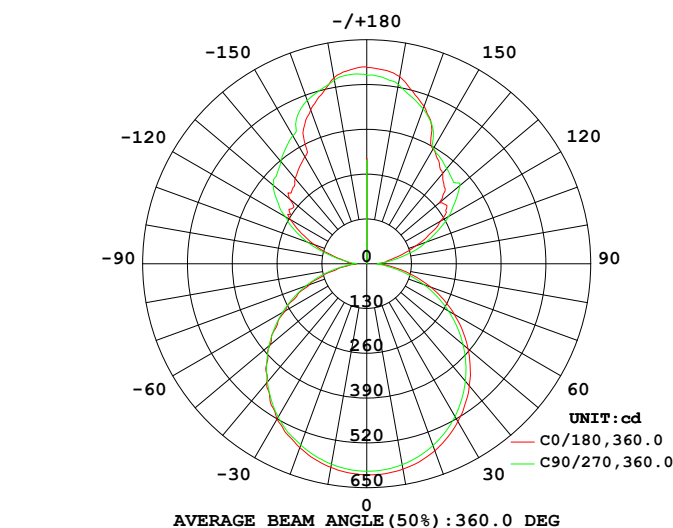


LUMINAIRE PHOTOMETRIC TEST REPORT

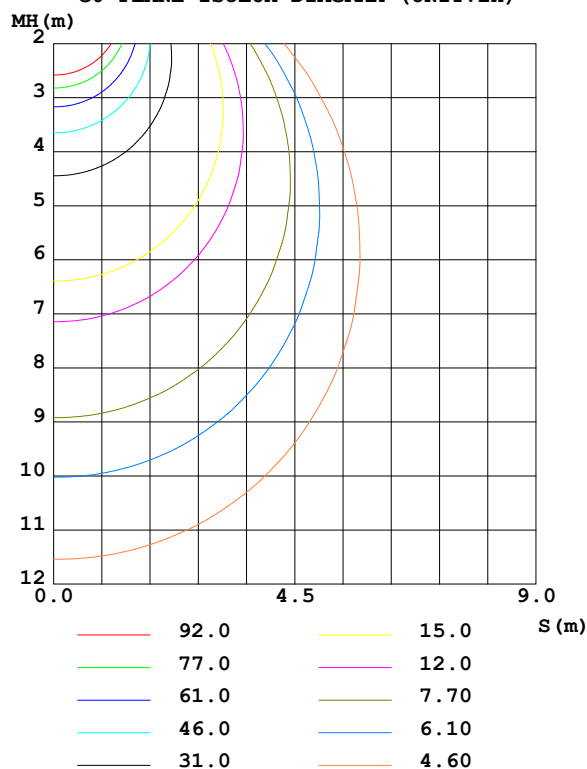
Test:U:220.07V I:0.2753A P:58.137W PF:0.9595 Freq:50.00Hz		
Lamp Flux:3360.83x1 lm		
NAME: SB-U101 60WSZ 60W		WEIGHT:
TYPE: SPEC.: 4000K	DIM.: 47.24"	SERIAL No.:
MFR.: SNOWBALL	SUR.: 1200mm	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 57.81 lm/W			
MODEL		Imax (cd)	612.6	S/MH (C0/180)	1.26
NOMINAL POWER(W)		LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	--	TOTAL FLUX(lm)	3360.8	η UP,DN (C0-180)	22.7,27.0
NOMINAL FLUX(lm)	3360.83	CIE CLASS	DIFFUSE	η UP,DN (C180-360)	23.2,27.1
LAMPS INSIDE	1	η up (%)	45.9	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	--	η down (%)	54.1	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:2023-09-21

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	605.3	601.9	592.0	584.5	600.1	592.6	590.6	591.0	0~ 10	57.16	57.16	1.7,1.7
20	577.6	575.3	561.6	550.7	568.2	558.3	559.6	564.6	10~ 20	164.0	221.1	6.58,6.58
30	529.0	528.7	512.0	497.4	520.8	509.2	513.9	523.2	20~ 30	249.8	470.9	14,14
40	462.7	463.9	445.1	428.5	451.6	440.6	448.3	461.1	30~ 40	302.9	773.8	23,23
50	383.5	385.8	364.9	347.3	366.6	358.7	370.1	384.4	40~ 50	316.9	1091	32.5,32.5
60	293.6	296.1	274.3	256.7	272.4	266.8	281.9	296.8	50~ 60	291.3	1382	41.1,41.1
70	197.5	199.4	176.3	160.6	175.9	171.6	187.9	203.0	60~ 70	230.0	1612	48,48
80	100.4	102.8	82.42	71.66	85.99	82.67	95.23	109.7	70~ 80	143.9	1756	52.2,52.2
90	30.53	31.29	31.75	37.69	31.94	31.70	31.68	36.55	80~ 90	61.65	1818	54.1,54.1
100	71.39	70.26	92.04	92.21	75.30	91.95	82.32	68.69	90~100	57.61	1875	55.8,55.8
110	149.8	157.7	183.2	178.6	161.9	181.3	181.8	148.0	100~110	129.2	2004	59.6,59.6
120	246.8	214.6	274.5	224.2	255.0	234.3	273.1	215.3	110~120	208.9	2213	65.9,65.9
130	275.0	310.5	353.9	324.5	291.3	337.5	353.9	306.3	120~130	254.5	2468	73.4,73.4
140	342.4	362.1	361.3	325.0	323.0	365.1	388.4	363.5	130~140	260.1	2728	81.2,81.2
150	385.1	396.4	386.6	358.0	358.7	390.9	429.6	412.1	140~150	233.1	2961	88.1,88.1
160	486.8	476.6	479.1	489.7	475.8	474.2	504.5	483.8	150~160	203.8	3165	94.2,94.2
170	551.5	535.1	528.9	536.7	548.1	533.3	541.1	533.0	160~170	144.0	3309	98.5,98.5
180	569.3	548.6	547.2	545.8	571.3	550.3	548.6	547.0	170~180	52.06	3361	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 933.04 lm

%lum = 27.8%

%lamp = 27.8%

Conical surface Flux(120deg): 1382 lm

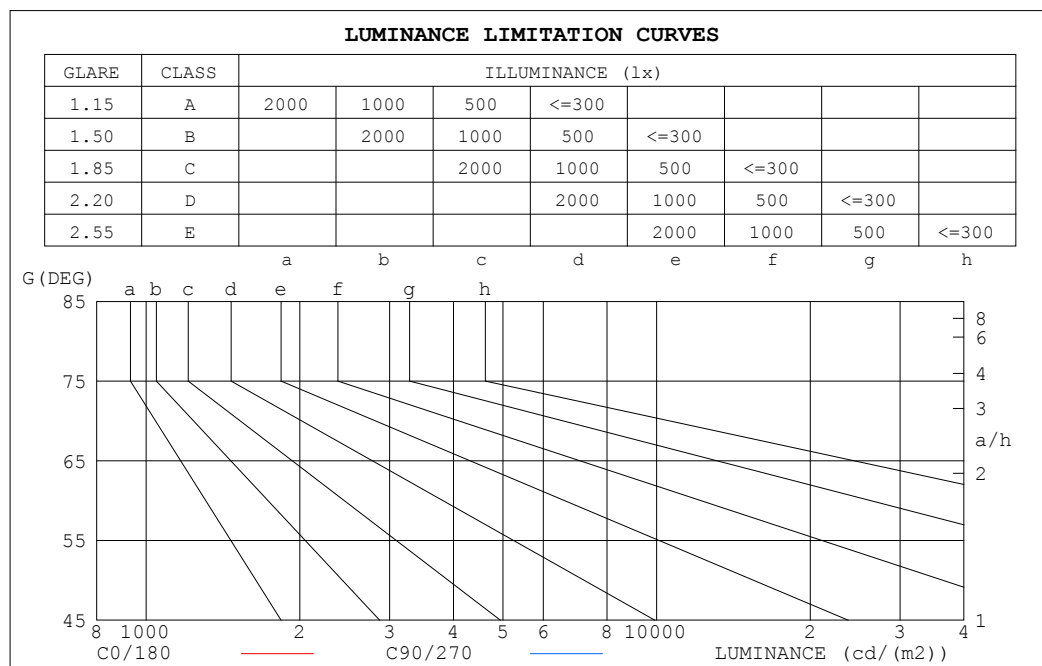
%lum = 41.1%

%lamp = 41.1%

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:

LUMINANCE LIMITATION CURVES



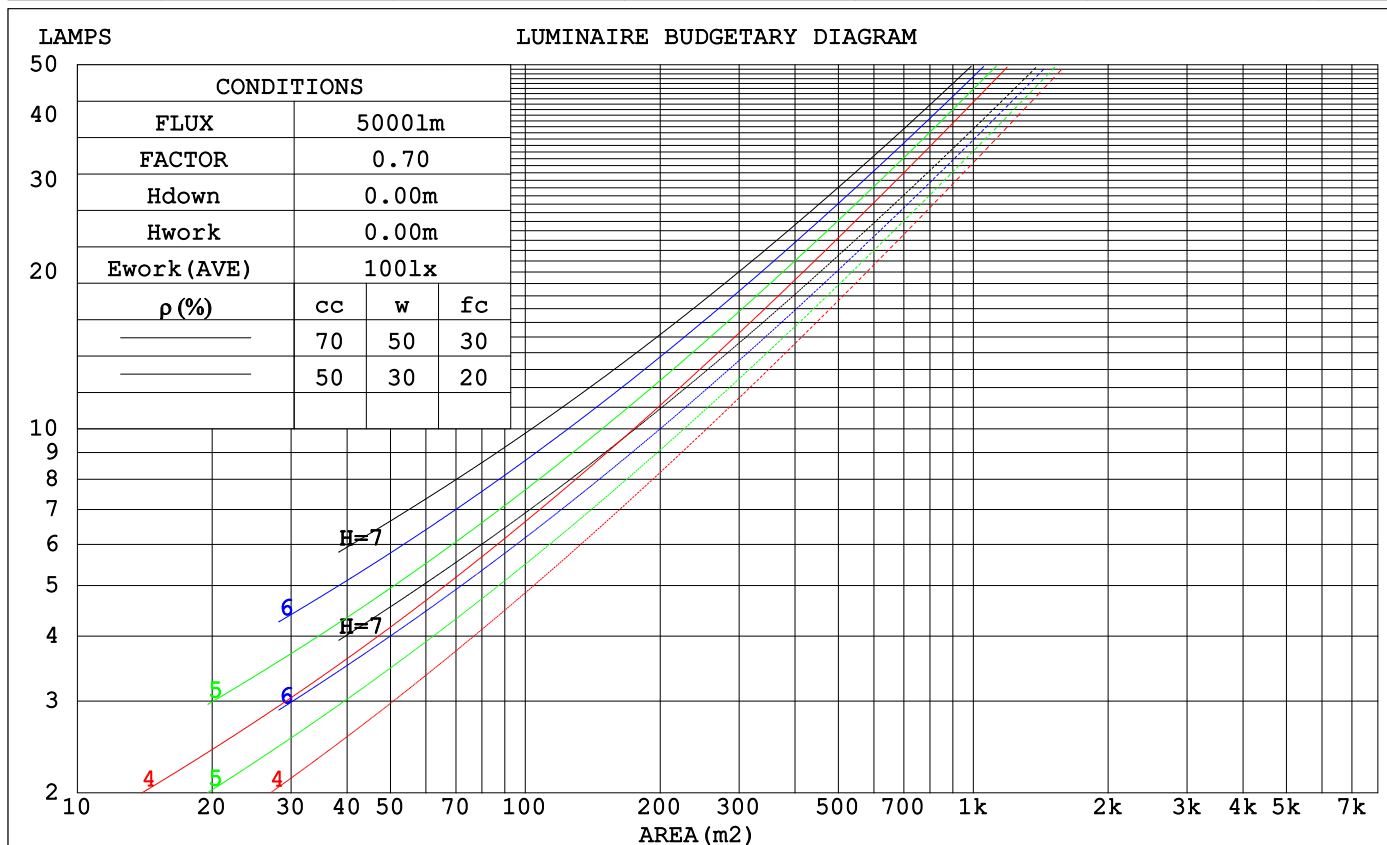
LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	620	484
80	512	420
75	505	436
70	511	456
65	515	472
60	520	486
55	524	495
50	528	502
45	531	509

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	.86	.86	.86	.72	.72	.72	.60	.60	.60	.54
1.0	.94	.89	.86	.87	.83	.80	.74	.72	.69	.63	.61	.59	.52	.51	.49	.44
2.0	.81	.75	.69	.75	.70	.65	.65	.60	.57	.55	.51	.49	.45	.43	.41	.37
3.0	.71	.63	.57	.66	.59	.54	.57	.52	.47	.48	.44	.41	.40	.37	.35	.31
4.0	.63	.55	.48	.58	.51	.46	.50	.45	.40	.43	.38	.35	.35	.32	.30	.26
5.0	.56	.47	.41	.52	.45	.39	.45	.39	.34	.38	.34	.30	.32	.28	.26	.22
6.0	.50	.42	.36	.47	.39	.34	.40	.34	.30	.34	.30	.26	.29	.25	.22	.20
7.0	.45	.37	.31	.42	.35	.30	.36	.31	.26	.31	.26	.23	.26	.23	.20	.17
8.0	.41	.33	.27	.38	.31	.26	.33	.27	.23	.28	.24	.20	.24	.20	.18	.15
9.0	.37	.30	.24	.35	.28	.23	.30	.25	.21	.26	.22	.18	.22	.19	.16	.14
10.0	.34	.27	.22	.32	.25	.21	.28	.22	.19	.24	.20	.17	.21	.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	.297	.169	.054	.276	.158	.050	.237	.136	.043	.201	.116	.037	.168	.097	.031		
2.0	.273	.150	.046	.254	.140	.043	.219	.122	.038	.186	.104	.033	.155	.088	.028		
3.0	.251	.134	.040	.234	.125	.038	.201	.109	.033	.171	.094	.029	.143	.079	.025		
4.0	.231	.120	.035	.215	.113	.033	.185	.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	.184	.091	.026	.172	.086	.024	.149	.075	.022	.127	.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	.131	.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	.540	.540	.540	.462	.462	.462	.315	.315	.315	.181	.181	.181	.058	.058	.058		
1.0	.532	.509	.488	.455	.437	.420	.311	.301	.291	.179	.174	.169	.057	.056	.055		
2.0	.525	.487	.455	.450	.419	.394	.308	.290	.275	.178	.169	.161	.057	.055	.052		
3.0	.518	.471	.434	.444	.406	.376	.305	.282	.264	.176	.165	.156	.057	.054	.051		
4.0	.511	.459	.420	.438	.397	.365	.302	.277	.257	.174	.162	.152	.056	.053	.050		
5.0	.504	.450	.410	.433	.389	.356	.298	.272	.252	.173	.160	.149	.056	.052	.049		
6.0	.498	.442	.402	.428	.383	.350	.295	.268	.248	.171	.158	.147	.055	.052	.049		
7.0	.492	.436	.397	.423	.378	.346	.292	.265	.245	.170	.156	.146	.055	.051	.048		
8.0	.486	.431	.393	.418	.374	.343	.289	.262	.243	.168	.155	.145	.054	.051	.048		
9.0	.481	.426	.390	.414	.370	.340	.287	.260	.241	.167	.154	.144	.054	.050	.048		
10.0	.475	.423	.387	.410	.367	.338	.284	.258	.240	.166	.153	.143	.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	7.9	8.9	8.8	9.8	10.8	7.7	8.7	8.5	9.5	10.5
3H	9.6	10.5	10.4	11.3	12.4	9.2	10.1	10.0	10.9	12.0
4H	10.3	11.1	11.1	12.0	13.1	9.8	10.6	10.7	11.5	12.6
6H	10.8	11.6	11.7	12.5	13.6	10.3	11.0	11.1	11.9	13.0
8H	11.1	11.8	12.0	12.7	13.8	10.4	11.2	11.3	12.1	13.2
12H	11.3	12.0	12.2	12.9	14.0	10.6	11.3	11.5	12.2	13.3
4H 2H	8.4	9.3	9.3	10.1	11.2	8.3	9.1	9.1	10.0	11.0
3H	10.3	11.0	11.2	11.9	13.0	9.9	10.7	10.8	11.6	12.7
4H	11.1	11.7	12.0	12.6	13.8	10.7	11.3	11.6	12.2	13.4
6H	11.8	12.4	12.7	13.3	14.5	11.3	11.9	12.2	12.8	14.0
8H	12.1	12.6	13.1	13.6	14.8	11.5	12.0	12.5	13.0	14.2
12H	12.4	12.9	13.4	13.8	15.1	11.7	12.2	12.7	13.2	14.4
8H 4H	11.3	11.8	12.3	12.8	14.0	11.0	11.5	11.9	12.4	13.6
6H	12.2	12.7	13.2	13.6	14.9	11.8	12.2	12.7	13.2	14.4
8H	12.7	13.0	13.6	14.0	15.3	12.1	12.5	13.1	13.5	14.7
12H	13.1	13.4	14.1	14.4	15.7	12.4	12.8	13.4	13.8	15.0
12H 4H	11.3	11.8	12.3	12.7	14.0	11.0	11.4	11.9	12.4	13.6
6H	12.3	12.7	13.3	13.6	14.9	11.8	12.2	12.8	13.2	14.5
8H	12.8	13.1	13.8	14.1	15.4	12.3	12.6	13.3	13.6	14.9
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	+ 0.2 / - 0.4					+ 0.2 / - 0.4				

CIE Pub.117, 3361 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 4.2$)
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:

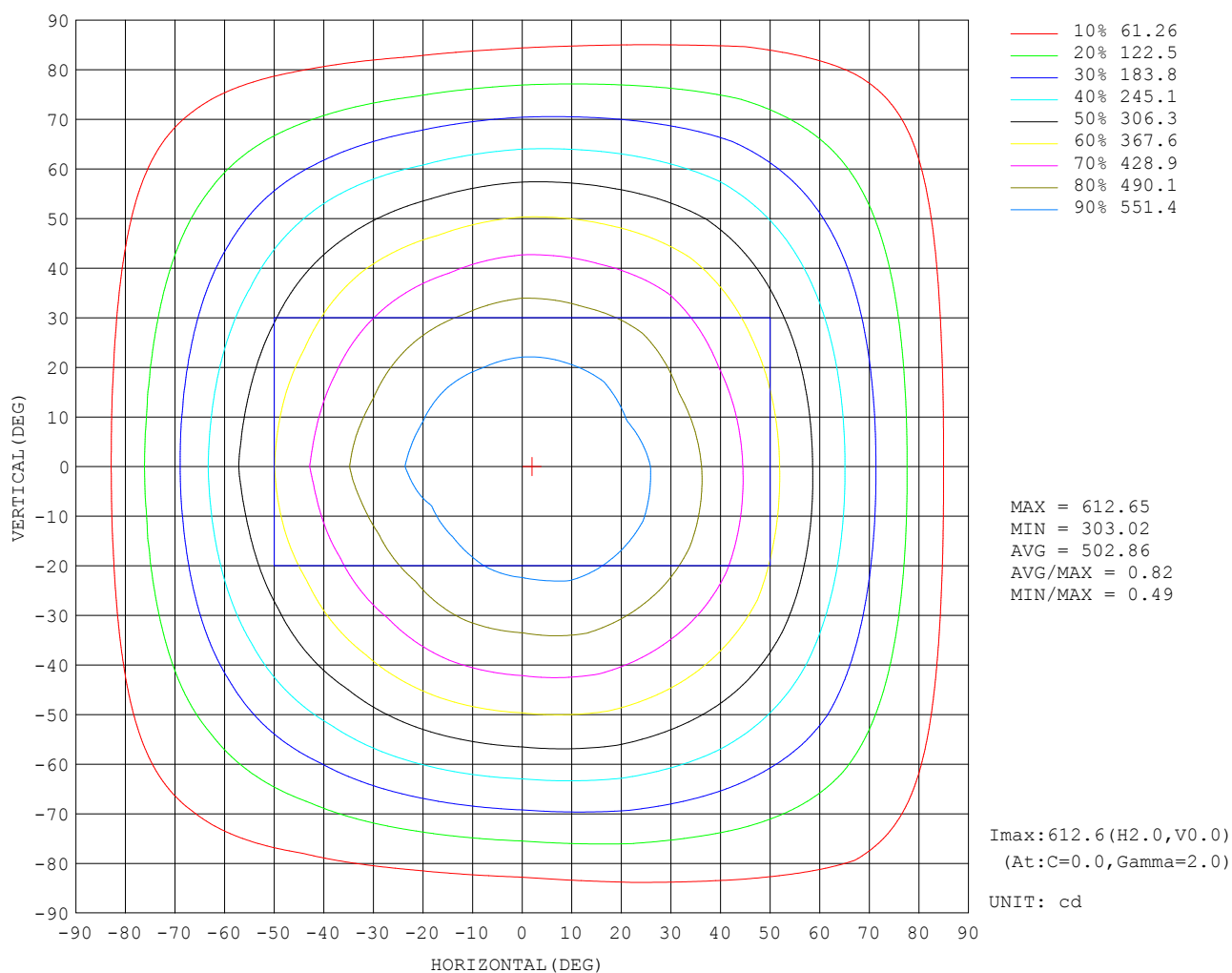
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	44	33	27	42	32	26	38	29	24	17
0.80	54	42	35	51	40	33	45	36	31	21
1.00	61	50	42	58	47	41	51	44	37	26
1.25	68	57	49	64	54	47	56	49	43	30
1.50	74	63	55	69	59	53	60	53	47	32
2.00	81	71	64	75	67	61	65	59	54	37
2.50	85	76	70	79	72	66	69	63	58	39
3.00	89	81	75	83	76	70	71	66	62	41
4.00	93	87	81	87	81	76	74	70	67	44
5.00	96	90	85	89	84	80	76	73	70	46
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:

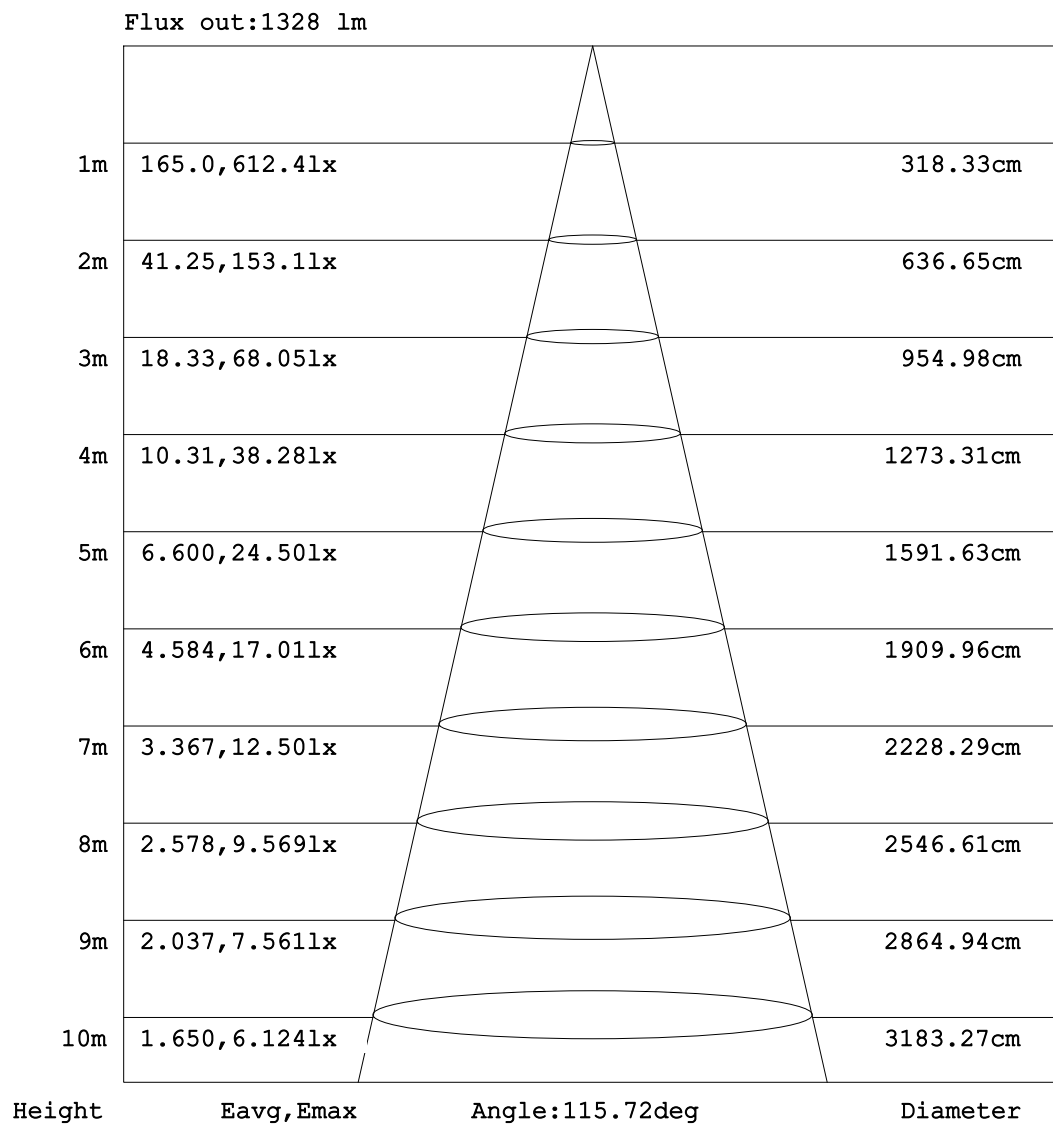
ISOCANDELA DIAGRAM



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

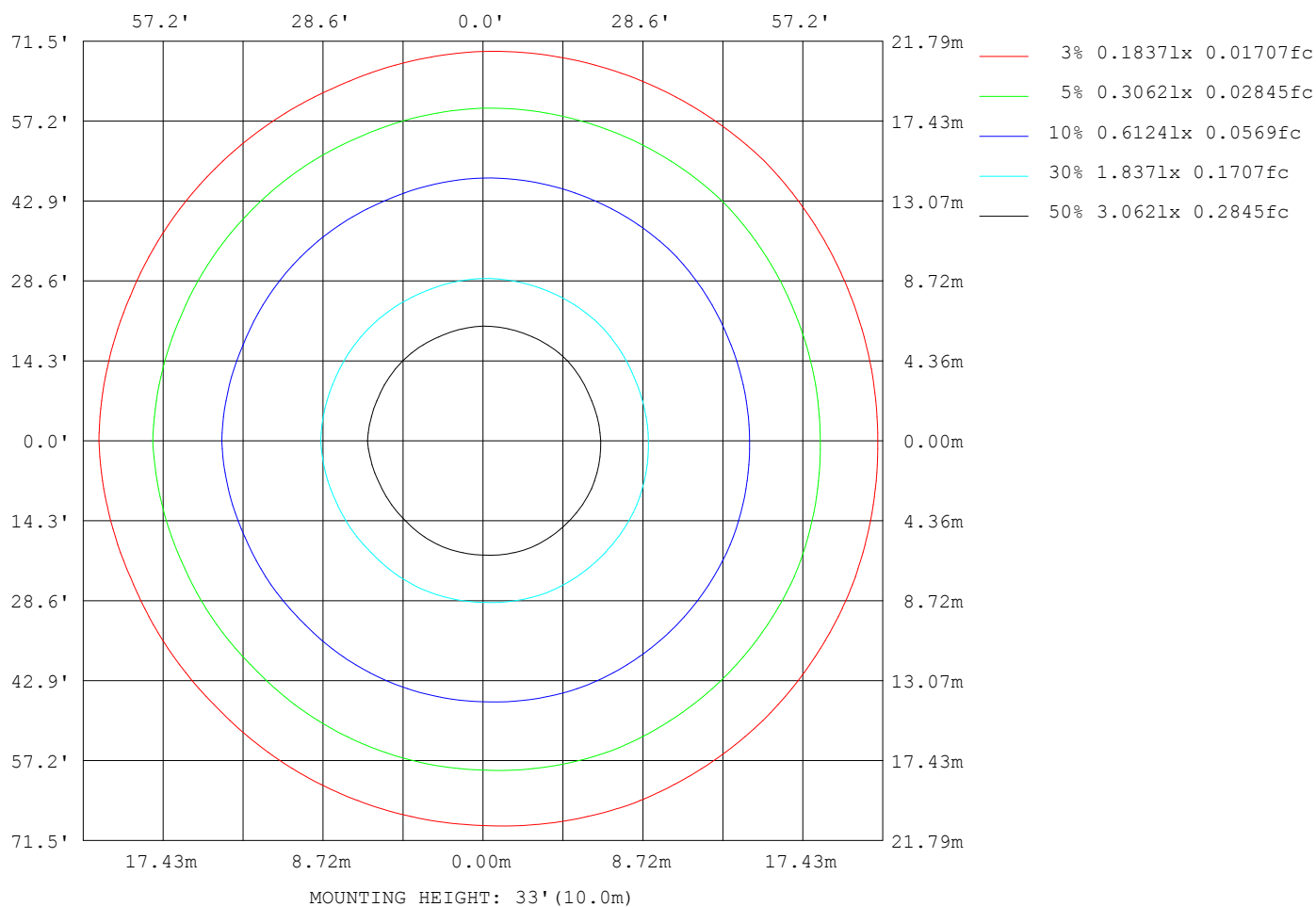


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

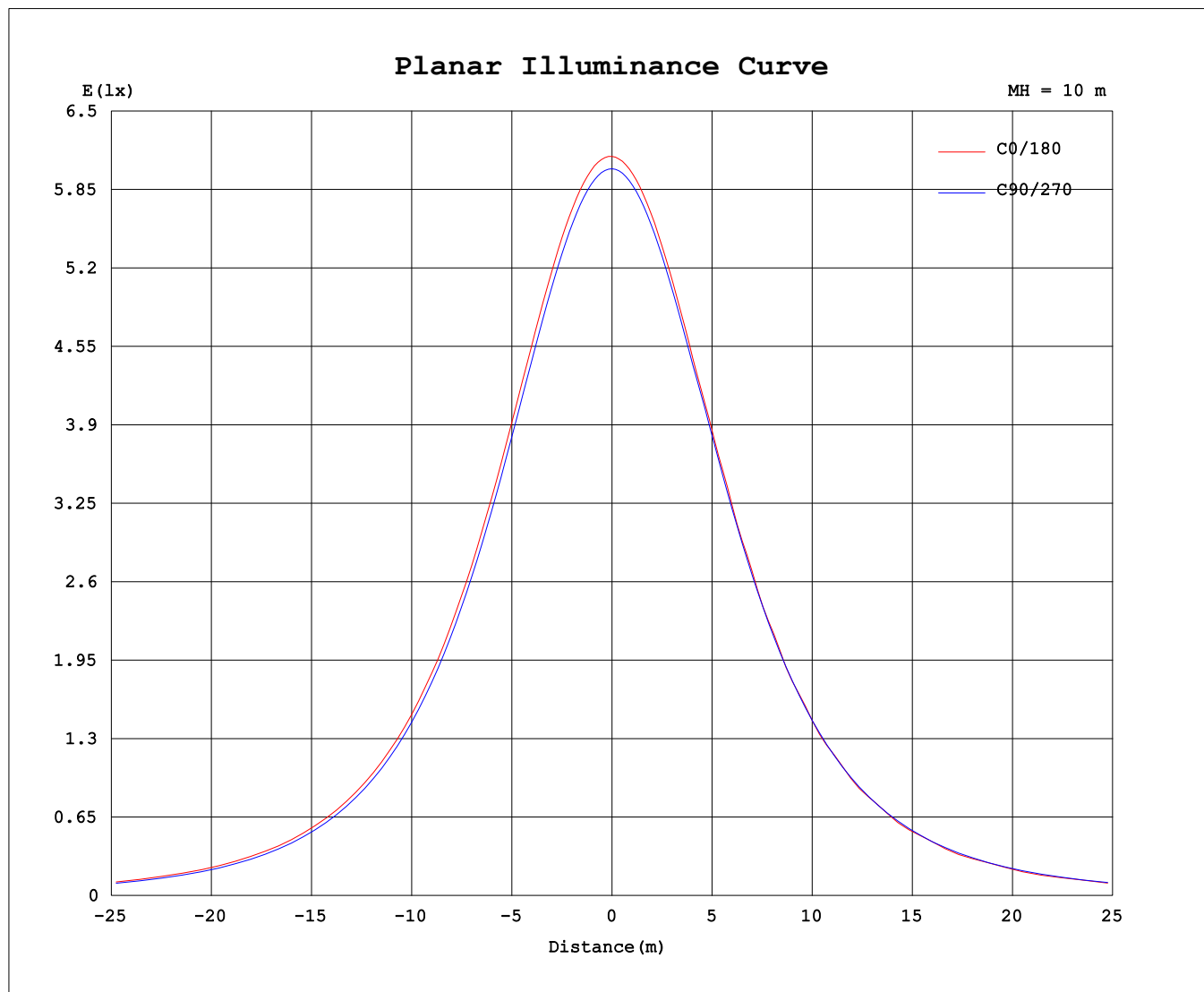
ISOLUX DIAGRAM



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	612	611	608	604	602	600	598	596	612	611	608	604	602	600	598	596			
5	612	610	607	604	600	597	594	592	609	606	603	600	599	598	597	595			
10	605	605	602	598	592	588	585	583	600	596	593	591	591	591	591	589			
15	594	595	591	586	579	574	570	568	586	582	578	576	577	579	580	579			
20	578	579	575	569	562	556	551	551	568	562	558	557	560	562	565	563			
25	556	558	554	551	539	536	526	528	546	537	538	533	541	541	547	542			
30	529	536	529	526	512	508	497	500	521	509	509	506	514	515	523	517			
35	497	506	498	495	481	476	465	468	489	475	477	474	483	485	494	487			
40	463	472	464	460	445	439	429	432	452	439	441	438	448	452	461	455			
45	425	433	426	422	406	400	389	393	410	398	401	399	410	415	424	419			
50	384	391	386	380	365	357	347	351	367	356	359	358	370	375	384	379			
55	340	346	342	337	321	313	303	306	320	312	313	315	327	333	342	337			
60	294	299	296	290	274	265	257	260	272	267	267	270	282	289	297	293			
65	246	249	248	241	226	217	209	213	224	219	219	223	235	243	250	247			
70	197	200	199	192	176	167	161	165	176	173	172	176	188	196	203	200			
75	148	151	150	142	127	119	113	119	129	125	125	129	140	149	155	152			
80	100	105	103	96.0	82.4	75.9	71.7	77.2	86.0	80.1	82.7	84.9	95.2	103	110	107			
85	61.0	66.2	62.4	56.8	47.7	43.1	39.6	45.7	52.2	47.2	49.2	50.2	57.2	63.9	69.5	66.7			
90	30.5	33.5	31.3	28.0	31.8	35.3	37.7	35.2	31.9	38.3	31.7	30.1	31.7	33.3	36.6	33.6			
95	53.3	49.1	47.8	44.6	54.3	56.3	61.6	52.7	57.2	54.3	55.6	54.8	47.9	46.6	43.9	46.7			
100	71.4	64.0	70.3	77.9	92.0	93.8	92.2	80.7	75.3	88.9	92.0	89.9	82.3	72.9	68.7	65.1			
105	107	106	111	117	140	131	139	129	115	137	136	131	128	114	105	106			
110	150	157	158	159	183	176	179	175	162	179	181	181	182	155	148	153			
115	199	199	197	205	229	220	225	215	209	227	223	229	230	208	198	199			
120	247	247	215	251	274	265	224	259	255	272	234	270	273	254	215	240			
125	283	268	269	294	313	305	289	250	276	259	294	317	317	298	262	263			
130	275	294	310	326	354	333	324	307	291	322	338	344	354	329	306	294			
135	318	329	334	347	350	329	316	309	306	333	346	362	369	362	339	331			
140	342	346	362	362	361	335	325	327	323	348	365	380	388	382	364	352			
145	365	369	381	376	374	345	343	348	341	358	379	399	410	406	391	377			
150	385	392	396	391	387	357	358	366	359	370	391	414	430	423	412	399			
155	444	459	461	436	447	436	443	444	434	434	447	475	475	465	468	459			
160	487	502	477	474	479	479	490	479	476	472	474	501	504	496	484	496			
165	517	518	501	500	502	510	515	506	508	506	505	518	522	518	507	517			
170	552	537	535	529	529	536	537	535	548	541	533	535	541	541	533	532			
175	565	549	546	539	543	548	548	546	565	550	549	547	551	546	544	545			
180	569	553	549	545	547	550	546	547	571	551	550	546	549	548	547	546			

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: