0	.252	.134	.040	.234	.126	.038	.202	.109	.033	.171	.094	.029	.143	.079	.025		
4.0	.232	.120	.035	.216	.113	.033	.186	.098	.029	.158	.085	.026	.132	.072	.022		
5.0	.214	.109	.032	.199	.102	.030	.172	.089	.026	.146	.077	.023	.122	.065	.020		
6.0	.198	.099	.028	.185	.093	.027	.159	.082	.024	.136	.070	.021	.113	.060	.018		
7.0	.185	.091	.026	.172	.086	.024	.149	.075	.022	.126	.065	.019	.106	.055	.016		
8.0	.172	.084	.024	.161	.079	.022	.139	.069	.020	.118	.060	.017	.099	.051	.015		
9.0	.162	.078	.022	.151	.074	.021	.130	.065	.018	.111	.056	.016	.093	.047	.014		
10.0	.152	.073	.020	.142	.069	.019	.123	.060	.017	.105	.052	.015	.088	.044	.013		

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	.542	.542	.542	.464	.464	.464	.316	.316	.316	.182	.182	.182	.058	.058	.058	
1.0	.534	.511	.490	.457	.439	.422	.313	.302	.292	.180	.175	.170	.058	.056	.055	
2.0	.527	.489	.457	.452	.421	.395	.309	.291	.276	.178	.170	.162	.057	.055	.053	
3.0	.520	.473	.436	.446	.408	.378	.306	.284	.265	.177	.166	.156	.057	.054	.051	
4.0	.513	.461	.422	.440	.399	.366	.303	.278	.258	.175	.163	.153	.056	.053	.050	
5.0	.507	.452	.412	.435	.391	.358	.300	.273	.253	.174	.160	.150	.056	.052	.049	
6.0	.500	.444	.405	.430	.385	.352	.297	.269	.249	.172	.159	.148	.056	.052	.049	
7.0	.494	.438	.399	.425	.380	.348	.294	.266	.246	.171	.157	.147	.055	.051	.049	
8.0	.488	.433	.395	.420	.376	.345	.291	.264	.244	.169	.156	.146	.055	.051	.048	
9.0	.483	.429	.392	.416	.372	.342	.288	.261	.243	.168	.154	.145	.054	.051	.048	
10.0	.478	.425	.390	.412	.369	.340	.286	.260	.242	.167	.153	.144	.054	.050	.048	

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	5.9	6.9	6.7	7.7	8.8	6.2	7.2	7.1	8.1	9.1
3H	7.2	8.1	8.1	9.0	10.0	7.8	8.7	8.6	9.5	10.6
4H	7.7	8.6	8.6	9.4	10.5	8.4	9.2	9.3	10.1	11.2
6H	8.1	8.8	8.9	9.7	10.8	8.9	9.7	9.8	10.6	11.7
8H	8.2	8.9	9.1	9.8	10.9	9.1	9.9	10.0	10.7	11.9
12H	8.2	9.0	9.1	9.9	11.0	9.3	10.0	10.2	10.9	12.0
4H 2H	6.4	7.2	7.3	8.1	9.2	6.7	7.5	7.5	8.4	9.5
3H	7.9	8.6	8.8	9.5	10.6	8.4	9.1	9.3	10.0	11.1
4H	8.5	9.1	9.4	10.1	11.2	9.1	9.8	10.0	10.7	11.8
6H	9.0	9.5	9.9	10.4	11.6	9.7	10.3	10.7	11.2	12.4
8H	9.1	9.6	10.1	10.6	11.8	10.0	10.5	11.0	11.5	12.7
12H	9.2	9.7	10.2	10.7	11.9	10.2	10.7	11.2	11.7	12.9
8H 4H	8.7	9.2	9.7	10.2	11.4	9.2	9.8	10.2	10.7	11.9
6H	9.3	9.7	10.3	10.7	12.0	10.0	10.5	11.0	11.4	12.7
8H	9.6	10.0	10.6	11.0	12.2	10.4	10.8	11.4	11.8	13.0
12H	9.8	10.1	10.8	11.1	12.4	10.8	11.1	11.8	12.1	13.4
12H 4H	8.7	9.2	9.7	10.1	11.4	9.2	9.7	10.2	10.6	11.9
6H	9.4	9.7	10.4	10.7	12.0	10.1	10.4	11.0	11.4	12.7
8H	9.7	10.0	10.7	11.0	12.3	10.5	10.8	11.5	11.8	13.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.4					+ 0.1 / - 0.3				

CIE Pub.117, 3975 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 4.8$)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:

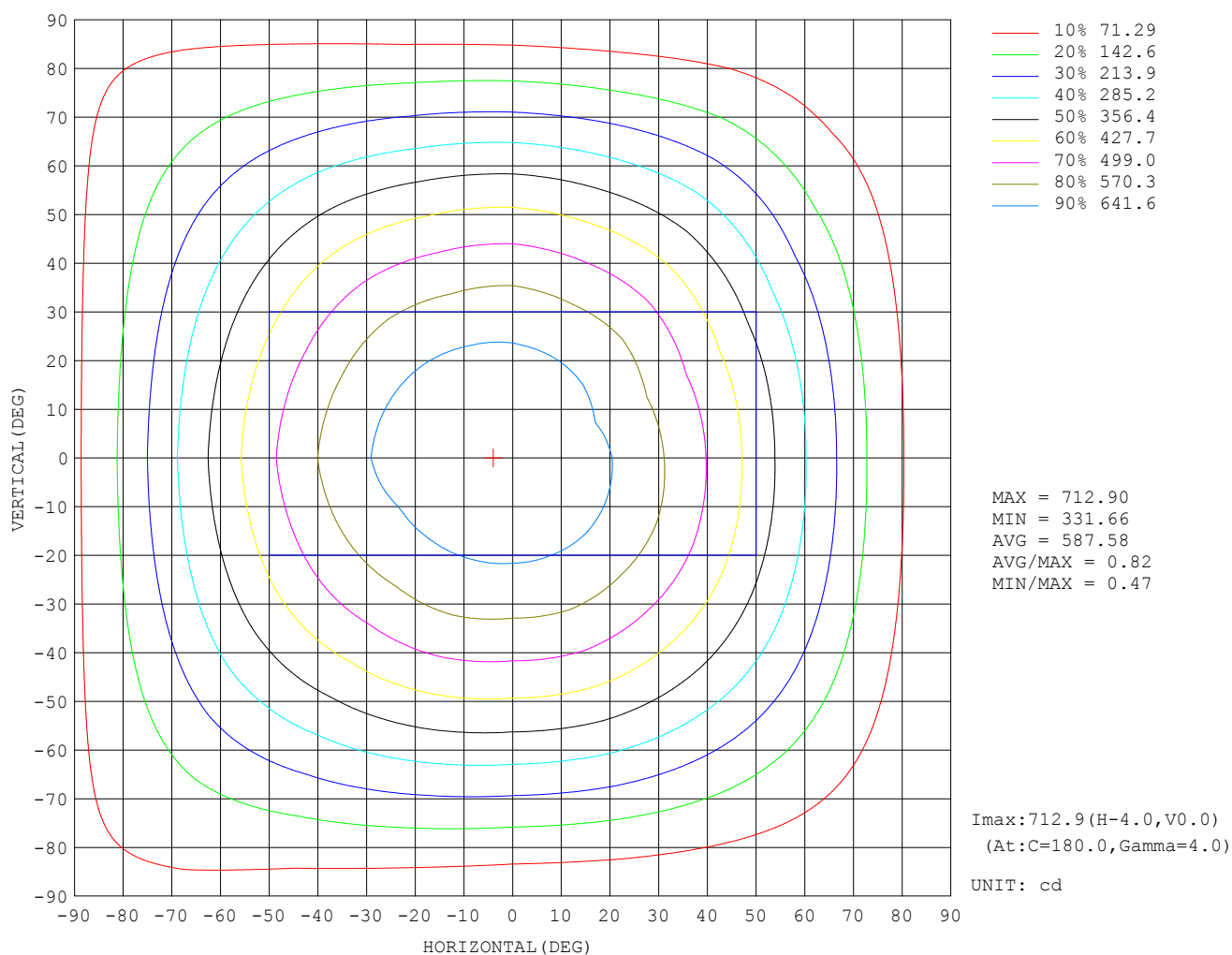
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	44	33	26	42	32	26	38	29	24	16
0.80	53	42	34	50	40	33	45	36	31	21
1.00	61	49	42	58	47	40	51	44	37	25
1.25	68	57	49	64	54	47	56	48	43	29
1.50	73	62	55	69	59	52	60	53	47	32
2.00	81	71	64	75	67	60	65	59	54	36
2.50	85	76	69	79	72	66	68	63	58	38
3.00	89	81	74	82	76	70	71	66	62	41
4.00	93	86	81	86	81	76	74	70	67	43
5.00	96	90	85	89	84	80	76	73	70	45
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:

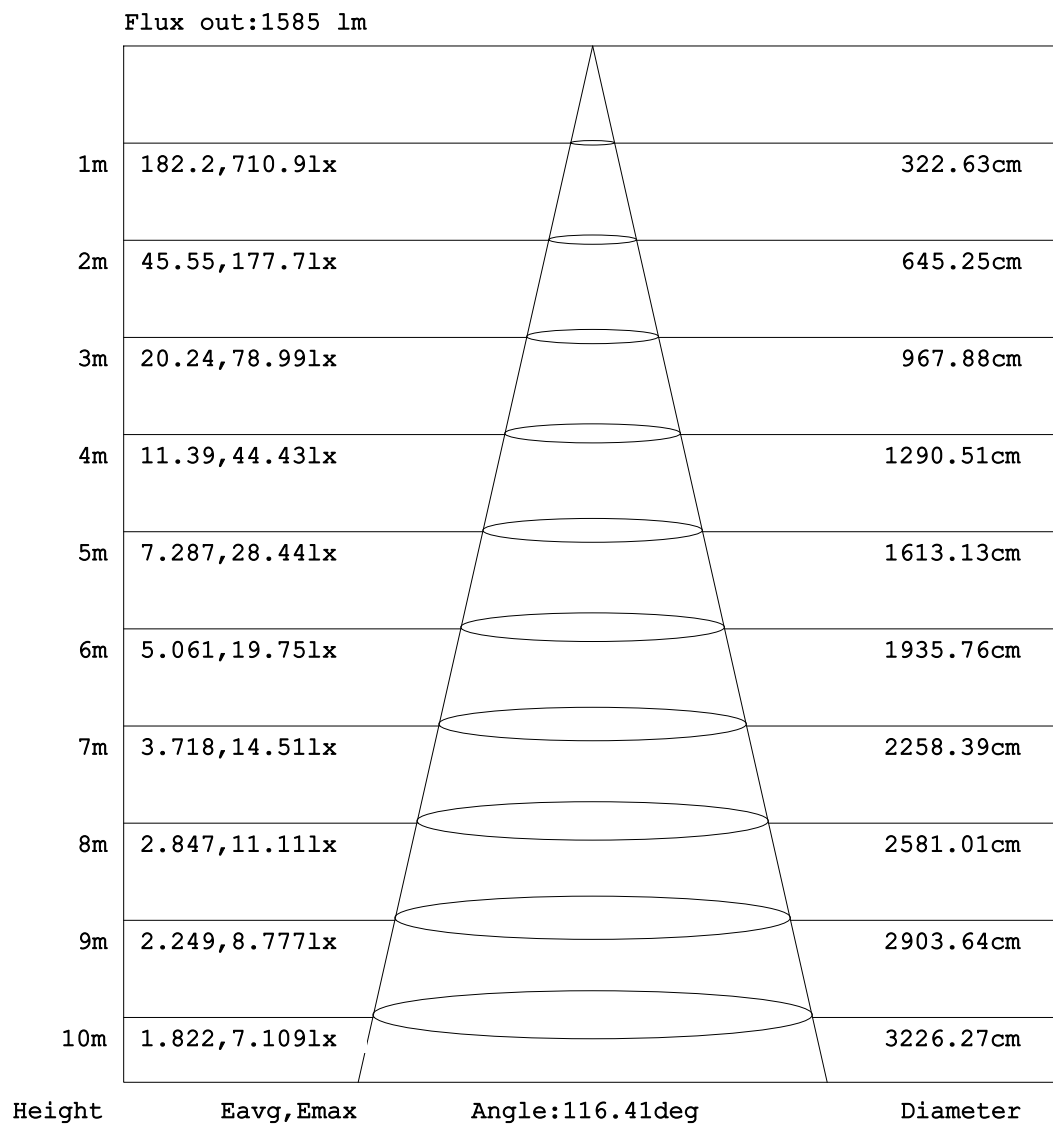
ISOCANDELA DIAGRAM



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

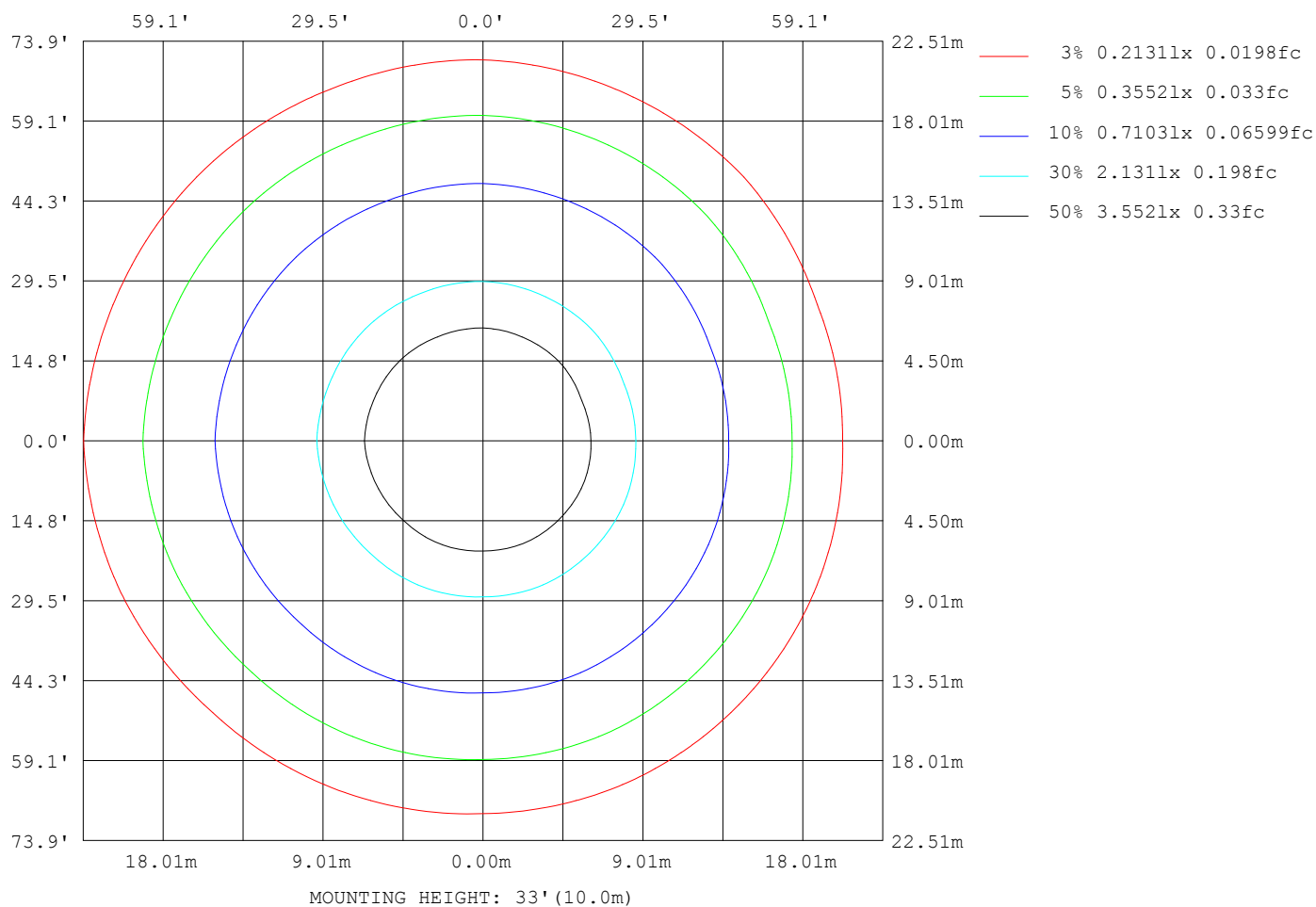


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

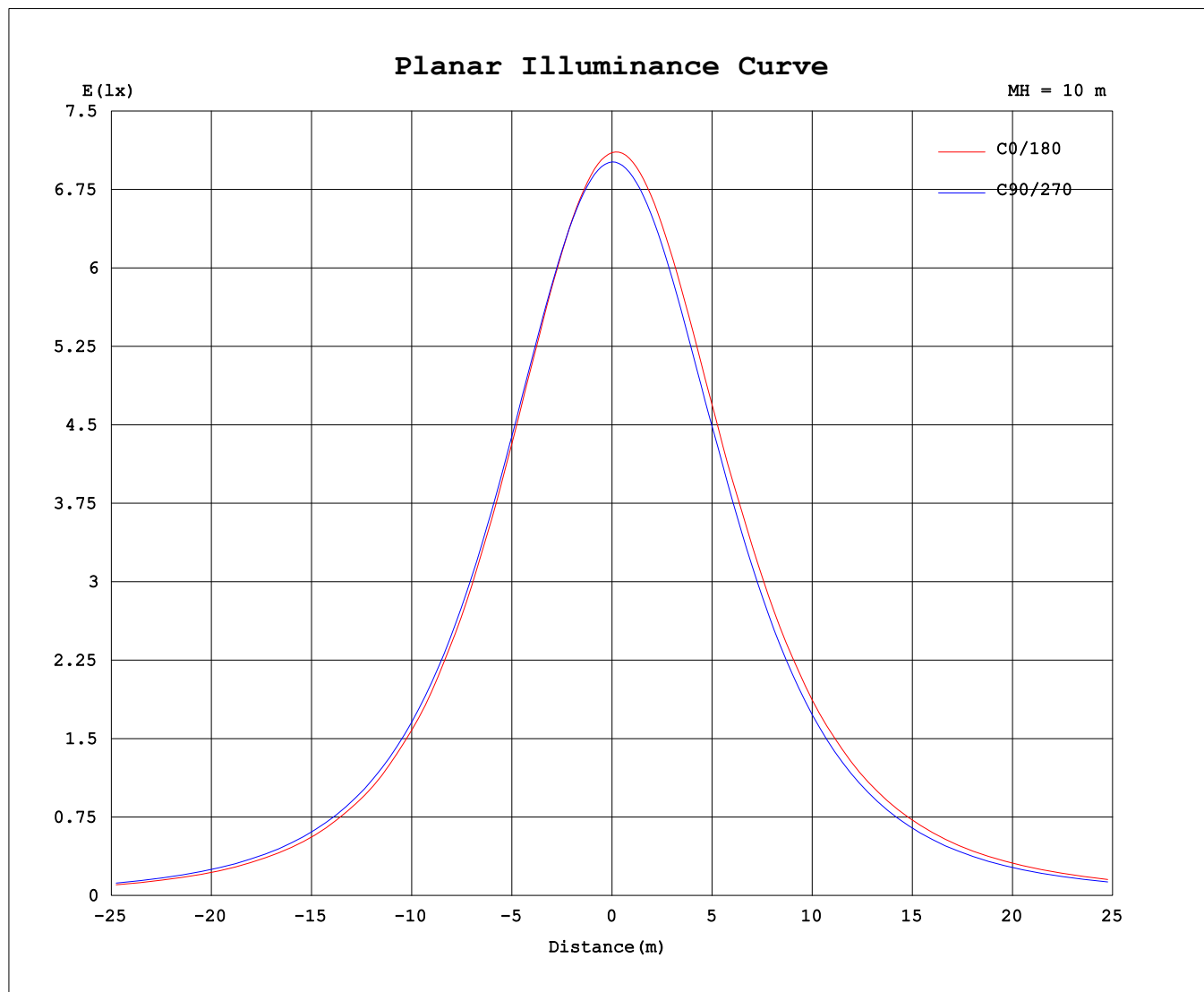
ISOLUX DIAGRAM



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	710	709	707	704	701	699	697	694	710	709	707	704	701	699	697	694			
5	702	702	701	699	697	696	696	696	713	711	708	703	699	696	693	687			
10	689	689	690	688	687	688	689	691	709	706	702	696	692	687	682	675			
15	669	671	672	671	671	673	676	681	700	695	690	683	678	673	667	657			
20	644	647	649	649	650	653	658	665	685	678	672	664	659	652	645	634			
25	614	622	621	624	623	629	634	643	663	656	648	640	634	626	622	605			
30	579	587	587	593	591	601	605	620	636	628	623	610	607	596	590	571			
35	539	547	549	556	555	565	571	589	609	595	589	576	573	560	553	533			
40	496	504	507	514	513	525	533	552	571	557	551	536	533	519	512	491			
45	447	457	461	469	469	481	490	511	529	516	507	493	489	476	467	444			
50	395	407	411	420	421	434	443	465	485	471	461	447	442	428	419	394			
55	343	353	360	368	370	383	395	417	436	421	411	397	392	379	367	346			
60	288	298	305	314	317	331	343	365	383	369	358	343	339	324	314	289			
65	232	240	250	259	263	276	288	312	330	314	302	288	283	269	258	232			
70	174	184	193	202	207	220	234	256	274	259	245	232	225	214	202	181			
75	120	129	138	147	152	165	177	200	214	201	187	175	169	157	146	124			
80	73.6	81.8	89.2	96.4	101	112	125	145	157	144	131	120	116	105	95.6	76.7			
85	38.5	46.5	52.0	57.0	60.3	68.6	78.2	95.0	103	92.8	83.0	73.4	69.4	62.1	56.5	39.1			
90	56.8	51.0	45.6	40.1	38.5	34.5	43.7	58.4	62.5	55.9	47.8	37.3	35.9	34.6	43.0	50.1			
95	87.1	75.8	73.4	67.6	67.3	60.5	51.5	48.6	42.5	48.2	46.6	51.2	54.9	59.5	66.8	80.5			
100	132	132	121	112	112	102	90.3	69.8	65.8	70.0	79.5	89.4	97.8	97.0	106	126			
105	180	182	168	163	167	152	139	118	106	118	127	139	151	152	160	178			
110	234	231	209	213	220	202	189	167	152	170	179	192	207	204	208	228			
115	273	263	246	267	273	256	204	215	206	223	208	246	261	253	237	253			
120	279	294	297	316	325	305	272	246	249	243	277	295	308	306	294	286			
125	320	332	334	359	358	342	320	291	273	297	329	345	357	355	340	332			
130	353	363	366	390	388	369	342	323	313	328	349	367	382	387	359	360			
135	388	398	409	417	422	394	373	355	346	358	368	390	407	411	392	382			
140	412	425	438	439	444	418	408	389	384	395	401	421	437	439	421	411			
145	473	482	499	485	485	463	437	417	413	419	423	434	459	453	443	440			
150	539	546	542	532	538	518	499	476	489	490	489	500	504	496	514	521			
155	582	581	572	570	577	563	549	525	542	546	543	553	555	547	545	562			
160	607	600	598	597	600	590	584	566	575	578	584	589	590	588	584	589			
165	627	618	618	618	619	610	605	591	605	604	606	614	610	611	602	603			
170	642	633	630	631	628	624	620	609	629	625	625	627	623	623	618	619			
175	653	642	640	639	635	632	627	622	647	636	637	633	633	630	628	626			
180	655	645	643	641	637	636	632	629	657	643	644	639	638	635	633	628			

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: