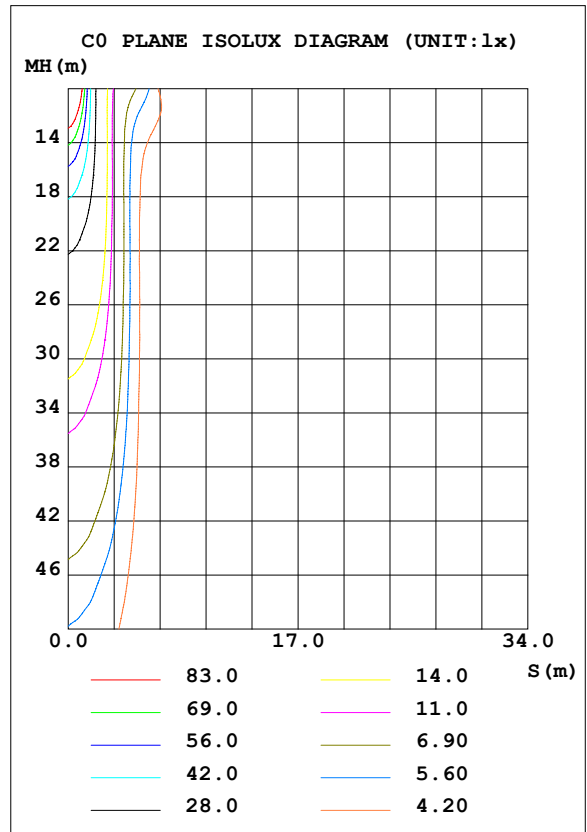
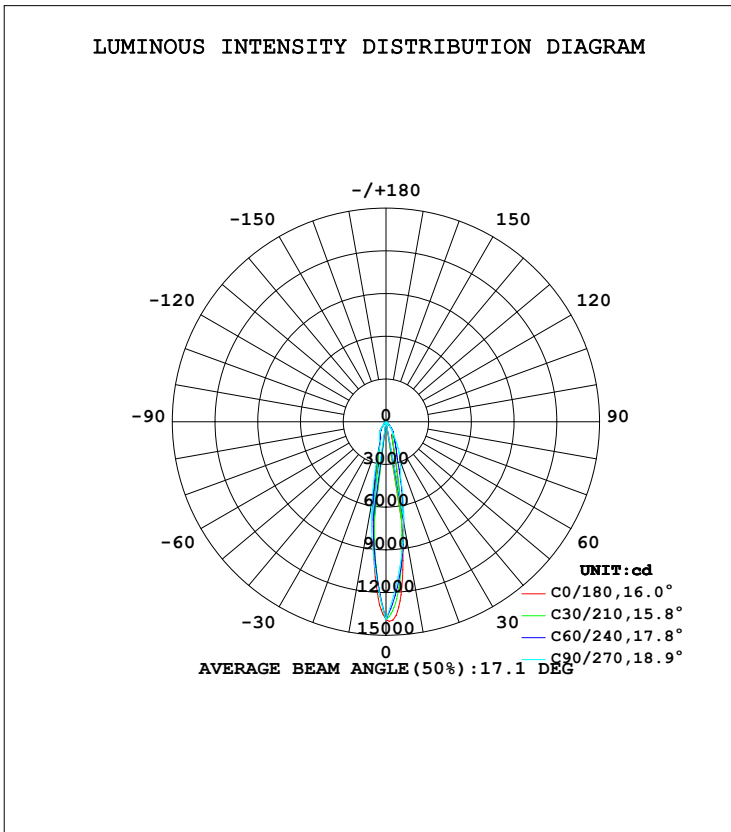


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Juvenis DC 30W-15D-3000K-90	Imax (cd)	14021	S/MH (C0/180)	0.25
NOMINAL POWER (W)	28	LOR (%)	100.0	S/MH (C90/270)	0.29
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2649.8	η UP, DN (C0-180)	0.0, 44.1
NOMINAL FLUX (lm)	2649.77	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 55.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220.0	η down (%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [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
5	970.5	905.1	977.5	1053	1220	1106	1056	949.3	0- 5	277.8	277.8	10.5,10.5
10	393.3	428.3	566.2	579.4	577.1	655.2	724.1	484.2	5- 10	537.5	815.3	30.8,30.8
15	180.4	185.9	155.0	239.2	229.7	306.2	391.8	232.4	10- 15	434.8	1250	47.2,47.2
20	116.7	110.7	132.7	118.2	128.8	165.3	294.8	141.0	15- 20	300.8	1551	58.5,58.5
25	99.44	90.56	110.4	95.70	102.3	119.5	197.9	109.4	20- 25	272.8	1824	68.8,68.8
30	90.74	68.93	88.14	76.31	93.36	99.48	101.0	93.68	25- 30	259.6	2083	78.6,78.6
35	59.62	40.33	61.88	50.70	77.90	84.35	74.50	74.37	30- 35	234.8	2318	87.5,87.5
40	14.31	11.48	35.62	20.56	29.83	59.56	47.97	44.42	35- 40	168.3	2486	93.8,93.8
45	9.134	5.972	9.354	7.444	8.726	30.00	21.45	18.67	40- 45	86.14	2573	97.1,97.1
50	3.413	3.563	6.432	3.589	7.358	11.53	14.60	6.322	45- 50	40.22	2613	98.6,98.6
55	0.7981	0.7323	3.509	0.8966	1.198	3.804	7.752	1.885	50- 55	19.81	2633	99.4,99.4
60	0.5776	0.5841	0.5870	0.6585	0.6527	1.591	0.9041	0.8914	55- 60	8.599	2641	99.7,99.7
65	0.4487	0.4676	0.4761	0.5212	0.5056	0.7013	0.7241	0.5676	60- 65	3.376	2645	99.8,99.8
70	0.3486	0.3379	0.3651	0.3884	0.4057	0.4582	0.5442	0.4119	65- 70	2.348	2647	99.9,99.9
75	0.2153	0.1738	0.2541	0.2226	0.3063	0.3571	0.3643	0.2985	70- 75	1.787	2649	100,100
80	0.0146	0.0276	0	0.0633	0.0564	0.2175	0	0.1567	75- 80	0.9307	2650	100,100
85	0.0017	0	0	0	0.0082	0	0	0	80- 85	0.1254	2650	100,100
90	0.0019	0	0	0	0.0023	0	0	0	85- 90	0.0126	2650	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:×10cd								UNIT:lm			

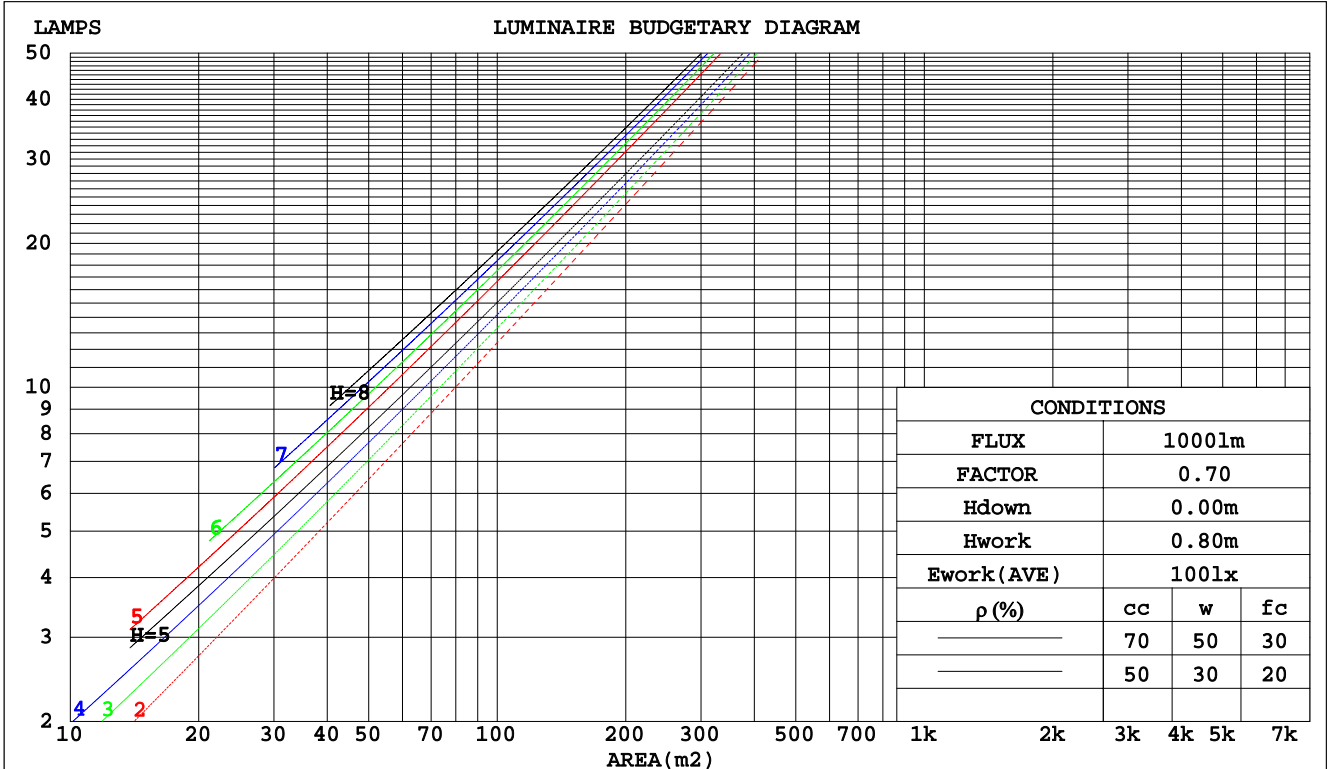
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio      Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.05	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.93	.92	.90
3.0	.00	.95	.92	.98	.94	.91	.96	.93	.90	.93	.91	.89	.91	.89	.87	.86
4.0	.95	.90	.86	.94	.89	.86	.91	.88	.85	.90	.86	.84	.88	.85	.83	.82
5.0	.90	.85	.82	.89	.85	.81	.87	.84	.80	.86	.82	.80	.84	.81	.79	.78
6.0	.86	.81	.77	.85	.81	.77	.84	.80	.77	.82	.79	.76	.81	.78	.76	.74
7.0	.82	.77	.74	.82	.77	.74	.80	.76	.73	.79	.76	.73	.78	.75	.72	.71
8.0	.79	.74	.71	.78	.74	.70	.77	.73	.70	.76	.73	.70	.76	.72	.70	.68
9.0	.76	.71	.68	.75	.71	.68	.75	.70	.67	.74	.70	.67	.73	.69	.67	.66
10.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.67	.65	.71	.67	.65	.63



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:

WEC AND CCEC

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.156	.089	.028	.149	.085	.027	.137	.078	.025	.125	.072	.023	.115	.066	.021	
2.0	.148	.081	.025	.142	.078	.024	.132	.073	.023	.122	.069	.021	.113	.064	.020	
3.0	.139	.074	.022	.135	.072	.022	.126	.068	.021	.118	.065	.020	.110	.061	.019	
4.0	.132	.069	.020	.128	.067	.020	.120	.064	.019	.113	.061	.018	.107	.058	.018	
5.0	.125	.064	.018	.122	.062	.018	.115	.060	.018	.109	.058	.017	.103	.055	.017	
6.0	.119	.060	.017	.116	.058	.017	.110	.056	.016	.105	.054	.016	.100	.053	.016	
7.0	.113	.056	.016	.110	.055	.016	.105	.053	.015	.101	.052	.015	.096	.050	.015	
8.0	.108	.053	.015	.105	.052	.015	.101	.050	.014	.097	.049	.014	.093	.048	.014	
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.093	.047	.013	.090	.046	.013	
10.0	.098	.047	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.013	

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.170	.157	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.080	.082	.068	.056	.047	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.110	.085	.066	.075	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.118	.086	.063	.102	.075	.055	.070	.052	.039	.041	.031	.023	.013	.010	.008	
6.0	.110	.077	.053	.095	.066	.046	.065	.047	.033	.038	.027	.019	.012	.009	.006	
7.0	.103	.069	.045	.089	.060	.039	.061	.042	.028	.036	.025	.017	.011	.008	.005	
8.0	.097	.062	.039	.083	.054	.034	.058	.038	.024	.034	.022	.014	.011	.007	.005	
9.0	.091	.057	.034	.079	.049	.029	.055	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.086	.052	.029	.075	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

Uncorrected UGR Table

NAME: Juvenis DC 30W-15D-3000K-90						TYPE:					WEIGHT:				
DIM.:						SPEC.:					SERIAL No.:				
MFR.: DOBAC						SUR.:					PROTECTION ANGLE:				
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	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	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	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise									
x = 2H y = 2H	21.0	21.8	21.3	22.0	22.2	22.7	23.4	22.9	23.6	23.8	22.7	23.4	22.9	23.6	23.8
3H	20.9	21.6	21.1	21.8	22.0	22.5	23.2	22.8	23.4	23.6	22.5	23.2	22.8	23.4	23.6
4H	20.8	21.5	21.1	21.7	21.9	22.4	23.1	22.7	23.3	23.6	22.4	23.1	22.7	23.3	23.6
6H	20.7	21.4	21.0	21.6	21.9	22.3	23.0	22.6	23.2	23.5	22.3	23.0	22.6	23.2	23.5
8H	20.7	21.3	21.0	21.6	21.8	22.3	22.9	22.6	23.2	23.4	22.3	22.9	22.6	23.2	23.4
12H	20.6	21.3	21.0	21.5	21.8	22.3	22.9	22.6	23.1	23.4	22.3	22.9	22.6	23.1	23.4
4H 2H	20.8	21.5	21.1	21.7	21.9	22.4	23.1	22.7	23.3	23.5	22.4	23.1	22.7	23.3	23.5
3H	20.7	21.3	21.0	21.5	21.8	22.3	22.9	22.6	23.1	23.4	22.3	22.9	22.6	23.1	23.4
4H	20.6	21.1	20.9	21.4	21.7	22.2	22.7	22.5	23.0	23.3	22.2	22.7	22.5	23.0	23.3
6H	20.5	21.0	20.8	21.3	21.6	22.1	22.6	22.4	22.9	23.2	22.1	22.6	22.4	22.9	23.2
8H	20.4	20.9	20.8	21.2	21.6	22.0	22.5	22.4	22.8	23.2	22.0	22.5	22.4	22.8	23.2
12H	20.4	20.8	20.8	21.2	21.5	22.0	22.4	22.4	22.7	23.1	22.0	22.4	22.4	22.7	23.1
8H 4H	20.4	20.9	20.8	21.2	21.6	22.0	22.5	22.4	22.8	23.2	22.0	22.5	22.4	22.8	23.2
6H	20.3	20.7	20.7	21.1	21.5	21.9	22.3	22.3	22.7	23.1	21.9	22.3	22.3	22.7	23.1
8H	20.3	20.6	20.7	21.0	21.4	21.9	22.2	22.3	22.6	23.0	21.9	22.2	22.3	22.6	23.0
12H	20.2	20.5	20.7	20.9	21.4	21.8	22.1	22.3	22.5	23.0	21.8	22.1	22.3	22.5	23.0
12H 4H	20.4	20.8	20.8	21.2	21.5	22.0	22.4	22.4	22.8	23.1	22.0	22.4	22.4	22.8	23.1
6H	20.3	20.6	20.7	21.0	21.4	21.9	22.2	22.3	22.6	23.0	21.9	22.2	22.3	22.6	23.0
8H	20.2	20.5	20.7	20.9	21.4	21.8	22.1	22.3	22.5	23.0	21.8	22.1	22.3	22.5	23.0
Variations with the observer position at spacings:															
S = 1.0H	+ 5.0 / -11.8					+ 3.2 / -10.7									
1.5H	+ 7.0 / -11.0					+ 5.7 / -12.3									
2.0H	+ 6.8 / - 7.2					+ 5.1 / - 8.6									

CIE Pub.117 Corrected 2650 lm Total Lamp Luminous Flux.(8log(F/F0) = 3.4)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**UTILIZATION FACTORS TABLE**

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

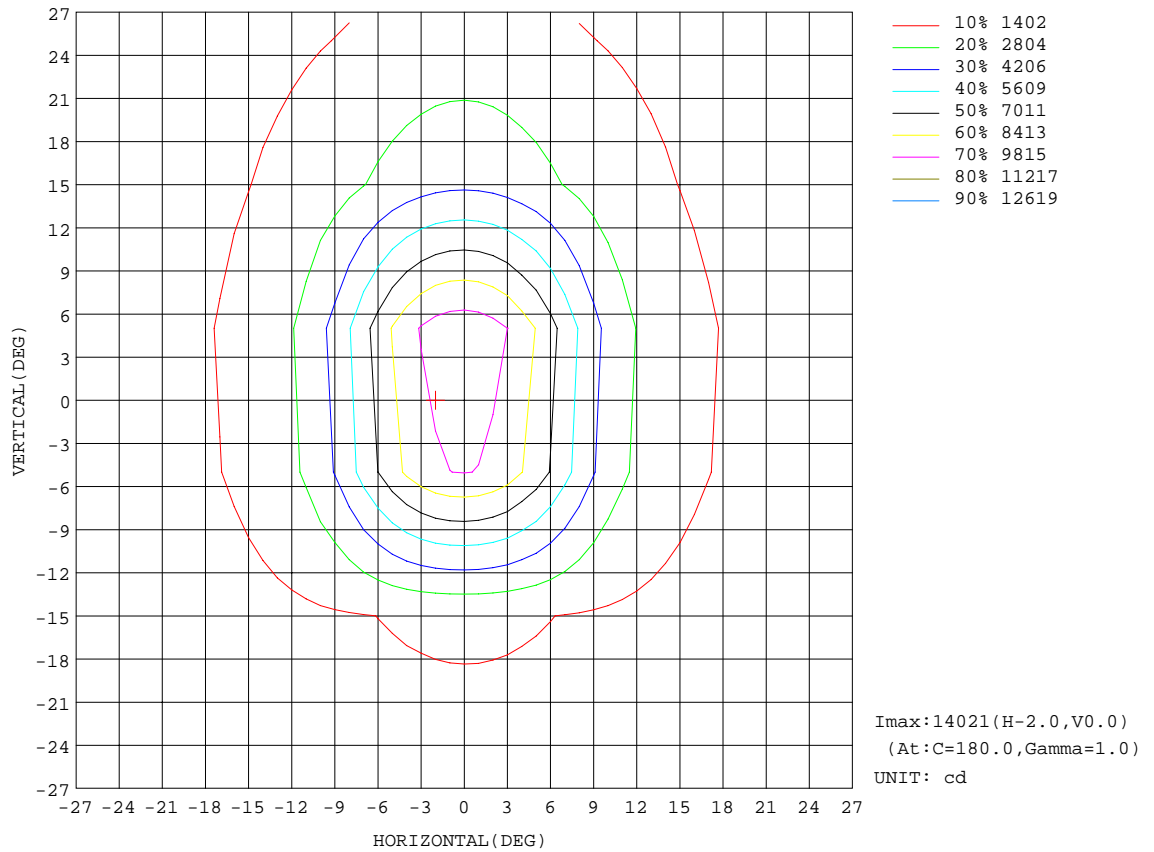
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	88	81	78	87	81	77	86	81	77	74
0.80	95	89	86	94	89	86	93	88	85	82
1.00	100	94	91	99	94	90	97	93	90	86
1.25	104	98	95	103	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	99	97	92
2.00	109	105	102	107	104	101	105	102	99	94
2.50	110	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	106	105	98
5.00	115	113	111	113	111	110	109	108	106	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-11-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

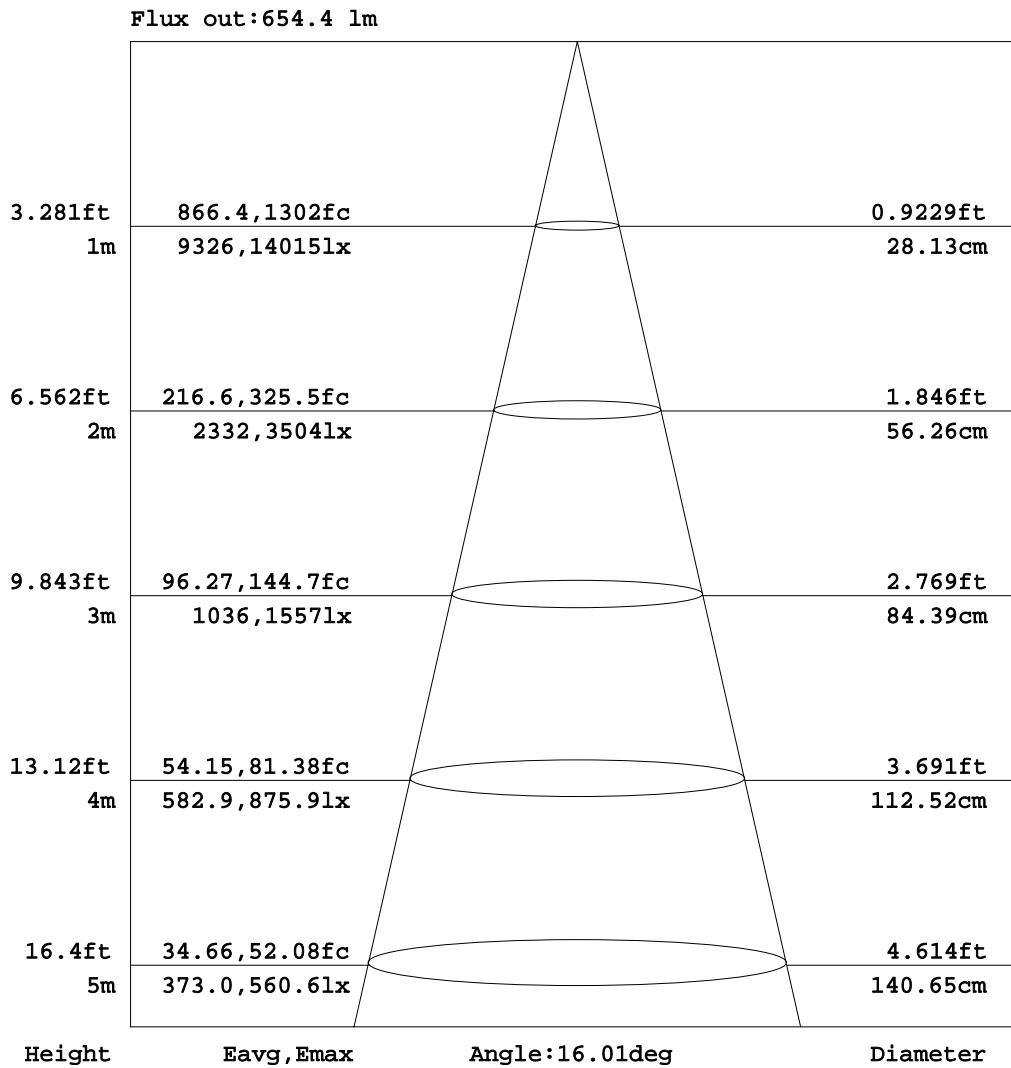


C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-11-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

AAI Figure

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



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

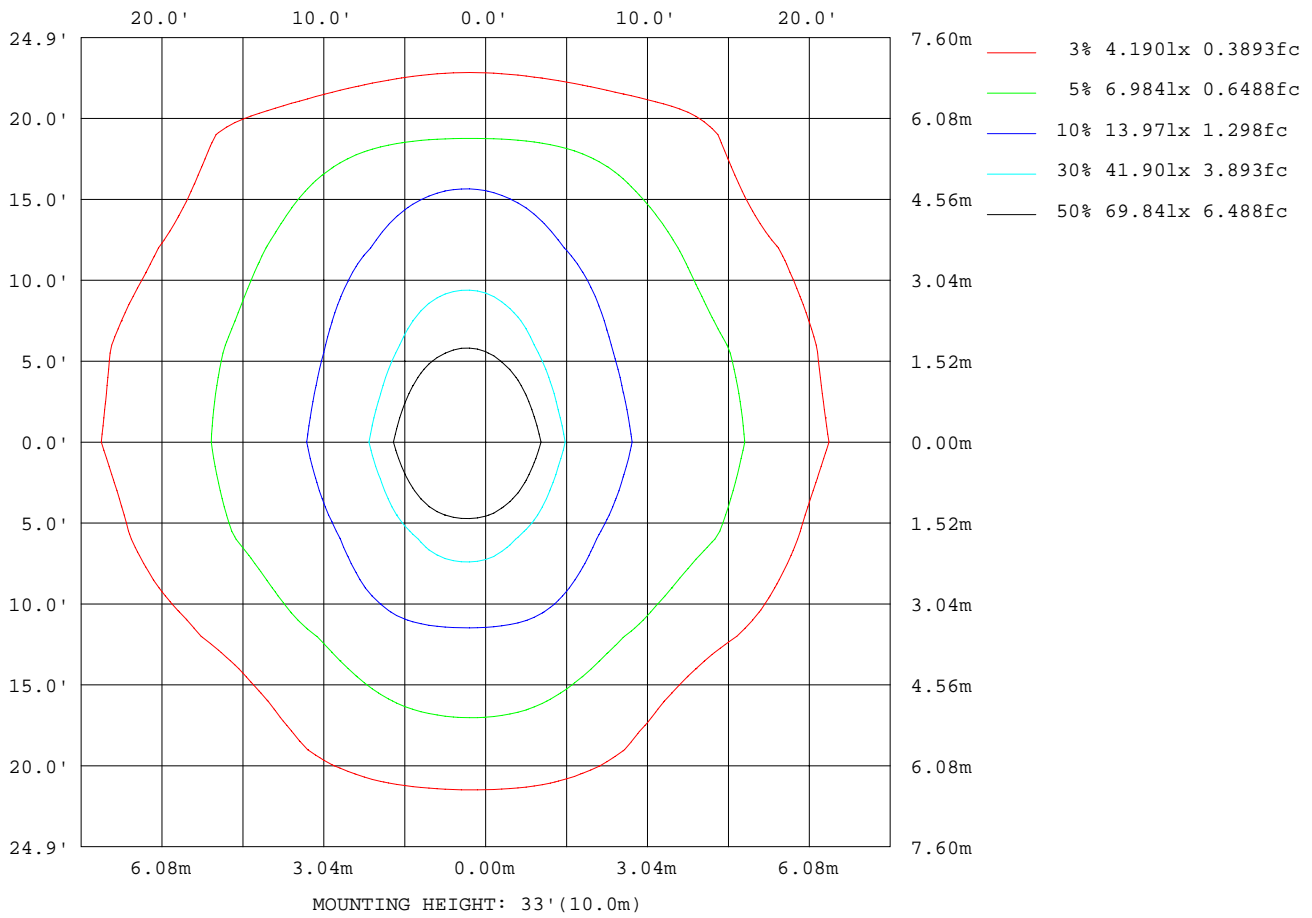
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:



**ISOLUX DIAGRAM**

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-11-16

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

**Average Luminance Table(CIBSE)**

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	2649.77	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0021	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	6626	6369	6897	7275	12661	6885	13887	25329	28757	29136	31038	32453	24189	10105	16966	14327	12956	9462	9943
60	5501	5358	5355	5443	5425	5817	8089	10319	7363	5591	7681	12487	12555	7200	5957	6394	5939	6075	6217
65	5056	4948	4987	5007	5211	5282	5023	5078	5247	5364	5446	5470	5535	5914	5806	5595	5545	5580	5697
70	4853	4727	4737	4656	5032	4395	4000	4427	4888	5083	5186	5187	5122	5066	5838	5763	5490	5511	5649
75	3961	3428	3075	3819	3607	2818	2371	3346	4350	4675	4812	4773	4406	3712	4567	5829	5379	5383	5635
80	402	337	801	2071	988	687	551	530	191	0	212	822	1519	1472	2079	3835	2978	1474	1546
85	95	1154	1158	0	0	0	0	0	0	0	0	0	0	0	0	0	2787	3474	446

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum	specified	maximum	specified
		calculated	maximum	measured	maximum
Category 1	55 to 90	32453	200	---	500
Category 2	65 to 90	5914	200	---	500
Category 3	75 to 90	5829	200	---	500

Table 3. Tabulation of Average and Patch Luminance(cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**Average Luminance Table(CIBSE)**

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	2649.77	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0021	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:2001 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	6626	6369	6897	7275	12661	6885	13887	25329	28757	29136	31038	32453	24189	10105	16966	14327	12956	9462	9943
60	5501	5358	5355	5443	5425	5817	8089	10319	7363	5591	7681	12487	12555	7200	5957	6394	5939	6075	6217
65	5056	4948	4987	5007	5211	5282	5023	5078	5247	5364	5446	5470	5535	5914	5806	5595	5545	5580	5697
70	4853	4727	4737	4656	5032	4395	4000	4427	4888	5083	5186	5187	5122	5066	5838	5763	5490	5511	5649
75	3961	3428	3075	3819	3607	2818	2371	3346	4350	4675	4812	4773	4406	3712	4567	5829	5379	5383	5635
80	402	337	801	2071	988	687	551	530	191	0	212	822	1519	1472	2079	3835	2978	1474	1546
85	95	1154	1158	0	0	0	0	0	0	0	0	0	0	0	0	0	2787	3474	446

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

range (deg)	Maximum measured	Average Luminance(cd/sq.m)			
		Maximum limit for screen type & software category used			
		Type I,II screen Some neg.s'ware	Type I,II screen Only pos.s'ware	Type III screen Some neg.s'ware	Type III screen Only pos.s'ware
55 to 90	32453	1000	1500	200	500
65 to 90	5914	1000	1500	200	500

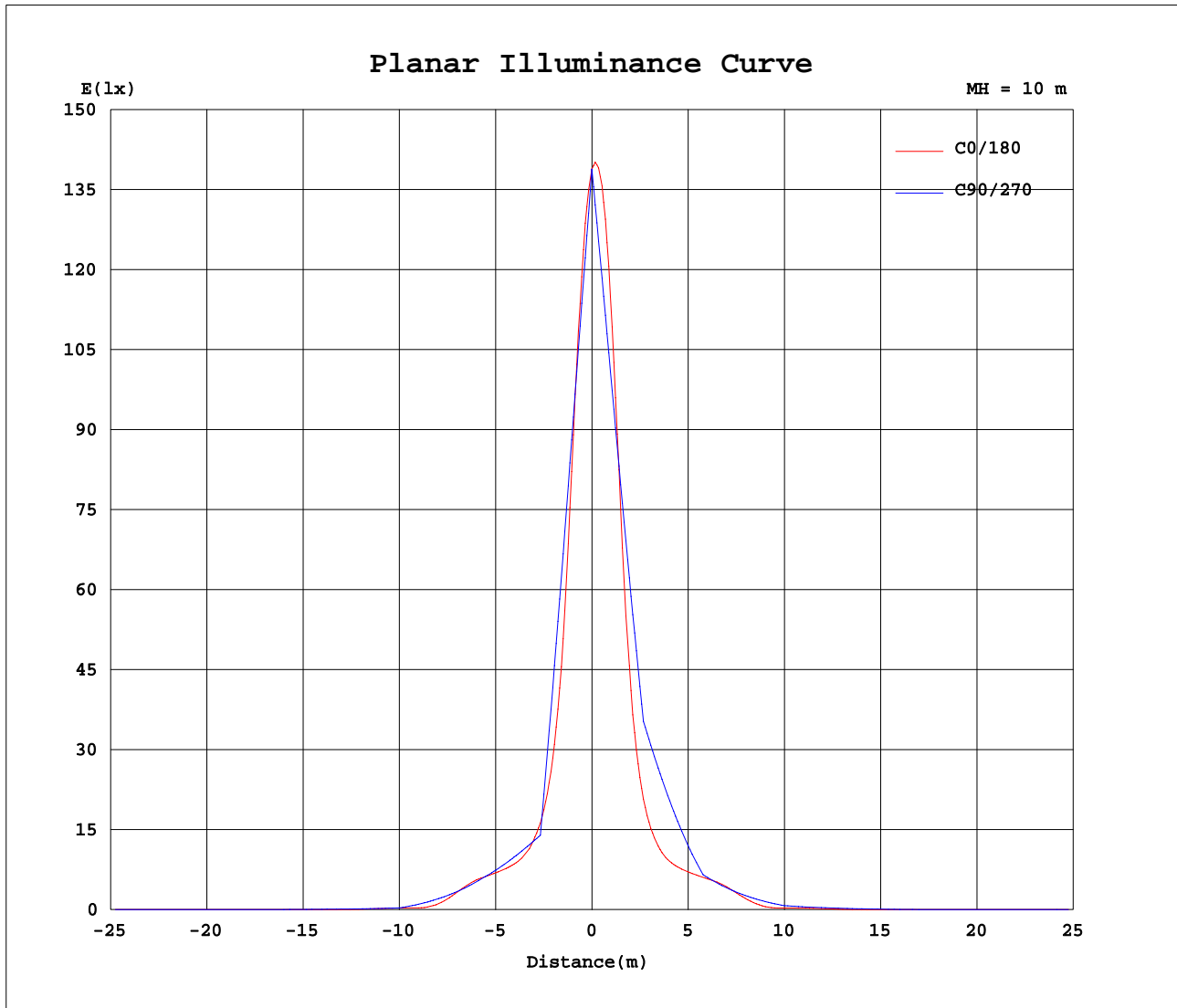
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-11-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: x10cd

C( DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389
5	970	949	931	918	909	903	901	903	903	905	909	916	926	938	945	953	961	968	977
10	393	380	372	368	368	371	381	393	410	428	450	471	492	509	522	535	548	557	566
15	180	175	172	170	170	171	173	177	181	186	191	195	197	195	189	178	166	157	155
20	117	115	114	114	113	113	114	114	113	111	109	111	113	117	121	125	129	131	133
25	99.4	98.2	97.3	96.7	96.6	96.6	96.7	96.6	92.6	90.6	90.4	91.9	94.4	97.7	101	105	107	109	110
30	90.7	86.5	83.7	82.8	84.1	86.5	83.5	76.0	71.0	68.9	69.3	71.9	75.9	80.3	83.9	86.6	87.8	88.0	88.1
35	59.6	52.7	48.6	47.0	48.1	51.3	51.5	47.9	42.9	40.3	42.2	47.6	54.1	58.9	61.5	62.3	62.3	61.9	61.9
40	14.3	13.4	12.8	11.6	11.0	16.4	21.1	21.4	15.5	11.5	18.1	25.6	31.4	35.2	36.9	37.1	36.5	35.8	35.6
45	9.13	8.60	8.51	9.14	7.51	6.54	7.66	9.07	7.69	5.97	6.78	10.6	13.7	14.9	14.4	12.8	11.0	9.74	9.35
50	3.41	2.94	2.75	3.07	3.50	2.89	2.83	4.43	4.68	3.56	2.40	2.38	3.02	4.25	5.29	5.98	6.21	6.34	6.43
55	0.80	0.77	0.77	0.78	0.83	0.76	0.88	1.30	1.53	0.73	0.83	1.07	1.67	2.40	3.05	3.39	3.46	3.48	3.51
60	0.58	0.56	0.56	0.56	0.56	0.57	0.57	0.56	0.57	0.58	0.61	0.68	0.85	1.04	1.08	0.96	0.77	0.63	0.59
65	0.45	0.44	0.44	0.44	0.44	0.44	0.44	0.45	0.46	0.47	0.47	0.46	0.45	0.44	0.45	0.46	0.47	0.47	0.48
70	0.35	0.34	0.34	0.34	0.34	0.33	0.33	0.35	0.36	0.34	0.32	0.30	0.29	0.29	0.32	0.34	0.35	0.36	0.37
75	0.22	0.19	0.19	0.18	0.17	0.14	0.21	0.21	0.20	0.17	0.15	0.14	0.13	0.13	0.18	0.22	0.24	0.25	0.25
80	0.01	0.01	0.01	0.03	0.03	0.04	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.00	0.00
85	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: x10cd

C( DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389
5	983	992	999	1007	1017	1025	1035	1044	1053	1065	1077	1088	1103	1120	1141	1164	1190	1220	1196
10	573	581	588	595	599	601	596	589	579	569	558	546	536	534	535	542	555	577	561
15	160	172	189	210	228	240	245	243	239	233	225	219	216	214	214	216	221	230	225
20	133	132	131	128	124	121	118	115	118	123	125	125	125	125	124	125	126	129	128
25	111	110	109	106	104	101	97.9	96.2	95.7	96.7	99.4	100	100	100	100	101	101	102	102
30	88.5	89.2	89.4	88.5	86.2	83.1	79.8	77.1	76.3	77.5	81.5	87.9	91.4	91.1	90.8	90.8	91.7	93.4	93.1
35	62.4	63.5	64.8	65.5	65.3	63.2	58.6	53.5	50.7	51.4	56.2	63.3	69.1	68.8	66.8	67.8	71.6	77.9	76.3
40	36.2	37.5	39.2	40.5	40.7	38.9	35.1	28.6	20.6	20.0	26.9	31.9	31.1	26.9	24.0	24.3	26.2	29.8	28.9
45	10.0	11.6	14.0	16.6	18.5	18.8	16.7	12.3	7.44	7.25	9.63	12.5	9.91	7.84	8.84	8.95	8.87	8.73	8.84
50	6.55	6.68	6.75	6.76	6.10	5.12	4.55	3.71	3.59	5.13	6.44	5.91	4.78	5.64	6.54	6.37	6.45	7.36	7.20
55	3.60	3.74	3.87	3.91	3.60	2.91	1.95	1.22	0.90	2.04	2.51	1.73	1.05	1.56	1.33	1.14	1.15	1.20	1.24
60	0.64	0.81	1.06	1.31	1.45	1.32	1.00	0.76	0.66	0.63	0.63	0.67	0.63	0.62	0.63	0.64	0.64	0.65	0.65
65	0.48	0.48	0.48	0.49	0.49	0.49	0.50	0.52	0.52	0.52	0.51	0.50	0.49	0.49	0.49	0.50	0.50	0.51	0.51
70	0.37	0.37	0.37	0.37	0.37	0.37	0.36	0.36	0.39	0.42	0.42	0.41	0.40	0.39	0.39	0.40	0.40	0.41	0.41
75	0.26	0.26	0.26	0.26	0.25	0.24	0.21	0.20	0.22	0.25	0.28	0.32	0.32	0.29	0.30	0.29	0.30	0.31	0.31
80	0.00	0.01	0.02	0.03	0.04	0.06	0.05	0.05	0.06	0.08	0.11	0.14	0.17	0.11	0.12	0.05	0.06	0.06	0.07
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	0.06	0.06	0.01	0.01	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: x10cd

C( DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389
5	1176	1158	1144	1132	1124	1118	1112	1106	1102	1098	1092	1088	1082	1076	1070	1062	1056	1045	1036
10	554	554	560	570	589	611	633	655	677	698	716	728	736	739	738	733	724	710	691
15	224	226	230	239	250	265	286	306	328	352	373	387	397	401	402	398	392	381	367
20	128	129	132	136	141	148	157	165	176	192	211	232	255	275	290	297	295	282	262
25	102	103	104	106	108	111	114	120	126	135	145	157	171	184	194	199	198	190	178
30	93.3	93.9	94.8	96.2	95.7	95.2	96.9	99.5	102	106	109	111	112	110	107	103	101	102	105
35	77.0	79.8	83.9	82.9	77.7	76.5	79.1	84.3	89.5	91.2	86.5	82.1	79.0	76.9	75.7	75.0	74.5	74.2	74.4
40	31.1	36.7	44.0	45.5	45.5	45.8	50.3	59.6	64.5	63.9	58.5	53.5	50.6	49.3	48.8	48.5	48.0	47.2	46.6
45	8.76	8.64	11.1	15.2	16.2	11.4	19.8	30.0	35.8	35.9	31.1	25.0	21.6	21.1	21.6	21.9	21.4	20.1	18.5
50	7.84	8.18	7.33	7.73	8.91	7.04	6.46	11.5	14.9	12.2	8.94	7.89	8.29	10.9	13.3	14.6	14.6	13.3	10.9
55	1.47	2.03	2.32	2.46	3.99	4.06	2.92	3.80	5.79	6.60	5.96	5.08	4.77	5.91	7.14	7.78	7.75	7.09	5.81
60	0.68	0.69	0.71	0.78	1.03	0.82	0.93	1.59	2.73	3.29	2.84	2.15	1.66	1.51	1.29	1.03	0.90	0.99	1.16
65	0.52	0.52	0.53	0.54	0.55	0.58	0.61	0.70	0.83	0.59	0.61	0.63	0.65	0.68	0.71	0.72	0.72	0.70	0.68
70	0.41	0.42	0.43	0.43	0.44	0.45	0.45	0.46	0.47	0.48	0.49	0.50	0.52	0.53	0.54	0.54	0.54	0.53	0.52
75	0.32	0.33	0.33	0.34	0.33	0.33	0.34	0.36	0.37	0.38	0.38	0.38	0.38	0.38	0.37	0.37	0.36	0.37	0.37
80	0.08	0.12	0.19	0.17	0.14	0.19	0.24	0.22	0.18	0.14	0.10	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.01
85	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: x10cd

C( DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389	1389				
5	1025	1014	1002	985	971	959	949	942	936	930	927	928	932	941	953				
10	667	641	615	584	550	517	484	456	431	411	395	387	382	381	384				
15	353	337	316	294	271	251	232	217	204	193	186	180	178	176	177				
20	241	217	196	178	163	151	141	134	128	124	120	118	117	116	116				
25	164	151	139	130	121	114	109	106	104	102	101	100	99.3	99.0	99.0				
30	107	107	106	103	100	97.2	93.7	90.7	89.9	91.7	92.7	91.6	90.5	89.6	89.8				
35	75.3	77.2	80.6	84.9	88.3	81.9	74.4	68.8	67.0	68.5	70.2	66.8	60.6	57.4	57.0				
40	46.7	48.2	52.2	57.1	58.3	54.0	44.4	35.2	31.8	30.6	27.7	21.2	16.0	13.8	13.5				
45	17.5	19.3	24.5	29.6	31.1	27.2	18.7	10.5	9.04	11.1	8.82	8.33	9.08	9.12	9.02				
50	8.16	7.28	8.05	8.82	10.6	10.2	6.32	5.24	6.83	6.98	5.38	5.02	4.73	3.81	3.33				
55	4.48	4.42	5.13	5.75	5.39	3.79	1.88	2.33	3.00	2.02	1.10	1.13	0.92	0.84	0.80				
60	1.28	1.59	2.10	2.60	2.47	1.59	0.89	0.72	0.68	0.70	0.64	0.62	0.60	0.58	0.57				
65	0.64	0.61	0.59	0.56	0.54	0.62	0.57	0.53	0.51	0.49	0.48	0.47	0.46	0.45	0.45				
70	0.50	0.49	0.47	0.45	0.44	0.42	0.41	0.40	0.40	0.39	0.38	0.37	0.36	0.36	0.35				
75	0.37	0.36	0.36	0.35	0.33	0.32	0.30	0.25	0.25	0.28	0.27	0.24	0.25	0.22	0.21				
80	0.02	0.04	0.07	0.09	0.12	0.15	0.16	0.07	0.08	0.10	0.12	0.04	0.04	0.02	0.02				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00				
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-11-16

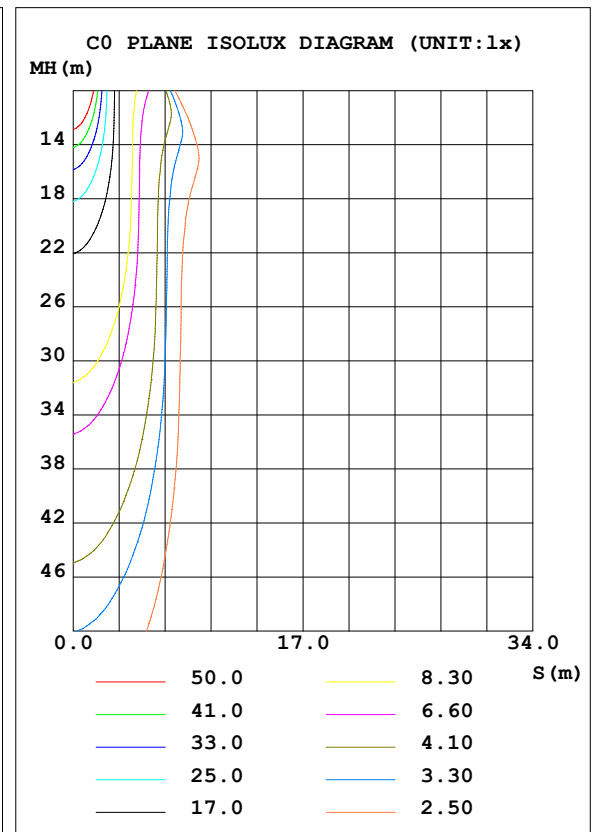
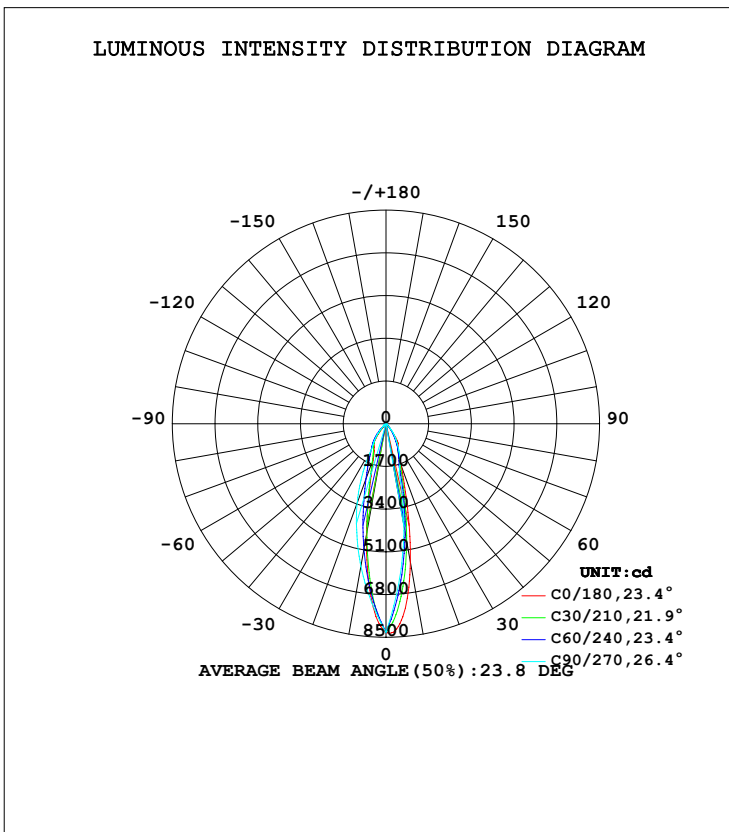
γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:



LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Juvenis DC 30W-24D-3000K-90	Imax (cd)	8345	S/MH (C0/180)	0.36
NOMINAL POWER (W)	28	LOR (%)	100.0	S/MH (C90/270)	0.52
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2679.5	η UP, DN (C0-180)	0.0, 57.4
NOMINAL FLUX (lm)	2679.48	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 42.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	219.9	η down (%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [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
5	6909	6668	7028	7209	7709	6639	6205	6166	0- 5	175.6	175.6	6.55,6.55
10	4458	4668	5758	5497	5588	4547	4114	3936	5- 10	405.4	581.0	21.7,21.7
15	2423	2943	4489	3663	3188	2673	2022	2250	10- 15	443.9	1025	38.2,38.2
20	1487	1875	3359	2245	1757	1473	1634	1338	15- 20	382.0	1407	52.5,52.5
25	1122	1336	2230	1500	1182	1052	1246	1002	20- 25	331.4	1738	64.9,64.9
30	969.4	1054	1100	1118	977.7	728.1	857.1	710.2	25- 30	287.6	2026	75.6,75.6
35	685.1	829.2	796.6	844.4	680.4	399.7	601.0	395.9	30- 35	239.2	2265	84.5,84.5
40	217.5	532.9	493.6	536.9	222.2	117.7	345.0	122.3	35- 40	166.0	2431	90.7,90.7
45	99.70	257.3	190.6	262.1	99.07	90.03	88.87	90.34	40- 45	86.53	2518	94,94
50	80.70	110.1	146.3	116.2	82.38	71.65	71.00	70.91	45- 50	44.73	2562	95.6,95.6
55	59.67	70.78	101.9	75.77	63.00	53.81	53.13	53.13	50- 55	32.74	2595	96.9,96.9
60	42.45	55.00	57.60	57.92	42.75	40.64	35.26	41.86	55- 60	25.50	2621	97.8,97.8
65	36.32	42.45	48.54	41.60	31.01	30.24	28.71	33.41	60- 65	19.59	2640	98.5,98.5
70	31.74	33.83	39.48	30.90	26.27	22.05	22.16	25.37	65- 70	16.33	2657	99.1,99.1
75	22.82	26.71	30.42	25.04	20.60	14.07	15.61	15.27	70- 75	13.31	2670	99.6,99.6
80	7.942	16.14	0	15.97	10.05	5.625	0	5.064	75- 80	8.025	2678	99.9,99.9
85	0.9305	0	0	0	1.541	0	0	0	80- 85	1.527	2679	100,100
90	0.0542	0	0	0	0.0481	0	0	0	85- 90	0.0558	2679	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

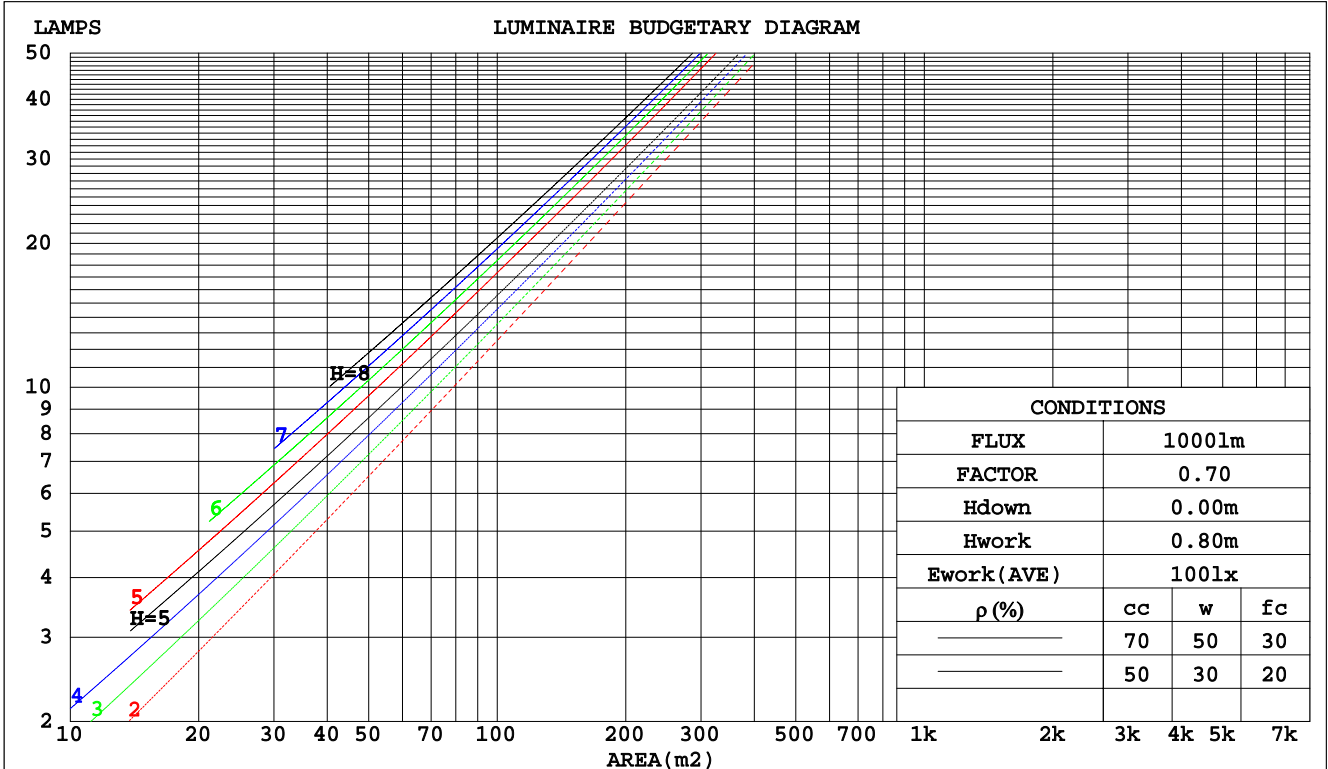
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio      Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	.00	.99	.98	.97	.96	.94
2.0	1.04	.00	.97	1.02	.99	.96	.99	.96	.94	.96	.94	.92	.93	.91	.90	.88
3.0	.97	.93	.89	.96	.92	.88	.93	.90	.87	.91	.88	.86	.89	.86	.84	.83
4.0	.92	.87	.83	.91	.86	.82	.89	.85	.81	.87	.83	.80	.85	.82	.79	.78
5.0	.87	.81	.77	.86	.81	.77	.84	.80	.76	.83	.79	.76	.81	.78	.75	.74
6.0	.82	.77	.73	.82	.76	.73	.80	.76	.72	.79	.75	.72	.77	.74	.71	.70
7.0	.78	.73	.69	.78	.72	.69	.76	.72	.68	.75	.71	.68	.74	.71	.68	.66
8.0	.75	.69	.65	.74	.69	.65	.73	.68	.65	.72	.68	.65	.71	.67	.65	.63
9.0	.71	.66	.62	.71	.66	.62	.70	.65	.62	.69	.65	.62	.68	.64	.62	.60
10.0	.68	.63	.60	.68	.63	.60	.67	.63	.59	.66	.62	.59	.66	.62	.59	.58



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-09-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

WEC AND CCEC

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.172	.098	.031	.165	.094	.030	.153	.088	.028	.141	.081	.026	.130	.076	.024	
2.0	.163	.089	.027	.158	.087	.027	.147	.082	.025	.137	.077	.024	.128	.073	.023	
3.0	.154	.082	.025	.149	.080	.024	.140	.076	.023	.132	.072	.022	.124	.069	.021	
4.0	.145	.076	.022	.141	.074	.022	.134	.071	.021	.126	.068	.020	.120	.065	.020	
5.0	.138	.070	.020	.134	.069	.020	.127	.066	.020	.121	.064	.019	.115	.062	.019	
6.0	.130	.065	.019	.127	.064	.019	.121	.062	.018	.116	.060	.018	.111	.058	.017	
7.0	.124	.061	.017	.121	.060	.017	.116	.059	.017	.111	.057	.017	.107	.055	.016	
8.0	.118	.058	.016	.116	.057	.016	.111	.056	.016	.107	.054	.016	.103	.053	.015	
9.0	.113	.054	.015	.111	.054	.015	.106	.053	.015	.103	.051	.015	.099	.050	.015	
10.0	.108	.052	.014	.106	.051	.014	.102	.050	.014	.099	.049	.014	.096	.048	.014	

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.155	.133	.114	.133	.114	.098	.091	.079	.068	.052	.046	.040	.017	.015	.013	
3.0	.142	.114	.091	.122	.098	.079	.084	.068	.055	.048	.040	.033	.016	.013	.011	
4.0	.131	.099	.074	.113	.085	.064	.077	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.122	.087	.061	.105	.075	.053	.072	.053	.037	.042	.031	.022	.013	.010	.007	
6.0	.114	.077	.051	.098	.067	.045	.068	.047	.031	.039	.028	.019	.013	.009	.006	
7.0	.107	.070	.043	.092	.060	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.101	.063	.037	.087	.055	.033	.060	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.096	.058	.032	.082	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.091	.053	.028	.078	.046	.025	.054	.033	.018	.032	.019	.011	.010	.006	.003	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DOBAC  
 Test Date:2017-09-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity:65.0%  
 Test Distance:6.960m [K=1.0000]  
 Remarks:

Uncorrected UGR Table

NAME: Juvenis DC 30W-24D-3000K-90					TYPE:					WEIGHT:				
DIM.:					SPEC.:					SERIAL No.:				
MFR.: DOBAC					SUR.:					PROTECTION ANGLE:				
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	22.2	23.1	22.4	23.2	23.4	23.9	24.8	24.1	25.0	25.1				
3H	22.5	23.3	22.7	23.5	23.7	24.2	25.0	24.4	25.2	25.4				
4H	22.7	23.5	23.0	23.7	23.9	24.4	25.1	24.6	25.3	25.6				
6H	22.8	23.5	23.0	23.7	24.0	24.3	25.1	24.6	25.3	25.6				
8H	22.7	23.4	23.0	23.7	23.9	24.3	25.0	24.6	25.2	25.5				
12H	22.7	23.4	23.0	23.6	23.9	24.3	24.9	24.6	25.2	25.5				
4H 2H	22.2	23.0	22.5	23.2	23.4	23.8	24.6	24.1	24.8	25.0				
3H	22.7	23.3	23.0	23.6	23.9	24.2	24.9	24.5	25.1	25.4				
4H	23.0	23.6	23.4	23.9	24.2	24.5	25.1	24.9	25.4	25.7				
6H	23.2	23.7	23.6	24.1	24.4	24.5	25.1	24.9	25.4	25.8				
8H	23.2	23.7	23.6	24.0	24.4	24.5	25.0	24.9	25.3	25.7				
12H	23.1	23.6	23.5	23.9	24.3	24.4	24.9	24.8	25.3	25.7				
8H 4H	23.1	23.6	23.5	24.0	24.4	24.6	25.1	25.0	25.4	25.8				
6H	23.4	23.8	23.8	24.2	24.6	24.6	25.0	25.0	25.4	25.8				
8H	23.4	23.8	23.9	24.2	24.6	24.6	24.9	25.0	25.3	25.8				
12H	23.4	23.7	23.8	24.1	24.6	24.5	24.8	25.0	25.3	25.7				
12H 4H	23.1	23.6	23.5	23.9	24.3	24.5	25.0	24.9	25.4	25.8				
6H	23.4	23.7	23.8	24.2	24.6	24.6	24.9	25.0	25.4	25.8				
8H	23.4	23.7	23.9	24.1	24.6	24.5	24.8	25.0	25.3	25.7				
Variations with the observer position at spacings:														
S = 1.0H	+ 1.5 / - 2.0					+ 1.9 / - 2.8								
1.5H	+ 2.9 / - 1.7					+ 3.3 / - 2.7								
2.0H	+ 0.5 / - 0.8					+ 1.8 / - 0.8								

CIE Pub.117 Corrected 2679 lm Total Lamp Luminous Flux.(8log(F/F0) = 3.4)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

UTILIZATION FACTORS TABLE

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

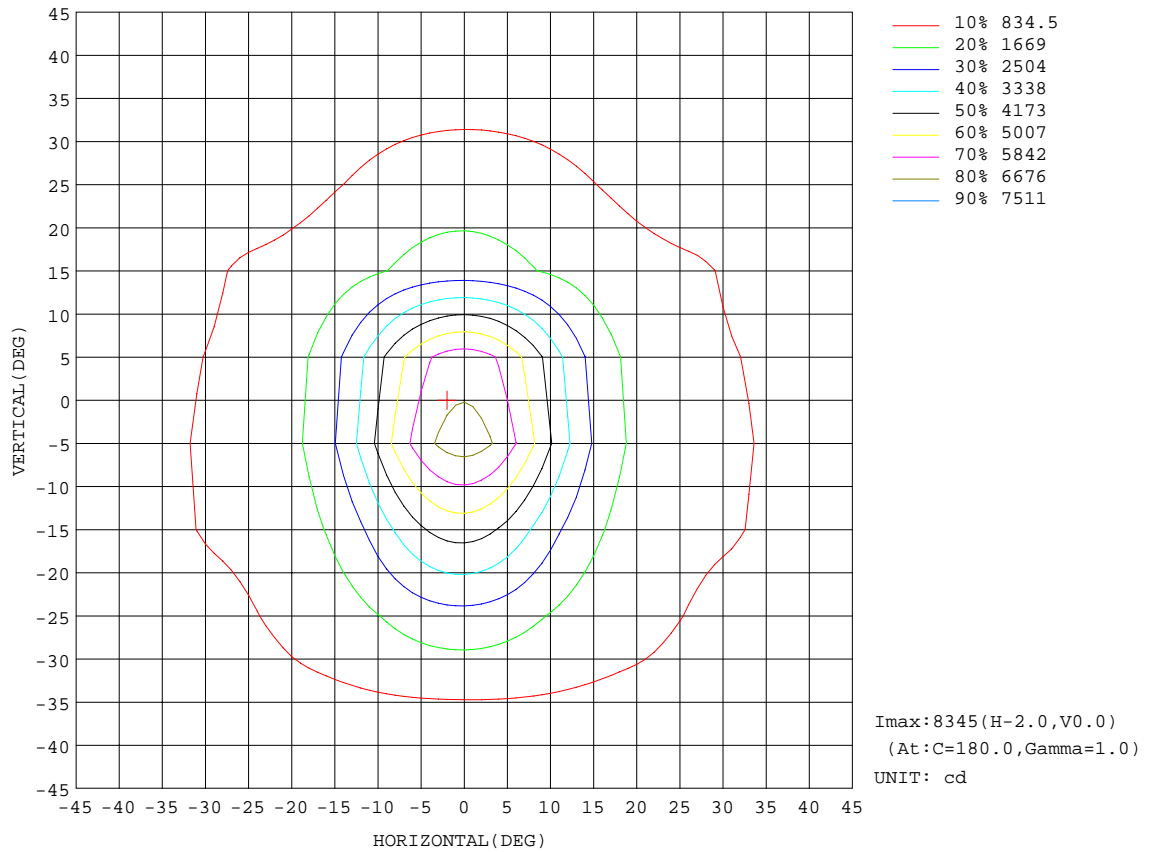
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	86	79	75	85	79	75	84	79	75	71
0.80	93	87	83	93	87	83	91	86	83	79
1.00	98	92	88	97	92	88	96	92	87	83
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	96	104	99	96	101	98	95	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	106	102	108	104	102	105	102	100	94
3.00	111	108	105	109	106	104	106	104	102	95
4.00	113	111	108	111	109	107	108	106	104	97
5.00	115	112	110	113	111	109	109	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

ISOCANDELA DIAGRAM

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

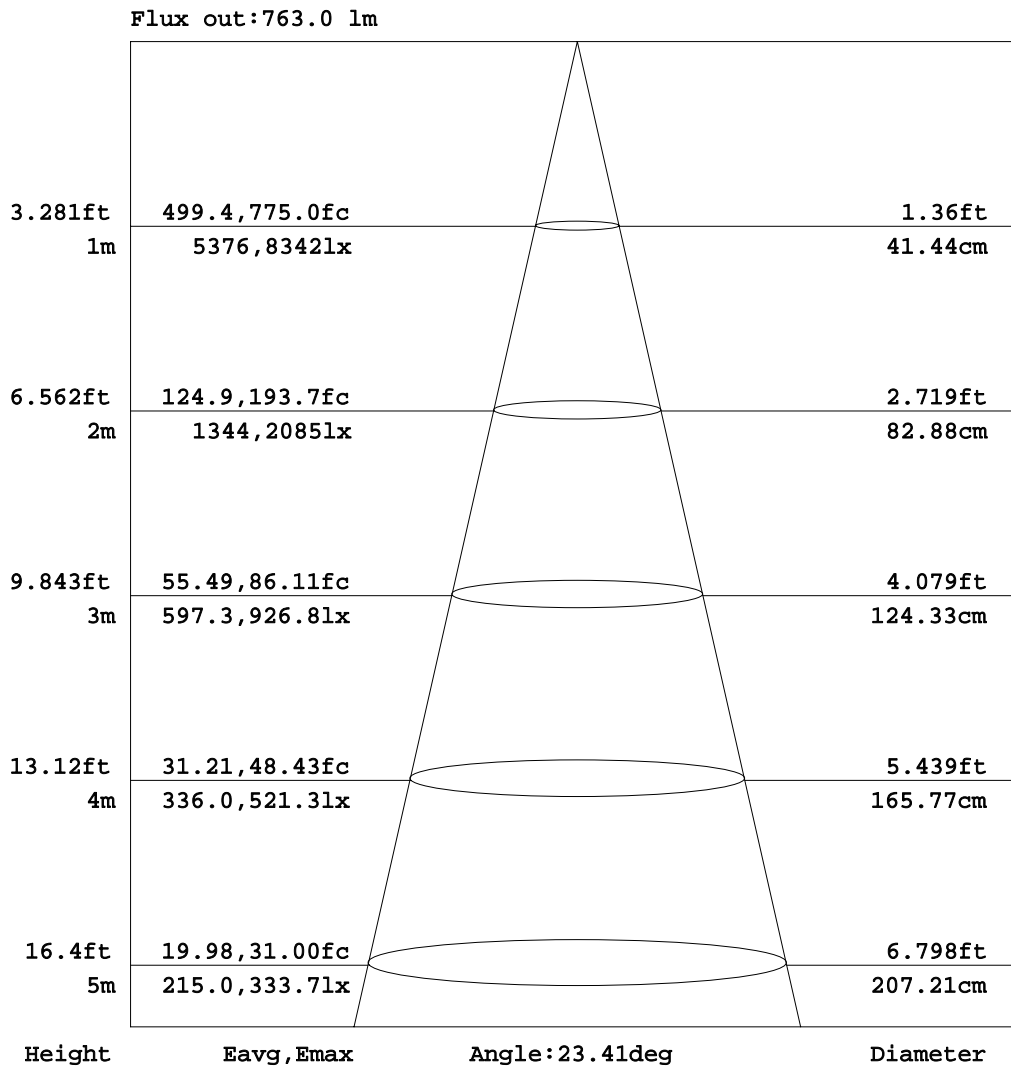


C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-09-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

AAI Figure

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



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

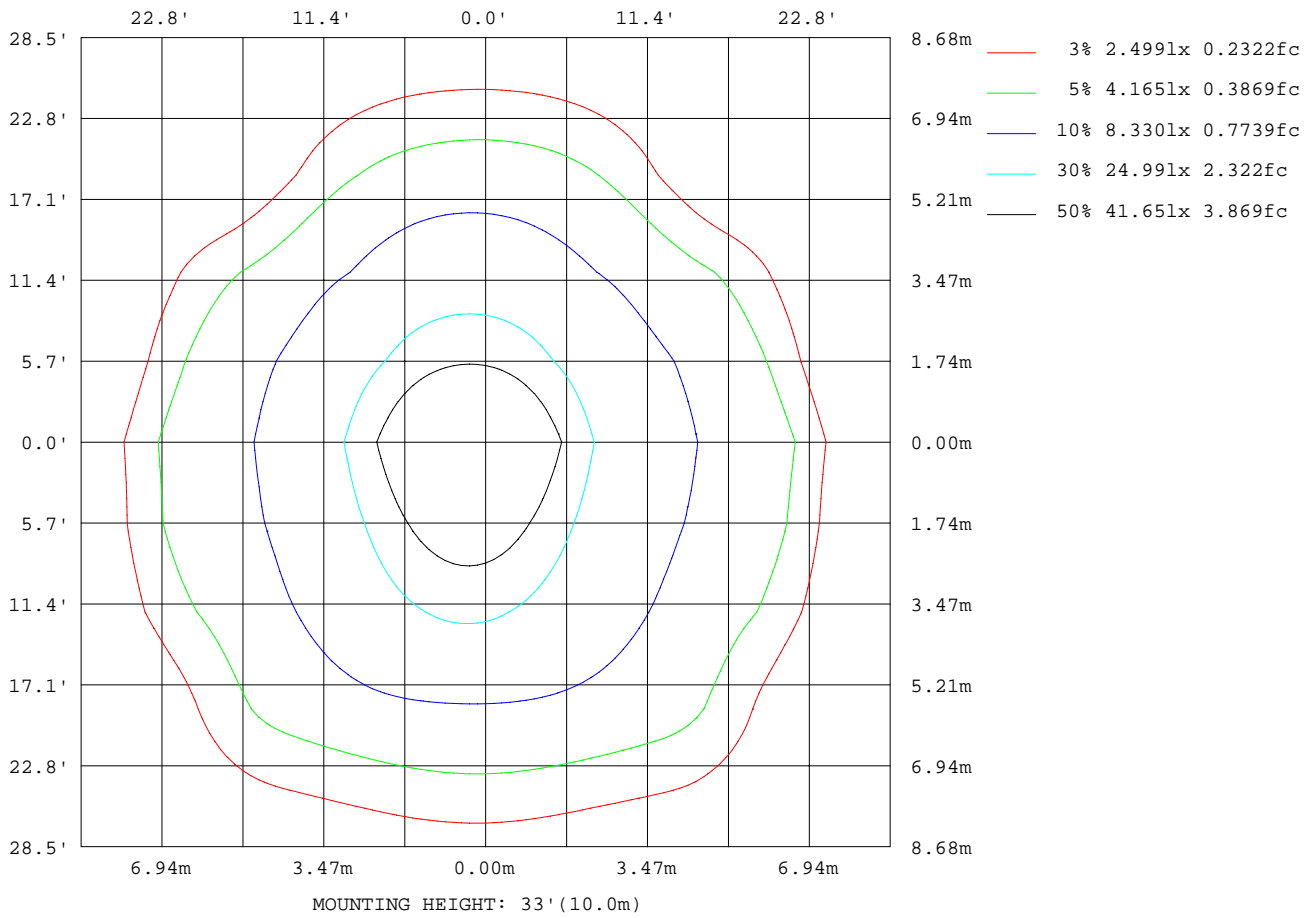
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:



ISOLUX DIAGRAM

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-09-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

**Average Luminance Table(CIBSE)**

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	2679.48	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.004	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	26010	26544	27637	28975	29954	31630	32422	33181	38801	44433	39977	33302	32464	33051	32121	31003	29959	29138	27458
60	21226	21813	22971	24324	26285	27906	27726	27935	28778	28801	29504	28953	28526	28809	28548	26143	24950	23295	21376
65	21485	21743	22340	22648	24706	24471	24220	26380	28071	28713	28498	27365	25080	23779	24844	22053	20763	19274	18345
70	23197	23735	24439	24635	25307	24622	25660	27448	28591	28856	28551	27573	25602	23271	22338	21878	20791	19918	19202
75	22040	23360	24531	26160	25224	26402	28478	29733	29814	29379	28947	28423	27250	25198	23456	23324	22110	21272	19894
80	11434	13947	19458	19892	24369	19442	11821	5345	1327	0	1286	5050	11102	18900	25617	21464	20869	18421	14471
85	2669	4395	5515	0	0	0	0	0	0	0	0	0	0	0	0	0	8990	7099	4421

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum	specified	maximum	specified
		calculated	maximum	measured	maximum
Category 1	55 to 90	44433	200	---	500
Category 2	65 to 90	29814	200	---	500
Category 3	75 to 90	29814	200	---	500

Table 3. Tabulation of Average and Patch Luminance(cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**Average Luminance Table(CIBSE)**

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	2679.48	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.004	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:2001 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	26010	26544	27637	28975	29954	31630	32422	33181	38801	44433	39977	33302	32464	33051	32121	31003	29959	29138	27458
60	21226	21813	22971	24324	26285	27906	27726	27935	28778	28801	29504	28953	28526	28809	28548	26143	24950	23295	21376
65	21485	21743	22340	22648	24706	24471	24220	26380	28071	28713	28498	27365	25080	23779	24844	22053	20763	19274	18345
70	23197	23735	24439	24635	25307	24622	25660	27448	28591	28856	28551	27573	25602	23271	22338	21878	20791	19918	19202
75	22040	23360	24531	26160	25224	26402	28478	29733	29814	29379	28947	28423	27250	25198	23456	23324	22110	21272	19894
80	11434	13947	19458	19892	24369	19442	11821	5345	1327	0	1286	5050	11102	18900	25617	21464	20869	18421	14471
85	2669	4395	5515	0	0	0	0	0	0	0	0	0	0	0	0	0	8990	7099	4421

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

range (deg)	Maximum measured	Average Luminance(cd/sq.m)			
		Maximum limit for screen type & software category used			
		Type I,II screen Some neg.s'ware	Type I,II screen Only pos.s'ware	Type III screen Some neg.s'ware	Type III screen Only pos.s'ware
55 to 90	44433	1000	1500	200	500
65 to 90	29814	1000	1500	200	500

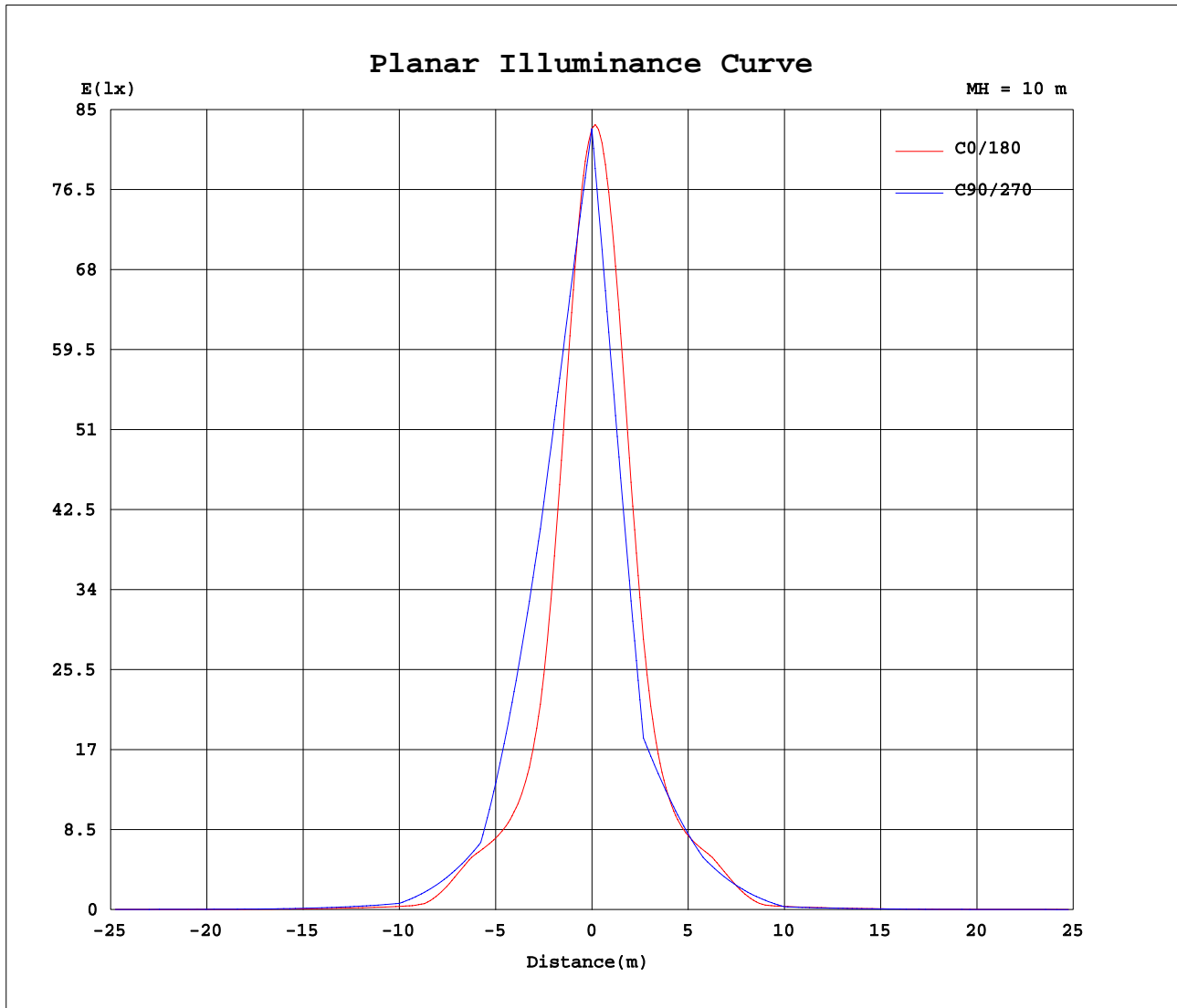
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-09-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C( DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297
5	6909	6824	6754	6700	6661	6637	6627	6633	6646	6668	6704	6742	6778	6825	6862	6902	6944	6981	7028
10	4458	4365	4307	4281	4285	4314	4372	4453	4551	4668	4791	4927	5074	5213	5349	5476	5588	5682	5758
15	2423	2376	2361	2371	2404	2469	2551	2665	2794	2943	3109	3291	3484	3689	3894	4083	4245	4386	4489
20	1487	1466	1463	1473	1497	1536	1596	1672	1765	1875	2004	2156	2333	2530	2738	2945	3120	3261	3359
25	1122	1114	1113	1118	1132	1154	1183	1225	1273	1336	1412	1505	1608	1725	1850	1975	2086	2170	2230
30	969	963	963	969	979	994	992	988	1012	1054	1098	1135	1168	1190	1195	1179	1147	1114	1100
35	685	665	673	707	767	792	765	744	770	829	899	937	893	852	823	805	797	796	797
40	218	209	224	262	327	372	385	403	445	533	610	635	605	555	518	497	490	491	494
45	99.7	99.1	100	103	105	119	146	121	160	257	323	344	319	265	217	189	183	187	191
50	80.7	79.7	81.0	82.2	83.2	85.1	87.2	88.0	90.3	110	136	116	93.9	96.0	96.9	105	123	139	146
55	59.7	59.2	60.9	61.6	63.4	66.2	66.5	67.1	68.7	70.8	72.6	73.0	74.4	75.4	76.1	79.4	89.0	97.8	102
60	42.5	42.5	43.6	44.6	45.9	48.3	48.6	48.5	52.6	55.0	55.8	55.6	55.5	55.5	55.9	56.7	57.6	57.5	57.6
65	36.3	36.4	36.8	37.3	37.8	38.4	38.3	39.7	41.8	42.4	41.4	39.9	40.9	42.8	44.6	46.3	47.5	48.2	48.5
70	31.7	32.0	32.5	32.7	33.4	33.3	33.7	34.6	34.6	33.8	33.7	34.1	35.1	36.4	37.6	38.5	39.1	39.4	39.5
75	22.8	23.1	24.2	25.1	25.4	26.5	27.1	26.3	26.1	26.7	27.3	28.4	29.5	30.3	30.8	31.0	30.9	30.7	30.4
80	7.94	8.51	9.69	11.1	13.5	13.9	13.8	15.1	16.9	16.1	13.5	10.8	8.21	5.78	3.71	2.09	0.92	0.23	0.00
85	0.93	1.01	1.53	2.14	1.92	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

C( DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	
0	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	
5	7052	7086	7107	7127	7149	7160	7180	7194	7209	7233	7263	7294	7336	7389	7453	7528	7613	7709	7547	
10	5803	5825	5822	5797	5757	5707	5635	5564	5497	5427	5371	5325	5302	5297	5321	5375	5464	5588	5376	
15	4539	4547	4507	4429	4308	4164	3999	3831	3663	3506	3368	3250	3164	3101	3072	3071	3107	3188	3046	
20	3398	3380	3313	3189	3021	2829	2622	2416	2245	2118	2001	1902	1826	1771	1735	1721	1726	1757	1693	
25	2256	2247	2202	2117	2000	1857	1716	1602	1500	1420	1359	1302	1251	1215	1190	1177	1174	1182	1156	
30	1117	1163	1219	1259	1266	1244	1208	1165	1118	1065	1034	1031	1026	1003	988	978	974	978	934	
35	797	801	809	826	853	892	934	909	844	785	761	782	823	804	739	693	673	680	609	
40	493	495	501	520	554	602	632	609	537	453	419	411	405	375	305	248	222	222	201	
45	189	189	193	216	263	316	343	326	262	169	115	156	136	112	104	101	99.1	99.1	96.9	
50	141	127	108	96.1	94.2	92.3	116	139	116	90.3	88.4	88.6	87.8	86.3	85.8	84.4	82.6	82.4	80.0	
55	99.2	91.7	81.4	76.4	75.5	74.5	75.4	75.8	75.8	73.7	71.9	71.1	71.0	68.7	67.5	66.9	63.7	63.0	60.4	
60	58.3	59.0	58.6	57.9	57.3	57.1	57.1	57.6	57.9	57.1	54.4	52.3	51.3	49.9	47.5	46.6	43.9	42.8	41.0	
65	48.5	48.2	47.5	46.3	44.6	42.4	40.1	40.2	41.6	42.0	40.4	37.3	36.1	35.1	33.4	32.6	31.7	31.0	30.4	
70	39.4	39.1	38.6	37.7	36.6	35.0	33.4	31.8	30.9	30.6	30.9	29.9	28.9	28.4	27.7	27.2	26.9	26.3	25.8	
75	30.2	30.0	29.7	29.4	29.0	28.2	27.2	26.1	25.0	24.3	23.8	24.1	23.9	22.9	22.9	22.0	21.5	20.6	19.8	
80	0.23	0.89	1.99	3.51	5.42	7.71	10.3	13.1	16.0	17.8	16.1	14.9	14.3	14.5	13.2	12.8	11.2	10.1	8.95	
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.11	3.13	3.27	2.48	2.01	1.54	1.29
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: cd

C( DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297
5	7395	7254	7124	7007	6901	6809	6720	6639	6571	6508	6446	6397	6346	6304	6268	6229	6205	6171	6151
10	5199	5051	4930	4831	4744	4672	4605	4547	4486	4432	4382	4328	4278	4232	4188	4150	4114	4077	4050
15	2945	2875	2825	2791	2763	2742	2711	2673	2623	2555	2473	2380	2284	2193	2114	2055	2022	2013	2028
20	1651	1623	1607	1597	1587	1574	1538	1473	1443	1479	1520	1560	1598	1626	1642	1645	1634	1608	1572
25	1141	1131	1128	1126	1120	1099	1064	1052	1062	1087	1126	1167	1202	1230	1247	1251	1246	1229	1204
30	905	895	907	931	898	816	757	728	726	747	780	817	844	857	860	858	857	857	857
35	564	544	550	567	559	517	450	400	392	419	486	539	573	591	598	600	601	600	598
40	190	171	167	217	249	237	178	118	169	234	291	329	348	354	351	346	345	346	351
45	95.8	96.0	94.6	94.6	100	93.8	90.3	90.0	94.9	124	151	159	149	129	109	93.8	88.9	93.8	108
50	79.3	78.8	76.1	75.5	75.4	73.6	72.1	71.7	72.3	74.0	73.1	72.9	72.4	72.0	71.3	70.9	71.0	71.0	71.2
55	60.4	58.3	56.8	56.8	55.5	54.0	53.4	53.8	55.6	56.2	56.2	55.4	54.8	54.1	53.4	53.1	53.1	53.3	53.8
60	40.6	39.5	38.4	39.7	38.8	36.4	38.5	40.6	41.4	41.1	40.1	38.6	37.3	36.3	35.6	35.2	35.3	35.6	36.4
65	30.0	29.5	29.3	29.3	28.6	28.9	29.9	30.2	29.3	27.7	27.5	27.3	27.5	27.8	28.2	28.5	28.7	28.8	28.9
70	25.2	24.6	24.5	23.6	23.2	23.5	23.3	22.0	21.2	20.9	20.8	20.8	20.9	21.3	21.7	22.0	22.2	22.2	22.2
75	19.0	18.7	17.3	17.2	16.9	15.7	14.7	14.1	13.8	13.9	14.1	14.2	14.4	14.8	15.2	15.5	15.6	15.7	15.5
80	8.43	7.89	7.93	7.92	7.19	6.33	5.86	5.63	5.09	4.34	3.44	2.51	1.66	0.98	0.45	0.12	0.00	0.12	0.46
85	1.22	1.37	0.89	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC 30W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: cd

C( DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297	8297				
5	6135	6128	6129	6126	6137	6149	6166	6197	6240	6291	6357	6437	6533	6643	6768				
10	4026	4003	3983	3969	3950	3939	3936	3931	3934	3947	3973	4021	4089	4182	4303				
15	2064	2111	2156	2198	2229	2246	2250	2243	2230	2213	2209	2212	2235	2274	2334				
20	1531	1482	1435	1391	1353	1324	1338	1368	1381	1384	1384	1389	1399	1417	1444				
25	1172	1135	1096	1057	1025	1005	1002	1019	1057	1066	1070	1072	1076	1086	1101				
30	849	830	800	762	728	707	710	740	798	880	906	885	875	888	922				
35	592	575	543	491	423	393	396	442	504	540	543	525	526	553	606				
40	354	350	331	293	238	170	122	176	230	235	199	150	161	185	198				
45	129	149	159	152	125	96.8	90.3	89.9	94.3	97.2	93.6	93.4	95.2	95.7	96.9				
50	71.9	72.5	72.4	72.4	73.1	71.7	70.9	72.0	73.5	75.2	74.6	74.7	76.0	76.7	77.6				
55	54.6	55.4	56.1	56.7	56.5	55.4	53.1	53.0	54.5	55.8	55.8	55.0	55.6	56.8	57.1				
60	37.5	38.8	40.4	42.0	43.0	43.0	41.9	39.9	38.8	41.4	41.4	40.3	41.0	41.0	41.4				
65	28.9	29.1	29.5	30.1	31.2	32.8	33.4	33.1	32.9	33.3	34.1	34.3	34.9	35.2	35.6				
70	22.1	22.1	22.3	22.5	23.0	23.9	25.4	27.3	27.4	27.2	28.0	29.2	29.5	30.3	30.9				
75	15.3	15.2	15.1	14.7	14.5	14.6	15.3	16.4	17.8	19.1	18.9	19.0	20.7	21.0	21.5				
80	1.01	1.75	2.63	3.49	4.24	4.77	5.06	5.27	6.25	7.50	8.20	7.07	7.23	6.81	7.23				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.68	1.09	0.90	0.82			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

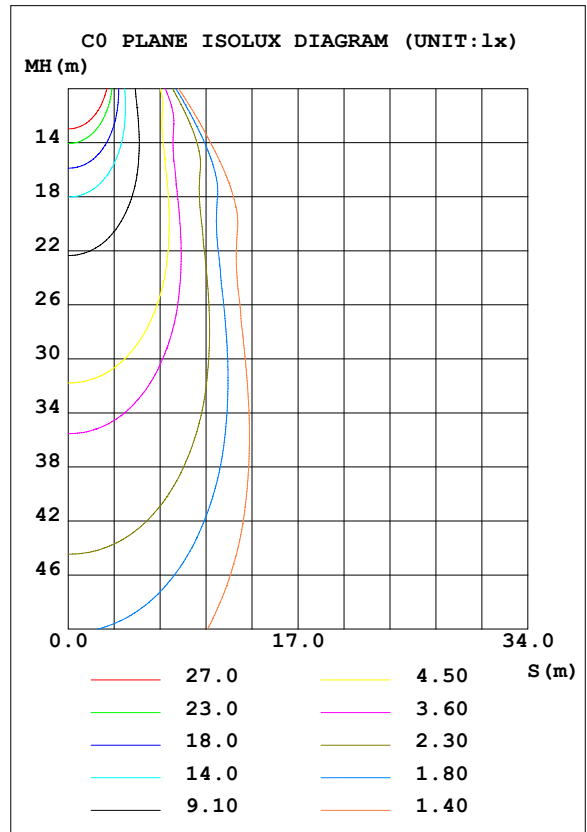
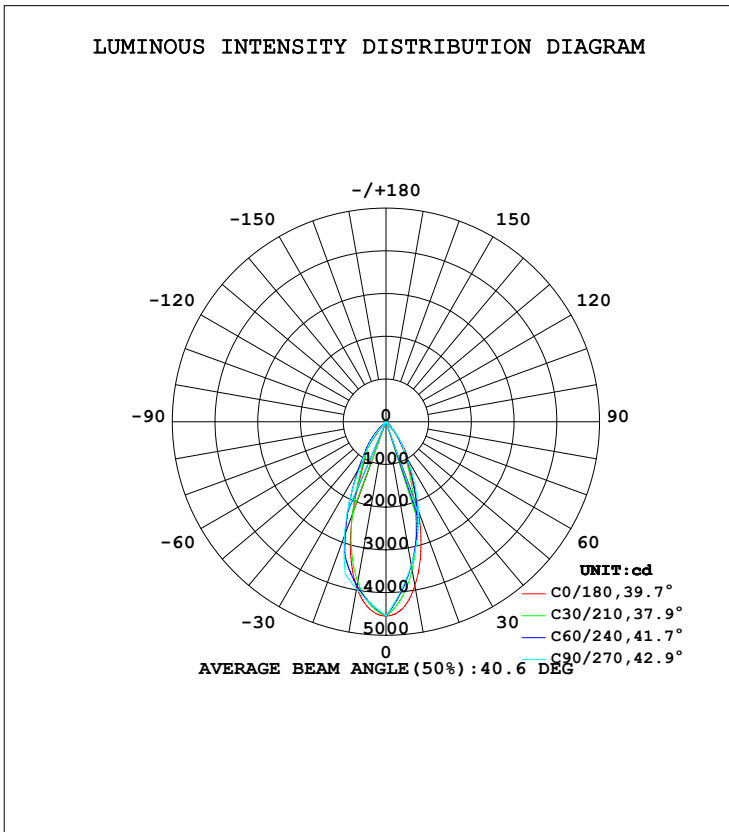
γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:



LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Juvenis DC-30W-40D-3000K-90	Imax (cd)	4546	S/MH (C0/180)	0.64
NOMINAL POWER (W)	28	LOR (%)	100.0	S/MH (C90/270)	0.73
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2519.5	η UP, DN (C0-180)	0.0, 54.6
NOMINAL FLUX (lm)	2519.49	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 45.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	219.9	η down (%)	100.0	CIBSE SHR MAX	0.65



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [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
5	4402	4271	4261	4268	4395	4068	3977	4074	0- 5	103.5	103.5	4.11,4.11
10	3941	3845	3976	3839	3898	3449	3409	3464	5- 10	281.6	385.1	15.3,15.3
15	3206	3276	3691	3265	3147	2712	2840	2743	10- 15	400.5	785.6	31.2,31.2
20	2285	2604	2847	2598	2213	1943	2207	1980	15- 20	441.4	1227	48.7,48.7
25	1421	1805	2002	1807	1365	1313	1575	1349	20- 25	400.5	1628	64.6,64.6
30	1002	1209	1157	1204	979.5	854.8	942.1	885.8	25- 30	325.0	1953	77.5,77.5
35	735.4	794.8	800.7	790.0	690.2	470.6	645.6	515.6	30- 35	253.3	2206	87.6,87.6
40	229.1	447.7	444.0	435.3	192.5	135.5	349.1	179.7	35- 40	167.9	2374	94.2,94.2
45	55.96	188.9	87.21	177.1	54.13	55.35	52.56	64.56	40- 45	75.07	2449	97.2,97.2
50	38.25	61.74	65.42	57.15	38.19	37.56	40.81	39.63	45- 50	26.62	2475	98.3,98.3
55	27.00	29.91	43.64	30.58	26.77	25.09	29.07	26.33	50- 55	15.55	2491	98.9,98.9
60	17.86	21.13	21.85	21.59	17.62	17.66	17.33	18.22	55- 60	11.17	2502	99.3,99.3
65	10.86	13.70	16.42	13.99	10.99	11.02	12.88	11.41	60- 65	7.572	2510	99.6,99.6
70	6.462	8.259	10.99	8.440	6.763	6.233	8.428	6.468	65- 70	5.118	2515	99.8,99.8
75	4.216	4.538	5.566	4.724	4.265	3.011	3.978	3.130	70- 75	3.237	2518	99.9,99.9
80	0.3295	1.172	0	1.298	0.3331	0.2737	0	0.3896	75- 80	1.321	2519	100,100
85	0.0442	0	0	0	0.0525	0	0	0	80- 85	0.0947	2519	100,100
90	0.0174	0	0	0	0.0197	0	0	0	85- 90	0.0032	2519	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

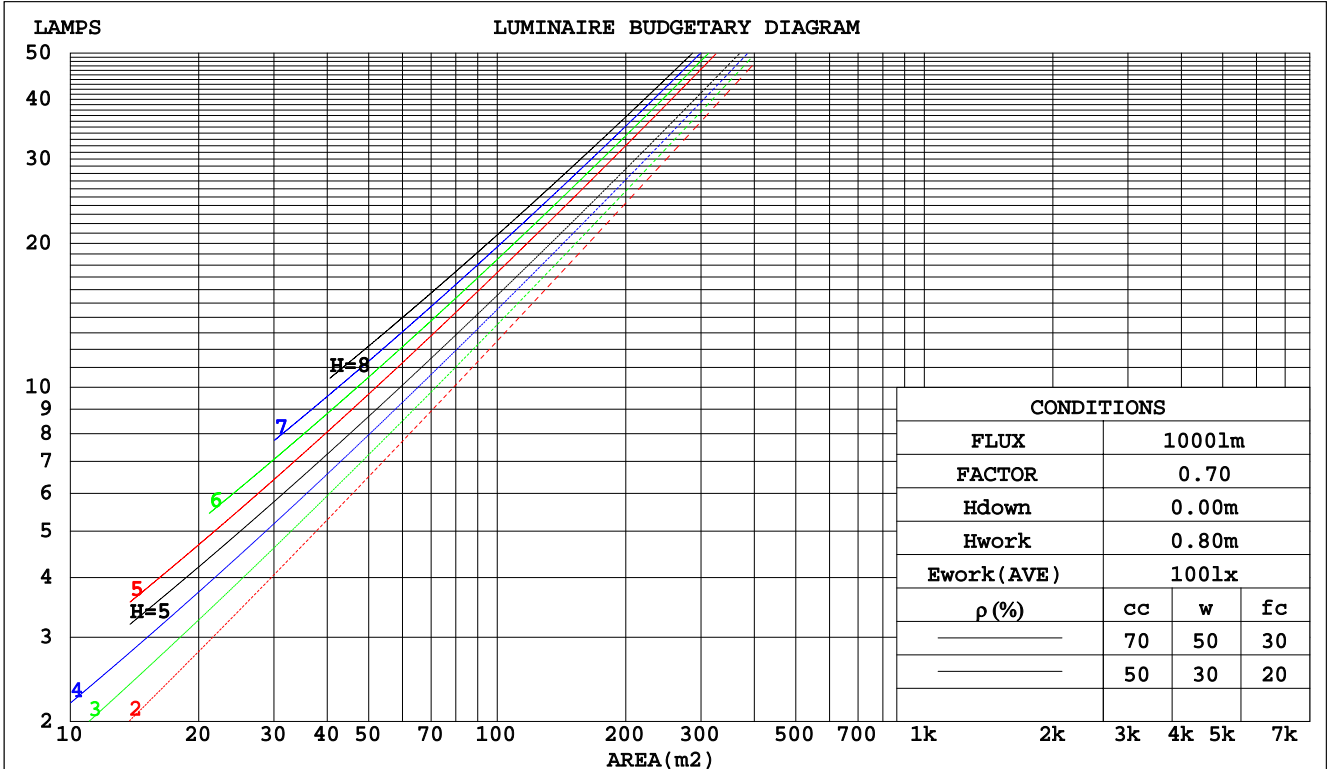
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio      Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96	.94
2.0	1.04	1.00	.97	1.02	.99	.96	.99	.96	.94	.96	.94	.92	.93	.92	.90	.88
3.0	.98	.93	.89	.96	.92	.89	.94	.90	.87	.91	.88	.86	.89	.87	.85	.83
4.0	.92	.87	.83	.91	.86	.82	.89	.85	.81	.87	.83	.80	.85	.82	.79	.78
5.0	.87	.81	.77	.86	.81	.77	.84	.80	.76	.82	.79	.76	.81	.78	.75	.73
6.0	.82	.76	.72	.81	.76	.72	.80	.75	.72	.78	.74	.71	.77	.73	.71	.69
7.0	.78	.72	.68	.77	.72	.68	.76	.71	.68	.75	.70	.67	.73	.70	.67	.66
8.0	.74	.68	.64	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.62
9.0	.70	.65	.61	.70	.64	.61	.69	.64	.61	.68	.64	.60	.67	.63	.60	.59
10.0	.67	.61	.58	.66	.61	.58	.66	.61	.58	.65	.60	.57	.64	.60	.57	.56



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:

WEC AND CCEC

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.169	.096	.030	.162	.093	.029	.150	.086	.027	.138	.080	.026	.127	.074	.024	
2.0	.161	.088	.027	.155	.086	.026	.145	.081	.025	.135	.076	.024	.126	.071	.022	
3.0	.153	.081	.024	.148	.079	.024	.139	.075	.023	.131	.072	.022	.123	.068	.021	
4.0	.145	.075	.022	.141	.074	.022	.133	.071	.021	.126	.068	.020	.120	.065	.020	
5.0	.138	.070	.020	.135	.069	.020	.128	.067	.020	.122	.064	.019	.116	.062	.019	
6.0	.132	.066	.019	.129	.065	.019	.123	.063	.018	.117	.061	.018	.112	.059	.018	
7.0	.126	.062	.018	.123	.061	.017	.118	.060	.017	.113	.058	.017	.109	.056	.017	
8.0	.120	.059	.017	.118	.058	.016	.113	.057	.016	.109	.055	.016	.105	.054	.016	
9.0	.115	.056	.016	.113	.055	.015	.109	.054	.015	.105	.053	.015	.102	.052	.015	
10.0	.111	.053	.015	.109	.053	.015	.105	.051	.014	.102	.050	.014	.098	.049	.014	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.171	.157	.146	.146	.135	.125	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.155	.133	.114	.133	.114	.098	.091	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.142	.114	.091	.122	.098	.079	.084	.068	.055	.048	.040	.033	.016	.013	.011	
4.0	.131	.099	.074	.113	.085	.064	.077	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.122	.087	.061	.105	.075	.053	.072	.053	.037	.042	.031	.022	.013	.010	.007	
6.0	.115	.077	.051	.098	.067	.044	.068	.047	.031	.039	.028	.019	.013	.009	.006	
7.0	.108	.070	.043	.093	.061	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.102	.063	.037	.088	.055	.032	.061	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.097	.058	.032	.083	.051	.028	.058	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.092	.054	.028	.080	.047	.025	.055	.033	.017	.032	.019	.010	.010	.006	.003	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DOBAC  
 Test Date:2017-09-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity:65.0%  
 Test Distance:6.960m [K=1.0000]  
 Remarks:

Uncorrected UGR Table

NAME: Juvenis DC-30W-40D-3000K-90						TYPE:					WEIGHT:				
DIM.:						SPEC.:					SERIAL No.:				
MFR.: DOBAC						SUR.:					PROTECTION ANGLE:				
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	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	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	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise									
x = 2H y = 2H	21.4	22.3	21.6	22.4	22.6	23.0	23.9	23.3	24.1	24.3	23.0	23.9	23.3	24.1	24.3
3H	21.3	22.1	21.5	22.3	22.5	22.9	23.7	23.2	23.9	24.1	22.9	23.7	23.2	23.9	24.1
4H	21.2	22.0	21.5	22.2	22.4	22.9	23.6	23.1	23.9	24.1	22.9	23.6	23.1	23.9	24.1
6H	21.1	21.8	21.4	22.1	22.3	22.8	23.5	23.1	23.7	24.0	22.8	23.5	23.1	23.7	24.0
8H	21.1	21.7	21.4	22.0	22.3	22.7	23.4	23.0	23.7	23.9	22.7	23.4	23.0	23.7	23.9
12H	21.0	21.7	21.3	21.9	22.2	22.7	23.4	23.0	23.6	23.9	22.7	23.4	23.0	23.6	23.9
4H 2H	21.2	21.9	21.4	22.2	22.4	22.8	23.6	23.1	23.8	24.0	22.8	23.6	23.1	23.8	24.0
3H	21.1	21.7	21.4	22.0	22.3	22.7	23.4	23.0	23.6	23.9	22.7	23.4	23.0	23.6	23.9
4H	21.0	21.6	21.3	21.9	22.2	22.6	23.3	23.0	23.5	23.9	22.6	23.3	23.0	23.5	23.9
6H	20.9	21.4	21.3	21.8	22.1	22.6	23.1	22.9	23.4	23.8	22.6	23.1	22.9	23.4	23.8
8H	20.8	21.3	21.2	21.7	22.0	22.5	23.0	22.9	23.3	23.7	22.5	23.0	22.9	23.3	23.7
12H	20.8	21.2	21.2	21.6	22.0	22.5	22.9	22.9	23.3	23.7	22.5	22.9	22.9	23.3	23.7
8H 4H	20.9	21.3	21.2	21.7	22.1	22.5	23.0	22.9	23.4	23.7	22.5	23.0	22.9	23.4	23.7
6H	20.8	21.2	21.2	21.6	22.0	22.4	22.8	22.8	23.2	23.6	22.4	22.8	22.8	23.2	23.6
8H	20.7	21.1	21.1	21.5	21.9	22.4	22.7	22.8	23.1	23.6	22.4	22.7	22.8	23.1	23.6
12H	20.6	21.0	21.1	21.4	21.9	22.3	22.6	22.8	23.0	23.5	22.3	22.6	22.8	23.0	23.5
12H 4H	20.8	21.3	21.2	21.6	22.0	22.5	22.9	22.9	23.3	23.7	22.5	22.9	22.9	23.3	23.7
6H	20.7	21.1	21.1	21.5	21.9	22.4	22.7	22.8	23.1	23.6	22.4	22.7	22.8	23.1	23.6
8H	20.6	21.0	21.1	21.4	21.9	22.3	22.6	22.8	23.0	23.5	22.3	22.6	22.8	23.0	23.5
Variations with the observer position at spacings:															
S = 1.0H	+ 3.3 / - 8.7					+ 2.4 / - 8.9									
1.5H	+ 5.8 / - 7.2					+ 5.0 / - 8.1									
2.0H	+ 1.8 / - 1.7					+ 3.0 / - 2.5									

CIE Pub.117 Corrected 2519 lm Total Lamp Luminous Flux.(8log(F/F0) = 3.2)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

UTILIZATION FACTORS TABLE

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

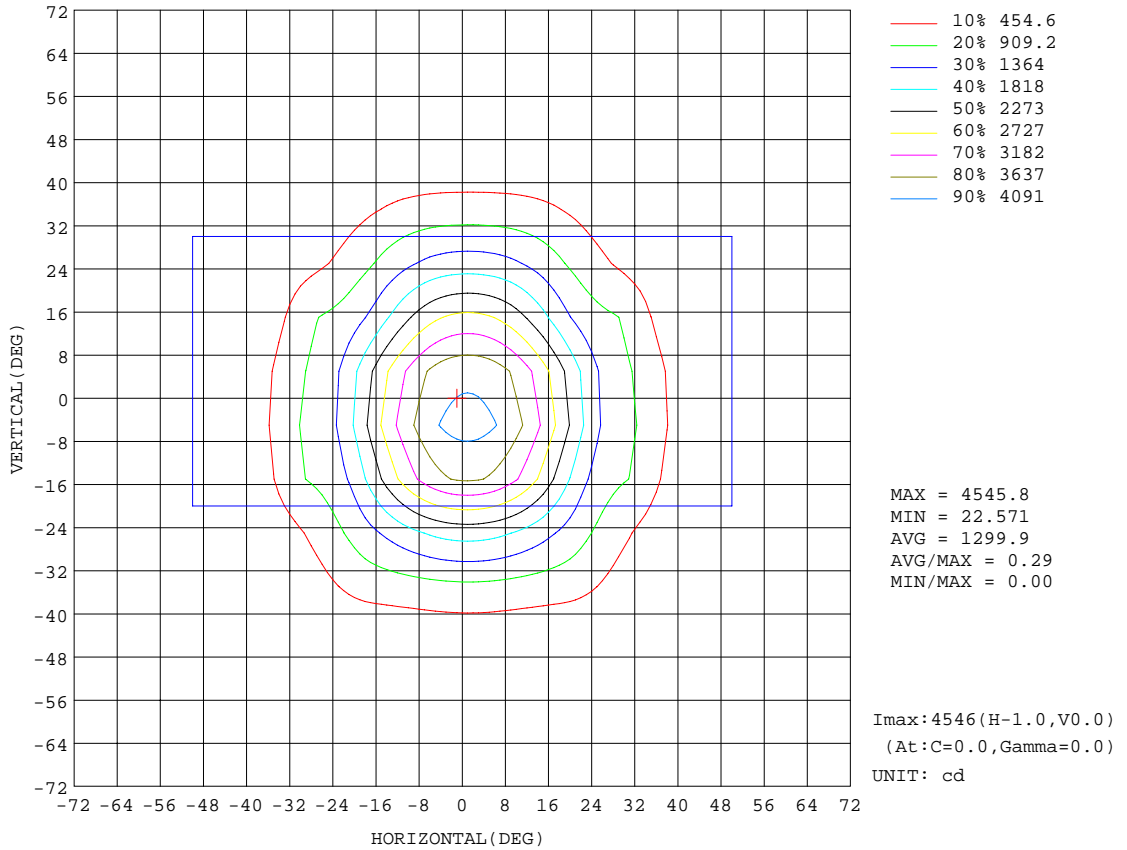
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	88	82	78	87	82	78	87	81	78	74
0.80	95	90	86	95	89	86	93	89	85	82
1.00	100	94	91	99	94	90	97	94	90	86
1.25	104	99	95	103	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	99	97	92
2.00	109	105	102	107	104	101	105	102	99	94
2.50	110	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	107	105	98
5.00	115	113	111	113	111	110	109	108	107	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:

ISOCANDELA DIAGRAM

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

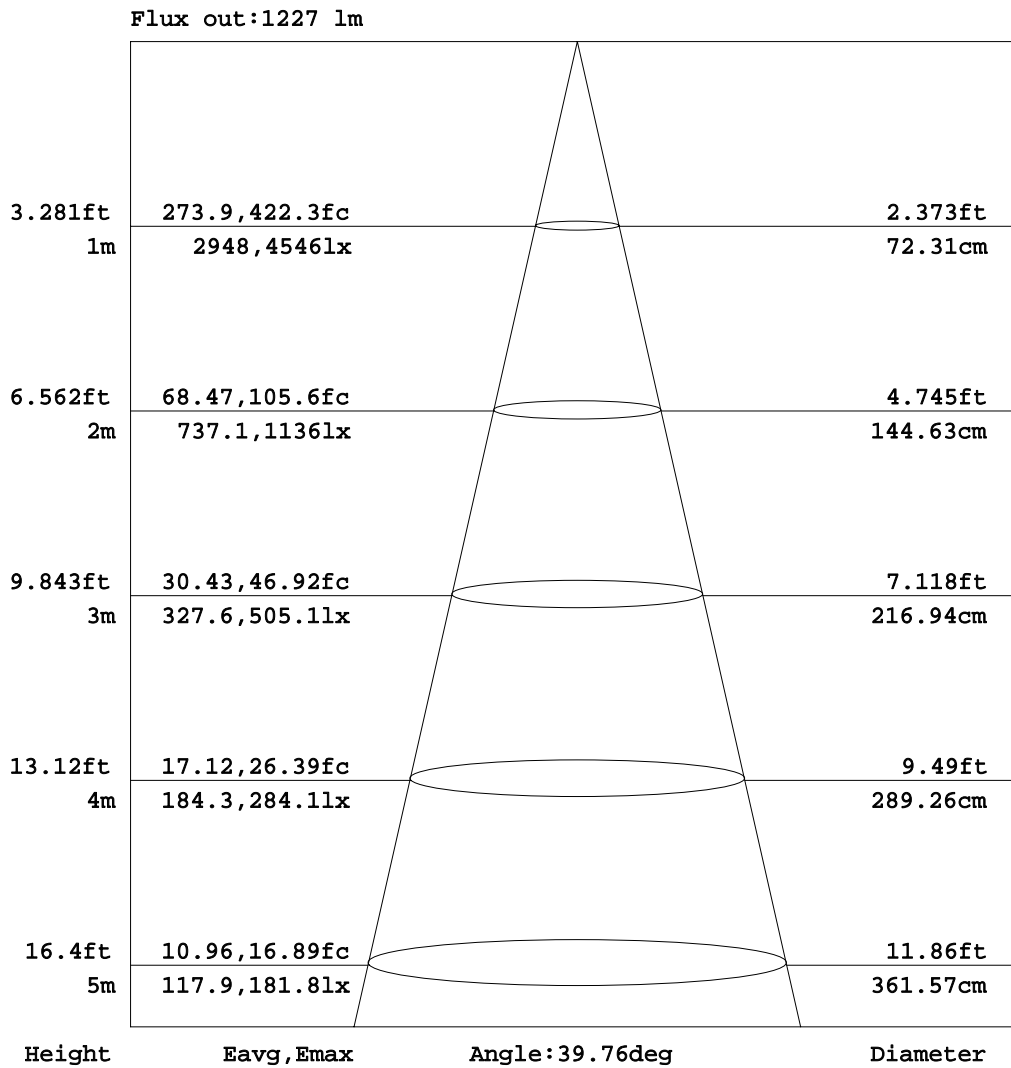


C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-09-30

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

AAI Figure

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



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

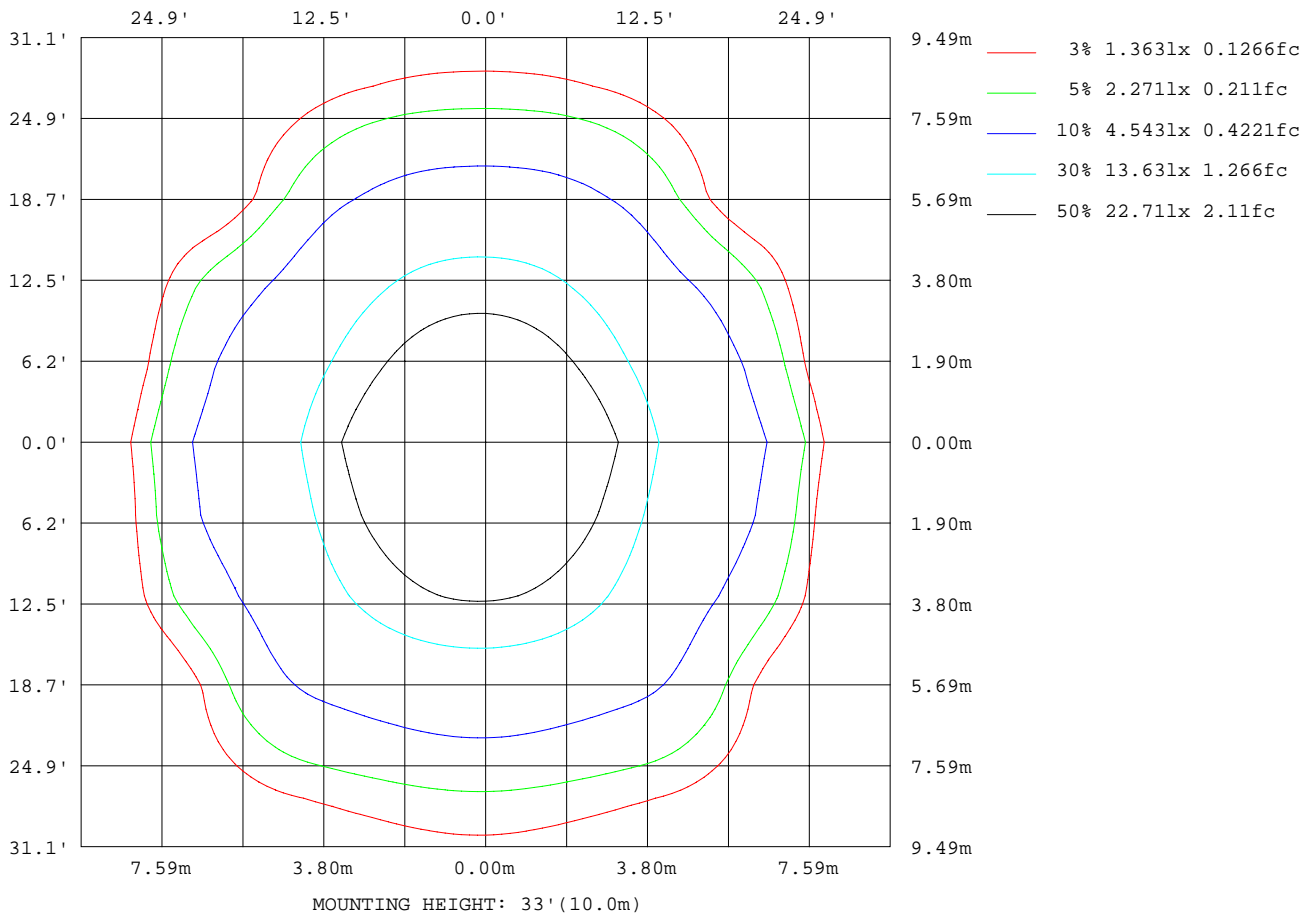
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:



ISOLUX DIAGRAM

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DOBAC  
Test Date: 2017-09-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity: 65.0%  
Test Distance: 6.960m [K=1.0000]  
Remarks:

**Average Luminance Table(CIBSE)**

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	2519.49	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.004	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	11766	11838	12188	12650	13059	13419	14293	15374	16891	19019	16932	15645	14723	13650	13316	12839	12363	12044	11668
60	8930	9052	9527	9842	10269	10857	11167	11310	11100	10924	11149	11480	11390	11085	10484	10041	9697	9266	8809
65	6421	6585	7073	7441	7998	8077	8538	9175	9517	9714	9562	9279	8655	8206	8165	7693	7246	6852	6499
70	4724	4848	5174	5849	5663	6482	7380	7801	7915	8036	7950	7872	7482	6575	5828	6067	5436	5151	4943
75	4072	4201	4134	4584	3997	5119	5659	5719	5413	5377	5430	5751	5775	5223	4069	4710	4321	4460	4119
80	474	624	1169	2378	1248	2499	1802	921	234	0	234	925	1859	2587	1120	2391	1143	650	480
85	127	188	310	0	0	0	0	0	0	0	0	0	0	0	0	0	170	152	151

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum	specified	maximum	specified
		calculated	maximum	measured	maximum
Category 1	55 to 90	19019	200	---	500
Category 2	65 to 90	9714	200	---	500
Category 3	75 to 90	5775	200	---	500

Table 3. Tabulation of Average and Patch Luminance(cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

**Average Luminance Table(CIBSE)**

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	2519.49	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.004	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:2001 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	11766	11838	12188	12650	13059	13419	14293	15374	16891	19019	16932	15645	14723	13650	13316	12839	12363	12044	11668
60	8930	9052	9527	9842	10269	10857	11167	11310	11100	10924	11149	11480	11390	11085	10484	10041	9697	9266	8809
65	6421	6585	7073	7441	7998	8077	8538	9175	9517	9714	9562	9279	8655	8206	8165	7693	7246	6852	6499
70	4724	4848	5174	5849	5663	6482	7380	7801	7915	8036	7950	7872	7482	6575	5828	6067	5436	5151	4943
75	4072	4201	4134	4584	3997	5119	5659	5719	5413	5377	5430	5751	5775	5223	4069	4710	4321	4460	4119
80	474	624	1169	2378	1248	2499	1802	921	234	0	234	925	1859	2587	1120	2391	1143	650	480
85	127	188	310	0	0	0	0	0	0	0	0	0	0	0	0	0	170	152	151

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

range (deg)	Maximum measured	Average Luminance(cd/sq.m)			
		Maximum limit for screen type & software category used			
		Type I,II screen Some neg.s'ware	Type I,II screen Only pos.s'ware	Type III screen Some neg.s'ware	Type III screen Only pos.s'ware
55 to 90	19019	1000	1500	200	500
65 to 90	9714	1000	1500	200	500

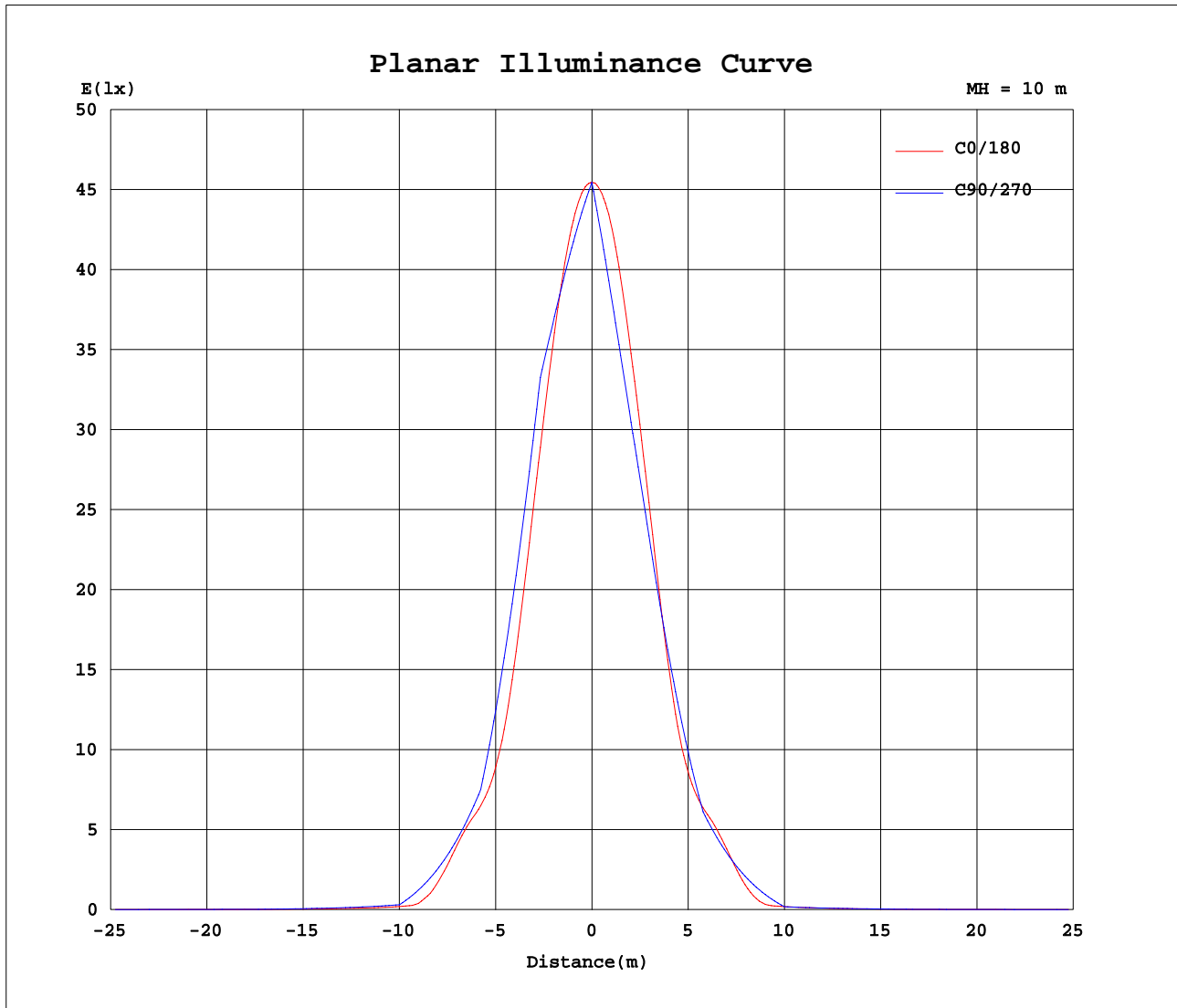
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DOBAC  
 Test Date: 2017-09-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
 Humidity: 65.0%  
 Test Distance: 6.960m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C( DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546
5	4402	4378	4356	4337	4320	4305	4294	4285	4277	4271	4267	4265	4263	4263	4261	4260	4260	4260	4261
10	3941	3897	3861	3835	3818	3811	3810	3817	3828	3845	3863	3883	3905	3923	3939	3954	3966	3973	3976
15	3206	3146	3104	3083	3080	3092	3122	3163	3215	3276	3342	3408	3472	3532	3586	3629	3660	3682	3691
20	2285	2224	2191	2184	2202	2242	2304	2385	2486	2604	2692	2738	2777	2803	2821	2834	2839	2844	2847
25	1421	1389	1380	1390	1419	1467	1534	1627	1717	1805	1879	1941	1978	1999	2007	2008	2005	2003	2002
30	1002	989	986	992	1007	1030	1043	1067	1129	1209	1280	1315	1317	1294	1257	1218	1187	1166	1157
35	735	700	694	716	762	773	732	709	734	795	862	887	858	827	807	799	798	800	801
40	229	211	217	246	302	345	353	349	372	448	527	562	554	515	482	459	448	445	444
45	56.0	54.7	55.2	57.7	60.3	78.9	101	67.0	105	189	255	278	260	215	168	128	103	90.7	87.2
50	38.3	37.6	38.1	38.8	39.6	40.4	40.8	42.0	44.9	61.7	83.0	63.3	43.9	45.8	48.9	51.2	56.2	62.5	65.4
55	27.0	26.4	27.2	27.3	28.0	28.7	29.0	29.4	30.0	29.9	30.8	31.5	32.8	33.6	35.3	36.5	38.8	42.0	43.6
60	17.9	17.6	18.1	18.4	19.1	19.3	19.7	19.8	20.5	21.1	21.7	22.0	22.3	22.5	22.6	22.3	22.2	22.0	21.8
65	10.9	10.8	11.1	11.6	12.0	12.2	12.6	13.1	13.5	13.7	13.7	13.5	14.4	14.9	15.5	15.8	16.1	16.3	16.4
70	6.46	6.42	6.63	7.01	7.08	7.53	8.00	7.96	7.75	8.26	8.87	9.41	10.1	10.4	10.7	10.7	10.8	10.9	11.0
75	4.22	4.14	4.35	4.60	4.28	4.77	4.75	4.31	4.14	4.54	5.30	5.53	5.86	6.05	5.92	5.74	5.60	5.56	5.57
80	0.33	0.34	0.43	0.98	0.81	1.86	1.65	1.18	0.87	1.17	1.74	1.51	1.25	0.98	0.64	0.36	0.16	0.04	0.00
85	0.04	0.04	0.07	0.12	0.11	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

C( DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546
5	4260	4262	4261	4261	4262	4262	4264	4266	4268	4274	4281	4289	4301	4315	4331	4350	4372	4395	4347
10	3974	3968	3957	3943	3925	3908	3884	3860	3839	3818	3802	3790	3787	3790	3802	3824	3856	3898	3810
15	3685	3668	3637	3595	3540	3476	3406	3335	3265	3198	3141	3095	3062	3045	3042	3058	3092	3147	3034
20	2846	2844	2839	2826	2806	2778	2739	2688	2598	2484	2377	2289	2222	2172	2144	2140	2162	2213	2115
25	2003	2006	2008	2006	1998	1976	1937	1883	1807	1721	1627	1520	1449	1396	1358	1341	1342	1365	1321
30	1163	1182	1214	1253	1291	1315	1315	1281	1204	1125	1070	1050	1035	1006	986	975	972	979	947
35	798	794	795	804	825	857	884	856	790	730	706	733	780	770	714	678	669	690	624
40	443	446	457	480	515	553	558	519	435	356	342	357	354	314	247	204	188	193	170
45	90.1	103	128	168	216	260	276	249	177	92.7	66.2	105	87.4	61.1	57.9	54.5	53.4	54.1	52.5
50	62.1	56.3	51.4	49.7	47.1	45.5	63.8	80.6	57.1	44.9	42.6	41.2	40.8	40.1	39.4	38.6	37.8	38.2	36.9
55	41.9	38.8	36.8	35.9	34.5	33.8	32.3	31.3	30.6	30.6	29.9	29.5	29.0	28.4	27.9	27.6	26.6	26.8	25.8
60	22.1	22.3	22.5	23.0	22.9	22.8	22.5	22.2	21.6	21.0	20.3	20.1	19.7	19.4	18.7	18.5	17.8	17.6	17.2
65	16.4	16.2	15.9	15.7	15.1	14.6	13.7	13.9	14.0	13.8	13.5	13.0	12.6	12.2	11.9	11.6	11.2	11.0	10.7
70	11.0	10.9	10.8	10.8	10.5	10.2	9.56	9.00	8.44	7.97	8.22	8.30	7.84	7.44	7.32	7.05	6.92	6.76	6.69
75	5.56	5.62	5.76	5.95	6.09	5.98	5.62	5.41	4.72	4.21	4.41	4.88	4.89	4.47	4.86	4.62	4.51	4.26	4.14
80	0.04	0.16	0.36	0.64	0.99	1.29	1.55	1.80	1.30	0.78	1.15	1.66	1.84	0.79	1.07	0.45	0.38	0.33	0.28
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.06	0.07	0.05	0.02	0.05	0.02
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: cd

C( DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546
5	4301	4258	4218	4181	4148	4119	4092	4068	4048	4031	4015	4004	3994	3986	3982	3977	3977	3977	3982
10	3733	3665	3607	3560	3520	3490	3466	3449	3434	3425	3420	3413	3410	3408	3408	3408	3409	3409	3410
15	2941	2866	2808	2762	2732	2714	2708	2712	2724	2741	2762	2782	2801	2816	2828	2835	2840	2837	2830
20	2042	1988	1950	1924	1908	1909	1923	1943	1987	2043	2092	2132	2164	2185	2197	2204	2207	2205	2201
25	1295	1281	1276	1274	1270	1262	1273	1313	1375	1434	1489	1530	1558	1572	1575	1574	1575	1576	1580
30	929	929	942	953	917	861	841	855	887	935	979	1004	1004	992	969	949	942	951	975
35	586	575	594	613	585	532	481	471	497	533	591	629	649	654	653	648	646	649	658
40	158	157	171	220	247	225	156	136	222	296	344	370	378	372	362	353	349	354	366
45	51.9	51.9	52.6	53.8	68.3	52.4	51.8	55.4	87.5	132	153	149	129	101	75.7	58.5	52.6	58.9	76.6
50	36.6	37.0	36.1	36.4	36.2	36.3	36.8	37.6	39.1	41.5	37.0	37.6	38.4	39.7	40.2	40.7	40.8	40.9	40.8
55	26.0	25.5	25.3	25.3	25.5	25.6	25.4	25.1	25.9	26.7	27.3	27.6	27.8	28.7	28.9	29.0	29.1	29.2	29.3
60	17.2	16.8	16.7	16.8	16.8	16.8	17.3	17.7	17.9	18.1	18.1	18.0	17.7	17.7	17.5	17.4	17.3	17.5	17.8
65	10.6	10.5	10.5	10.4	10.6	11.1	11.2	11.0	10.6	10.5	10.9	11.6	11.9	12.4	12.6	12.8	12.9	12.9	12.8
70	6.61	6.57	6.61	6.43	6.96	7.09	6.49	6.23	6.25	6.58	7.15	7.76	7.95	8.18	8.31	8.40	8.43	8.44	8.41
75	3.73	3.72	3.19	3.54	4.01	3.81	3.35	3.01	2.79	2.75	3.48	4.04	4.09	4.06	4.01	3.98	3.98	3.99	4.02
80	0.24	0.43	0.31	0.87	1.13	0.86	0.35	0.27	0.29	0.33	0.60	0.61	0.43	0.25	0.12	0.03	0.00	0.03	0.12
85	0.04	0.05	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: Juvenis DC-30W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: cd

C( DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546	4546				
5	3987	3996	4007	4019	4035	4053	4074	4098	4126	4155	4188	4225	4265	4308	4354				
10	3411	3414	3420	3428	3436	3447	3464	3486	3514	3548	3591	3641	3702	3772	3852				
15	2822	2810	2794	2777	2762	2750	2743	2742	2752	2773	2807	2855	2916	2995	3091				
20	2193	2175	2150	2115	2069	2019	1980	1959	1947	1949	1963	1992	2036	2097	2178				
25	1581	1574	1553	1518	1472	1412	1349	1297	1270	1284	1297	1307	1319	1339	1370				
30	1004	1026	1034	1018	979	928	886	867	880	930	969	962	950	951	970				
35	667	669	662	635	588	547	516	517	558	604	636	618	601	617	662				
40	381	394	395	377	336	268	180	179	236	259	233	178	167	180	198				
45	104	135	160	170	154	111	64.6	55.6	56.4	70.9	55.8	54.2	53.2	53.0	53.9				
50	40.6	40.1	39.0	38.4	45.2	44.0	39.6	38.9	38.1	37.8	37.4	36.8	37.0	36.9	37.0				
55	29.3	28.8	28.5	28.2	27.5	26.8	26.3	26.6	26.6	26.5	26.4	25.9	25.7	26.0	25.9				
60	18.1	18.2	18.5	18.7	18.6	18.6	18.2	17.8	17.2	17.4	17.4	17.4	17.1	17.2	17.2				
65	12.6	12.2	11.8	11.4	10.7	11.0	11.4	11.5	11.4	10.9	10.7	10.8	10.6	10.4	10.5				
70	8.33	8.12	7.99	7.59	7.05	6.50	6.47	6.51	7.04	7.05	6.60	6.47	6.49	6.31	6.27				
75	4.10	4.17	4.22	3.99	3.42	3.01	3.13	3.41	3.90	4.28	3.86	3.46	3.84	3.99	3.97				
80	0.25	0.44	0.64	0.78	0.63	0.42	0.39	0.44	0.92	1.36	1.43	0.47	0.68	0.35	0.32				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.07	0.04	0.03				
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DOBAC  
Test Date:2017-09-30

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V1.0.260  
Humidity:65.0%  
Test Distance:6.960m [K=1.0000]  
Remarks: