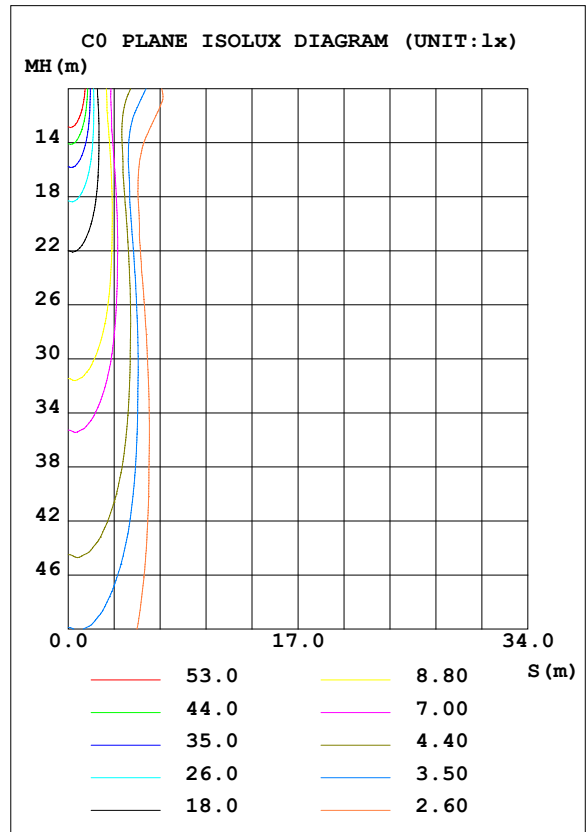
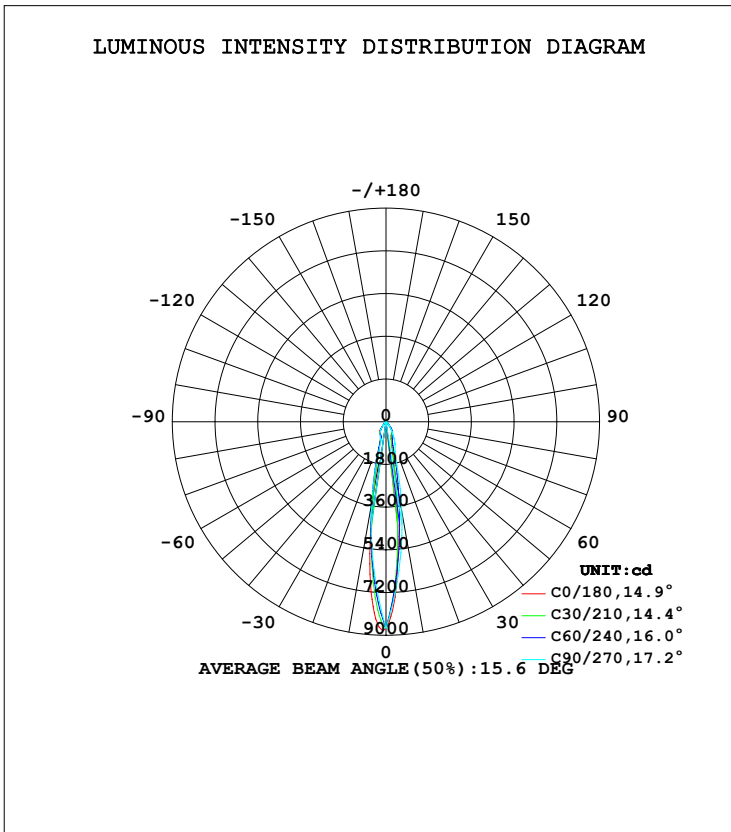


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: Juvenis Surface-20W-3000k-15D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Juvenis Surface-20W-3000k-15D	Imax (cd)	8795	S/MH (C0/180)	0.29
NOMINAL POWER (W)	20	LOR (%)	102.2	S/MH (C90/270)	0.28
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1428.2	η UP, DN (C0-180)	0.0, 48.1
NOMINAL FLUX (lm)	1397.64	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 54.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	229.8	η down (%)	102.2	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-07

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	7194	6337	6076	5523	5781	5640	6286	6475	0- 5	169.8	169.8	11.9,12.1
10	3146	3263	3442	2443	2142	2587	3864	3454	5- 10	309.3	479.1	33.5,34.3
15	1110	1268	808.6	1009	906.2	1123	1441	1425	10- 15	225.6	704.7	49.3,50.4
20	686.4	637.6	705.9	620.3	642.0	693.7	1140	738.8	15- 20	141.9	846.6	59.3,60.6
25	585.7	535.4	603.1	520.1	562.4	584.7	838.5	608.4	20- 25	137.8	984.3	68.9,70.4
30	537.1	427.0	500.3	400.4	515.2	489.9	537.3	535.1	25- 30	140.0	1124	78.7,80.4
35	455.3	280.2	349.3	237.9	360.0	351.1	374.7	429.5	30- 35	131.1	1255	87.9,89.8
40	170.4	103.1	198.2	64.95	88.91	167.6	212.2	266.5	35- 40	91.54	1347	94.3,96.4
45	55.21	39.77	47.15	34.55	53.25	55.74	49.57	118.9	40- 45	44.09	1391	97.4,99.5
50	37.65	21.32	32.61	19.42	20.12	23.22	34.44	37.05	45- 50	19.31	1410	98.8,101
55	6.654	5.632	18.08	4.932	4.836	6.038	19.32	10.95	50- 55	9.073	1420	99.4,102
60	4.042	4.037	3.544	3.653	3.390	4.153	4.195	5.564	55- 60	4.062	1424	99.7,102
65	3.179	3.005	2.776	2.739	2.641	2.990	3.441	3.618	60- 65	1.827	1425	99.8,102
70	2.478	2.070	2.008	1.874	2.027	2.077	2.687	2.621	65- 70	1.322	1427	99.9,102
75	1.825	1.036	1.240	0.9068	1.317	1.102	1.933	1.867	70- 75	0.9703	1428	100,102
80	0.2389	0.1191	0	0.0704	0.0762	0.2163	0	0.9574	75- 80	0.4571	1428	100,102
85	0	0	0	0	0.0136	0	0	0	80- 85	0.0363	1428	100,102
90	0	0	0	0	0	0	0	0	85- 90	0.0006	1428	100,102
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			

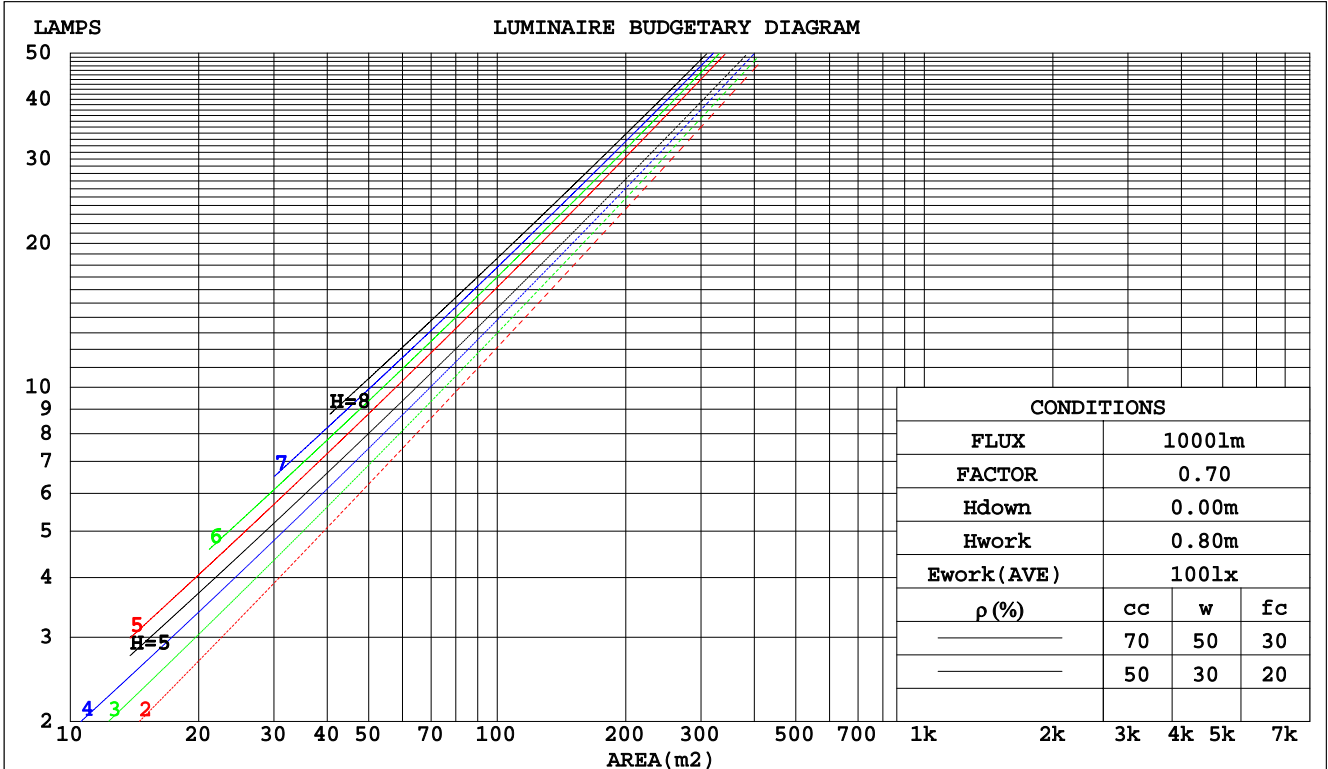
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-3000k-15D	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	1.22	1.22	1.22	1.19	1.19	1.19	1.14	1.14	1.14	1.09	1.09	1.09	1.04	1.04	1.04	1.02
1.0	1.14	1.12	1.10	1.12	1.10	1.09	1.08	1.07	1.05	1.04	1.03	1.02	1.01	1.00	.99	.97
2.0	1.08	1.04	1.02	1.06	1.03	1.00	1.03	1.00	.98	1.00	.98	.96	.97	.96	.94	.93
3.0	1.02	.98	.95	1.01	.97	.94	.98	.95	.92	.96	.93	.91	.94	.91	.90	.88
4.0	.97	.92	.89	.96	.92	.88	.94	.90	.87	.92	.89	.86	.90	.88	.85	.84
5.0	.93	.88	.84	.92	.87	.84	.90	.86	.83	.88	.85	.82	.87	.84	.82	.80
6.0	.88	.83	.80	.88	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.78	.77
7.0	.85	.80	.76	.84	.79	.76	.83	.79	.76	.82	.78	.75	.81	.77	.75	.74
8.0	.81	.76	.73	.81	.76	.73	.80	.76	.73	.79	.75	.72	.78	.75	.72	.71
9.0	.78	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.70	.76	.72	.69	.68
10.0	.76	.71	.68	.75	.71	.68	.75	.70	.67	.74	.70	.67	.73	.70	.67	.66



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-07

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 Surface-20W-3000k-15D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.157	.089	.028	.150	.086	.027	.138	.079	.025	.126	.073	.023	.115	.067	.022	
2.0	.149	.081	.025	.143	.079	.024	.132	.074	.023	.123	.069	.022	.114	.064	.020	
3.0	.140	.075	.022	.136	.073	.022	.127	.069	.021	.118	.065	.020	.111	.061	.019	
4.0	.133	.069	.020	.129	.067	.020	.121	.064	.019	.114	.061	.018	.107	.058	.018	
5.0	.126	.064	.019	.122	.063	.018	.116	.060	.018	.109	.058	.017	.104	.055	.017	
6.0	.119	.060	.017	.116	.059	.017	.110	.057	.016	.105	.055	.016	.100	.053	.016	
7.0	.113	.056	.016	.111	.055	.016	.106	.053	.015	.101	.052	.015	.097	.050	.015	
8.0	.108	.053	.015	.106	.052	.015	.101	.051	.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	.099	.047	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.013	

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.195	.195	.195	.166	.166	.166	.114	.114	.114	.065	.065	.065	.021	.021	.021	
1.0	.173	.161	.150	.148	.138	.129	.101	.095	.089	.058	.055	.052	.019	.018	.017	
2.0	.156	.136	.118	.134	.117	.102	.092	.081	.071	.053	.047	.042	.017	.015	.014	
3.0	.142	.116	.095	.122	.100	.082	.084	.069	.058	.048	.041	.034	.016	.013	.011	
4.0	.130	.100	.078	.112	.087	.068	.077	.061	.048	.044	.035	.028	.014	.012	.009	
5.0	.120	.088	.065	.103	.076	.056	.071	.053	.040	.041	.031	.024	.013	.010	.008	
6.0	.112	.078	.054	.096	.068	.047	.066	.047	.033	.038	.028	.020	.012	.009	.007	
7.0	.104	.070	.046	.090	.061	.040	.062	.043	.029	.036	.025	.017	.012	.008	.006	
8.0	.098	.063	.040	.084	.055	.035	.058	.039	.025	.034	.023	.015	.011	.007	.005	
9.0	.092	.058	.035	.080	.050	.030	.055	.035	.021	.032	.021	.013	.010	.007	.004	
10.0	.087	.053	.030	.075	.046	.026	.052	.032	.019	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DOBAC
 Test Date:2017-11-07

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 Surface-20W-3000k-15D					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	20.8	21.6	21.0	21.7	21.9	21.4	22.2	21.6	22.4	22.5				
3H	20.7	21.4	20.9	21.6	21.8	21.3	22.0	21.5	22.2	22.4				
4H	20.6	21.3	20.9	21.5	21.7	21.2	21.9	21.5	22.1	22.3				
6H	20.5	21.2	20.8	21.4	21.6	21.1	21.8	21.4	22.0	22.2				
8H	20.5	21.1	20.8	21.3	21.6	21.1	21.7	21.4	21.9	22.2				
12H	20.4	21.0	20.7	21.3	21.6	21.0	21.6	21.3	21.9	22.1				
4H 2H	20.6	21.3	20.9	21.5	21.7	21.2	21.9	21.5	22.1	22.3				
3H	20.4	21.0	20.7	21.3	21.6	21.0	21.6	21.3	21.9	22.2				
4H	20.4	20.9	20.7	21.2	21.5	20.9	21.5	21.3	21.8	22.1				
6H	20.3	20.7	20.6	21.1	21.4	20.8	21.3	21.2	21.7	22.0				
8H	20.2	20.6	20.6	21.0	21.4	20.8	21.2	21.2	21.6	21.9				
12H	20.2	20.6	20.6	20.9	21.3	20.7	21.1	21.1	21.5	21.9				
8H 4H	20.2	20.6	20.6	21.0	21.4	20.8	21.2	21.2	21.6	21.9				
6H	20.1	20.5	20.5	20.9	21.3	20.7	21.1	21.1	21.4	21.9				
8H	20.0	20.4	20.5	20.8	21.2	20.6	21.0	21.1	21.4	21.8				
12H	20.0	20.3	20.4	20.7	21.2	20.6	20.8	21.0	21.3	21.8				
12H 4H	20.1	20.6	20.6	20.9	21.3	20.7	21.1	21.1	21.5	21.9				
6H	20.0	20.4	20.5	20.8	21.2	20.6	21.0	21.1	21.4	21.8				
8H	20.0	20.3	20.4	20.7	21.2	20.6	20.8	21.0	21.3	21.8				
Variations with the observer position at spacings:														
S = 1.0H	+ 4.8 / -13.4					+ 2.8 / -11.4								
1.5H	+ 7.2 / -11.0					+ 5.2 / -10.2								
2.0H	+ 6.0 / - 6.9					+ 4.4 / - 8.5								

CIE Pub.117 Corrected 1398 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.2)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-3000k-15D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

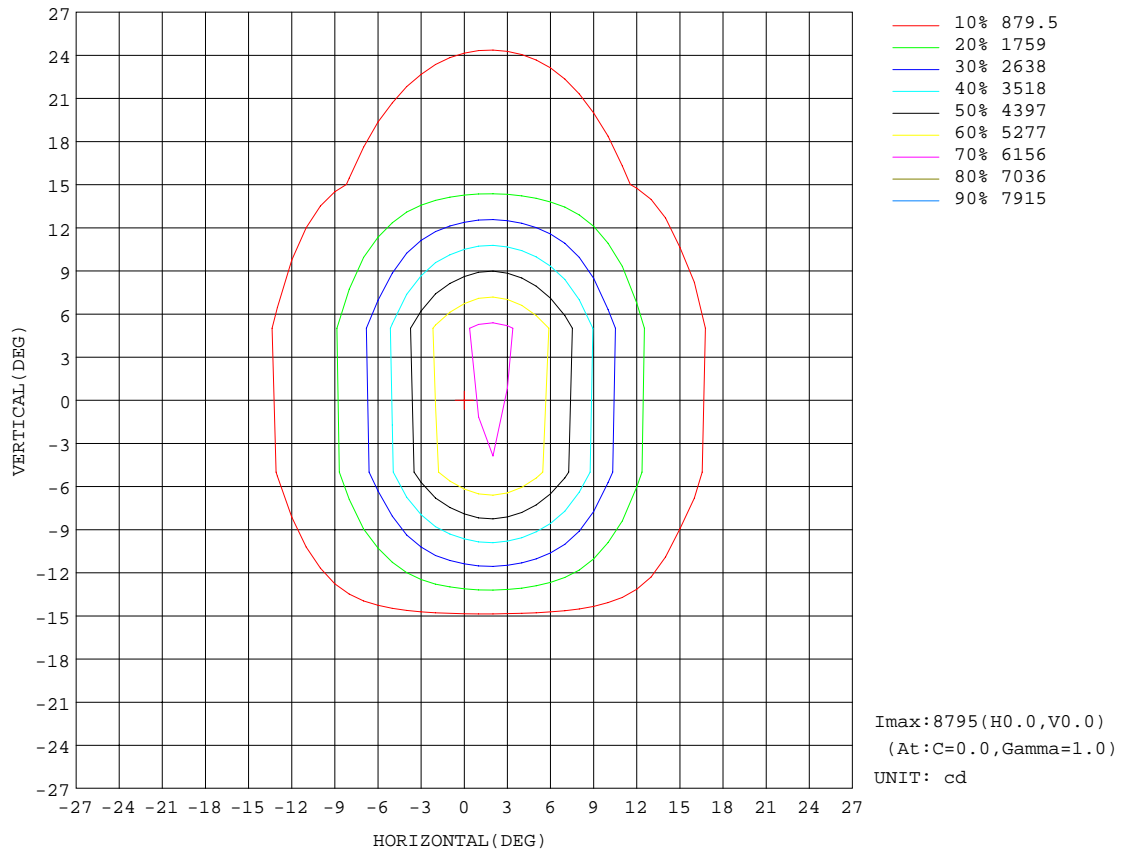
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	90	83	80	89	83	80	89	83	79	76
0.80	97	92	88	97	91	88	96	91	87	84
1.00	102	96	93	101	96	92	100	96	92	88
1.25	106	101	97	105	100	97	103	99	96	92
1.50	109	104	101	107	103	100	105	102	99	95
2.00	111	107	104	110	106	103	107	104	102	96
2.50	113	109	106	111	108	105	108	105	103	97
3.00	114	111	108	113	110	107	109	107	105	99
4.00	116	114	112	114	112	110	111	109	107	100
5.00	118	115	114	116	114	112	112	110	109	101
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:2017-11-07

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 Surface-20W-3000k-15D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

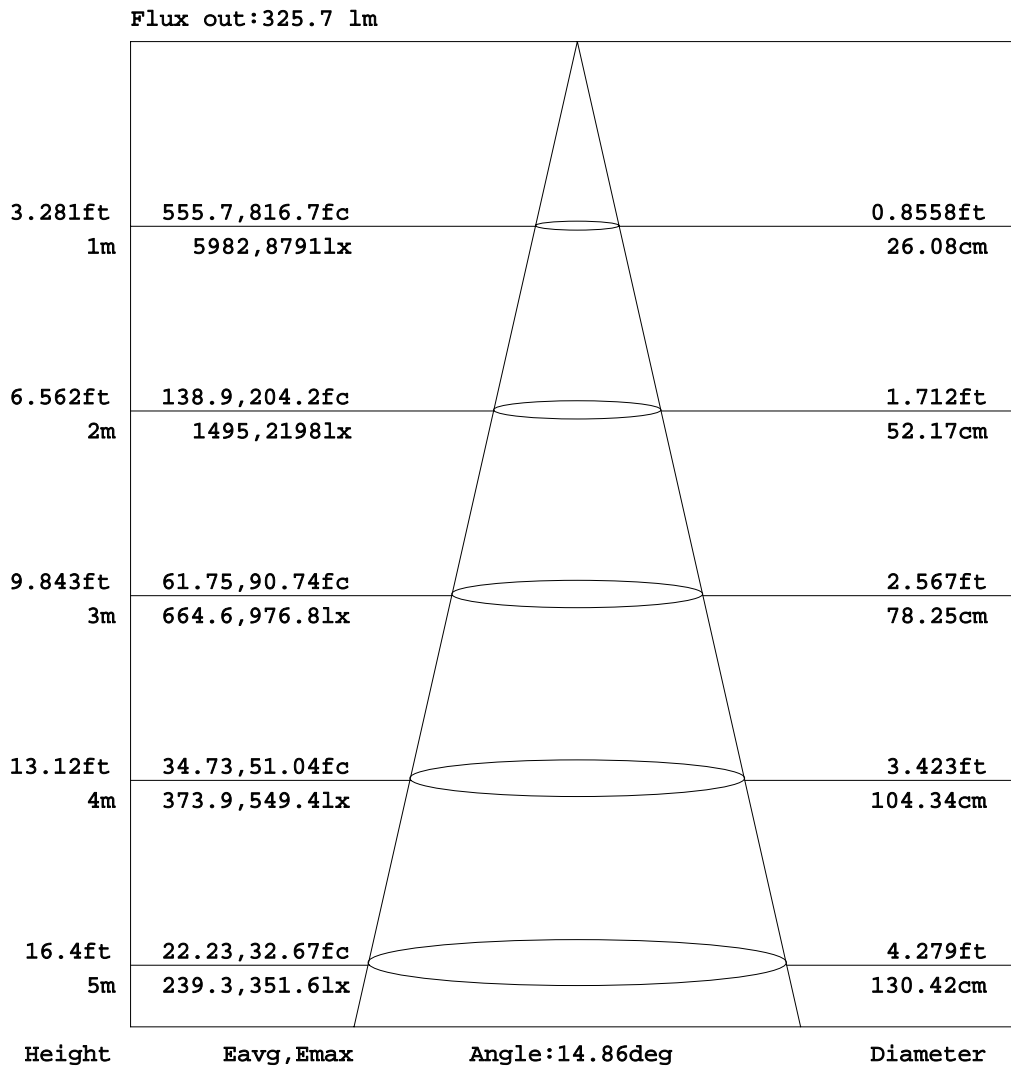


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-07

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 Surface-20W-3000k-15D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



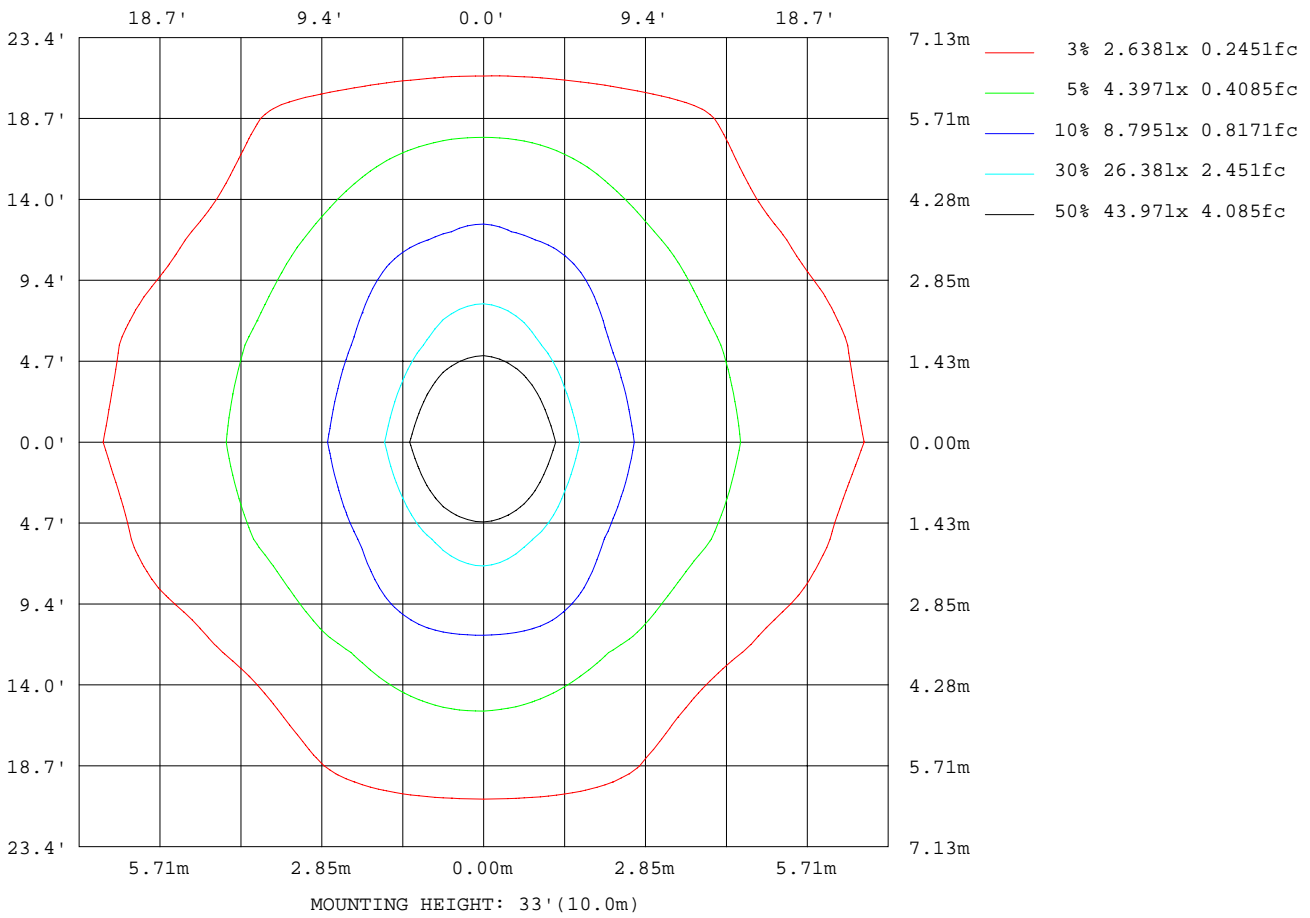
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-3000k-15D	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: 2017-11-07

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 Surface-20W-3000k-15D	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	1397.64	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	5525	5125	6729	7515	9608	5737	12254	16687	16100	15009	15789	15254	9537	4665	7730	4917	4615	4004	4015
60	3849	3773	3797	3937	3699	4254	6571	6795	4434	3376	4328	6259	5344	3764	3345	3415	3296	3219	3228
65	3582	3468	3445	3363	3386	3355	3134	3170	3170	3128	3092	3040	2979	3097	3063	3007	3011	2970	2976
70	3450	3331	3252	3210	3112	2683	2606	2797	2823	2795	2751	2644	2298	2456	2823	2833	2903	2854	2822
75	3357	3042	2496	2886	2190	1680	1715	2214	2285	2281	2223	2010	1215	1460	1948	2466	1917	2338	2423
80	655	473	569	1440	395	355	444	363	100	0	97	321	226	216	298	1184	248	177	209
85	0	108	177	0	0	0	0	0	0	0	0	0	0	0	0	0	79	48	74

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	16687	200	---	500
Category 2	65 to 90	3582	200	---	500
Category 3	75 to 90	3357	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:2017-11-07

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 Surface-20W-3000k-15D	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	1397.64	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	5525	5125	6729	7515	9608	5737	12254	16687	16100	15009	15789	15254	9537	4665	7730	4917	4615	4004	4015
60	3849	3773	3797	3937	3699	4254	6571	6795	4434	3376	4328	6259	5344	3764	3345	3415	3296	3219	3228
65	3582	3468	3445	3363	3386	3355	3134	3170	3170	3128	3092	3040	2979	3097	3063	3007	3011	2970	2976
70	3450	3331	3252	3210	3112	2683	2606	2797	2823	2795	2751	2644	2298	2456	2823	2833	2903	2854	2822
75	3357	3042	2496	2886	2190	1680	1715	2214	2285	2281	2223	2010	1215	1460	1948	2466	1917	2338	2423
80	655	473	569	1440	395	355	444	363	100	0	97	321	226	216	298	1184	248	177	209
85	0	108	177	0	0	0	0	0	0	0	0	0	0	0	0	0	79	48	74

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	16687	1000	1500	200	500
65 to 90	3582	1000	1500	200	500

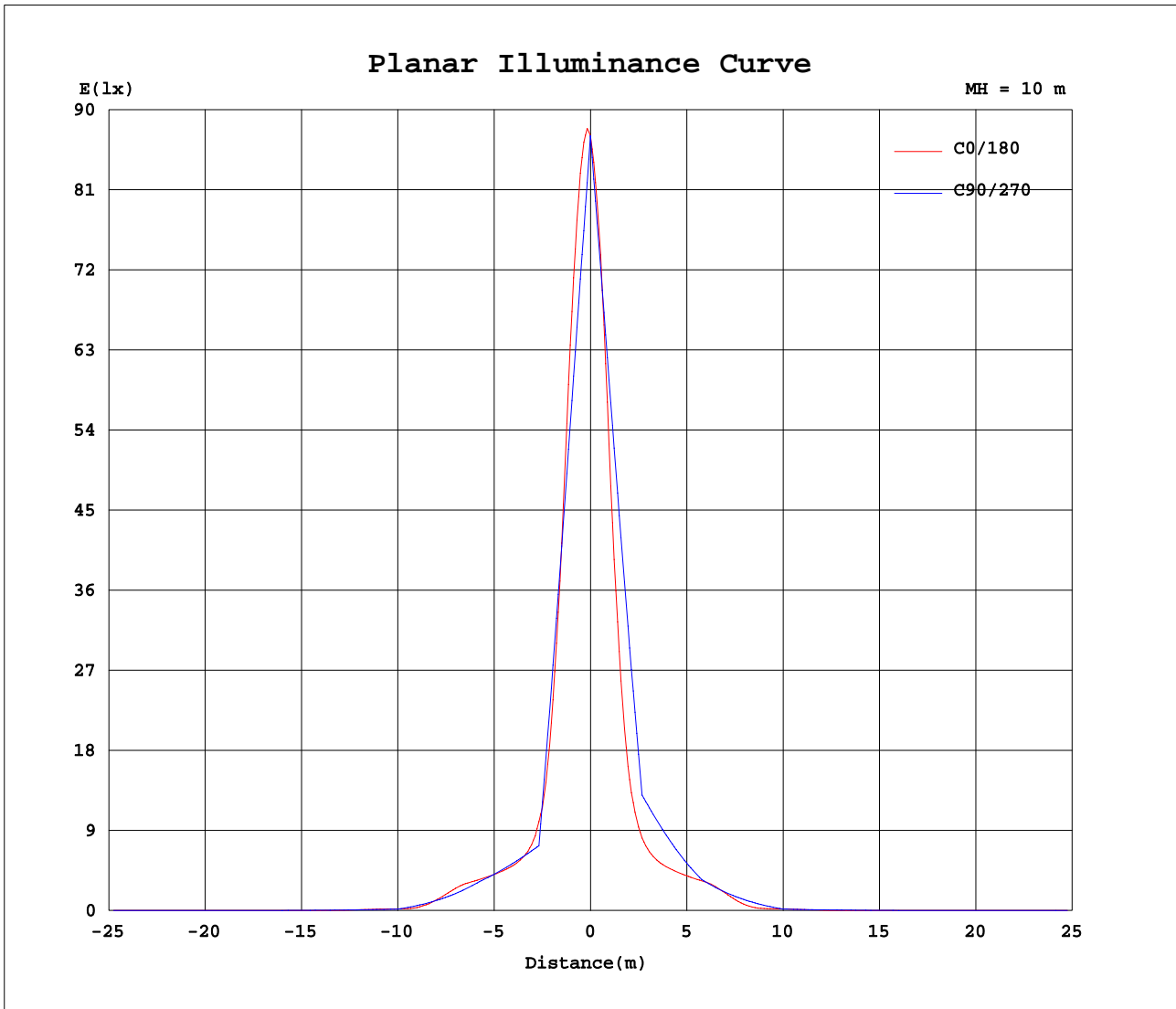
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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: 2017-11-07

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 Surface-20W-3000k-15D	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	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709
5	7194	7019	6866	6736	6627	6538	6470	6421	6375	6337	6316	6295	6265	6252	6221	6193	6165	6110	6076
10	3146	3025	2951	2913	2905	2919	2984	3067	3162	3263	3352	3425	3477	3504	3519	3521	3510	3486	3442
15	1110	1074	1052	1040	1035	1062	1094	1155	1214	1268	1303	1314	1296	1232	1130	1013	907	835	809
20	686	674	666	660	658	657	659	660	659	638	621	629	640	654	670	685	696	704	706
25	586	578	573	569	566	564	562	558	542	535	537	545	556	568	580	590	598	602	603
30	537	526	520	520	521	520	496	458	435	427	434	452	473	493	504	507	505	502	500
35	455	412	384	372	381	388	358	313	283	280	298	331	362	379	379	371	360	353	349
40	170	148	134	124	133	163	173	153	107	103	154	193	218	232	232	222	210	202	198
45	55.2	55.2	55.4	54.1	48.5	50.9	65.2	53.5	43.0	39.8	61.5	89.4	102	102	91.6	75.7	60.7	50.7	47.1
50	37.7	32.2	30.7	31.9	30.1	25.5	29.9	34.7	29.0	21.3	19.1	22.8	25.6	31.4	33.9	35.0	34.1	33.1	32.6
55	6.65	6.37	6.17	6.79	8.11	6.37	9.05	13.1	11.6	5.63	6.91	10.1	14.8	18.4	20.1	20.4	19.4	18.5	18.1
60	4.04	3.95	3.96	3.96	3.99	4.00	4.13	3.88	3.88	4.04	4.47	5.41	6.90	7.67	7.13	5.90	4.66	3.83	3.54
65	3.18	3.10	3.08	3.10	3.06	3.02	2.98	2.99	3.00	3.01	2.98	2.82	2.78	2.80	2.81	2.82	2.81	2.80	2.78
70	2.48	2.43	2.39	2.37	2.34	2.30	2.31	2.30	2.24	2.07	1.93	1.82	1.87	1.96	2.01	2.02	2.03	2.02	2.01
75	1.82	1.71	1.65	1.64	1.36	1.55	1.57	1.39	1.19	1.04	0.91	0.82	0.93	1.10	1.20	1.23	1.24	1.24	1.24
80	0.24	0.20	0.17	0.35	0.21	0.60	0.53	0.34	0.14	0.12	0.13	0.13	0.16	0.17	0.13	0.08	0.04	0.01	0.00
85	0.00	0.01	0.02	0.03	0.03	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
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:2017-11-07

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 Surface-20W-3000k-15D	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	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709
5	5998	5941	5873	5810	5756	5694	5648	5587	5523	5476	5442	5417	5414	5434	5479	5550	5651	5781	5663
10	3373	3302	3227	3132	3011	2879	2718	2574	2443	2345	2249	2163	2089	2055	2038	2042	2075	2142	2085
15	831	892	969	1039	1081	1099	1088	1053	1009	967	933	904	889	874	872	875	885	906	891
20	702	692	678	662	646	630	619	612	620	627	628	626	624	623	624	628	633	642	637
25	600	593	583	570	555	541	529	521	520	528	549	549	549	549	550	552	556	562	560
30	501	502	499	489	472	450	425	406	400	410	437	482	508	502	494	492	501	515	510
35	351	357	362	364	355	329	290	254	238	249	291	327	336	321	307	308	326	360	340
40	201	207	216	220	213	193	158	110	64.9	94.4	133	143	121	85.5	79.6	82.8	84.0	88.9	85.8
45	50.2	59.5	73.0	85.1	91.4	86.0	66.2	39.4	34.6	40.0	50.1	48.3	40.8	43.0	51.9	50.6	50.6	53.3	52.3
50	32.8	33.5	33.5	31.4	27.1	20.5	16.1	15.1	19.4	26.7	26.4	19.1	18.7	22.3	20.9	17.8	17.9	20.1	18.7
55	18.3	19.0	19.3	18.4	15.8	11.5	7.46	5.62	4.93	9.31	8.67	5.92	5.11	5.56	5.05	4.82	4.72	4.84	4.78
60	3.78	4.54	5.63	6.57	6.70	5.61	4.39	3.95	3.65	3.51	3.45	3.59	3.51	3.46	3.41	3.38	3.35	3.39	3.38
65	2.76	2.74	2.73	2.70	2.66	2.64	2.67	2.75	2.74	2.72	2.69	2.67	2.68	2.67	2.67	2.64	2.62	2.64	2.63
70	1.99	1.98	1.95	1.90	1.79	1.65	1.68	1.76	1.87	2.03	2.05	2.03	2.02	2.09	2.06	2.05	2.02	2.03	2.03
75	1.23	1.21	1.17	1.09	0.90	0.66	0.71	0.79	0.91	1.06	1.22	1.34	1.27	1.04	1.38	1.27	1.31	1.32	1.27
80	0.01	0.04	0.08	0.12	0.13	0.08	0.08	0.08	0.07	0.11	0.28	0.43	0.30	0.09	0.16	0.06	0.08	0.08	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	0.01	0.01	0.02	0.01	0.00	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:2017-11-07

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 Surface-20W-3000k-15D	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	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709
5	5575	5516	5484	5477	5493	5531	5579	5640	5719	5794	5853	5927	5993	6066	6142	6205	6286	6321	6375
10	2063	2071	2101	2149	2240	2345	2463	2587	2747	2923	3120	3289	3448	3579	3685	3780	3864	3910	3926
15	886	891	901	925	953	998	1053	1123	1202	1281	1347	1393	1427	1433	1430	1428	1441	1469	1515
20	636	637	641	647	656	668	681	694	713	747	790	845	910	980	1048	1106	1140	1141	1113
25	559	560	563	567	573	580	578	585	597	612	634	662	697	738	779	817	838	840	821
30	510	515	519	524	509	486	479	490	512	533	544	550	553	552	546	540	537	543	556
35	336	352	382	396	372	342	333	351	390	443	455	435	411	394	382	376	375	378	387
40	87.3	97.3	123	159	175	158	135	168	229	271	292	282	256	235	221	214	212	216	225
45	52.7	53.7	47.4	50.2	63.8	53.1	44.6	55.7	102	134	145	132	103	78.1	61.0	52.1	49.6	53.1	62.9
50	20.1	24.8	25.9	23.3	29.3	34.8	29.1	23.2	31.2	40.9	42.7	44.2	39.4	35.6	33.8	34.0	34.4	34.7	35.1
55	4.97	5.26	5.97	5.33	7.56	12.5	11.7	6.04	9.85	18.2	25.1	27.5	24.6	21.1	19.4	19.2	19.3	19.6	20.2
60	3.44	3.43	3.46	3.57	3.75	3.70	3.80	4.15	5.02	8.08	10.9	10.9	8.58	6.35	5.07	4.39	4.20	4.50	5.30
65	2.63	2.64	2.67	2.73	2.79	2.85	2.92	2.99	3.04	2.92	2.97	3.05	3.13	3.22	3.31	3.38	3.44	3.47	3.48
70	2.00	2.01	2.05	2.07	2.14	2.19	2.18	2.08	2.16	2.24	2.30	2.38	2.45	2.52	2.59	2.64	2.69	2.71	2.73
75	1.20	1.33	1.08	1.37	1.44	1.31	1.18	1.10	1.33	1.55	1.64	1.72	1.78	1.83	1.88	1.91	1.93	1.95	1.98
80	0.06	0.15	0.13	0.48	0.46	0.31	0.19	0.22	0.40	0.51	0.42	0.31	0.21	0.12	0.06	0.01	0.00	0.01	0.06
85	0.00	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	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:2017-11-07

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 Surface-20W-3000k-15D	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	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709	8709				
5	6398	6419	6442	6443	6462	6469	6475	6498	6529	6563	6615	6688	6781	6896	7034				
10	3918	3890	3842	3779	3688	3578	3454	3321	3197	3090	3001	2968	2959	2980	3040				
15	1569	1617	1640	1627	1577	1508	1425	1333	1244	1161	1112	1071	1065	1068	1081				
20	1062	993	922	857	802	758	739	731	713	699	687	680	676	676	679				
25	785	742	702	666	639	620	608	601	597	592	587	583	581	581	582				
30	565	569	566	560	554	547	535	523	520	533	541	537	534	533	534				
35	400	419	444	473	497	469	429	402	397	419	462	465	440	431	436				
40	240	261	289	320	333	312	267	222	212	226	234	214	180	161	158				
45	79.5	104	136	167	178	160	119	63.7	56.3	84.0	72.9	57.2	55.3	55.2	55.4				
50	35.9	38.8	44.3	49.1	57.5	59.5	37.1	31.1	39.4	46.8	38.4	37.8	40.4	38.2	35.7				
55	21.3	24.0	28.5	31.6	28.3	20.3	10.9	13.8	20.5	17.6	10.1	10.9	9.11	7.33	6.70				
60	6.62	8.75	11.9	14.2	13.3	9.09	5.56	4.59	4.54	5.19	4.46	4.26	4.19	4.14	4.04				
65	3.47	3.47	3.46	3.44	3.42	3.89	3.62	3.46	3.38	3.33	3.30	3.27	3.26	3.21	3.19				
70	2.73	2.74	2.74	2.72	2.70	2.66	2.62	2.63	2.65	2.62	2.58	2.56	2.53	2.51	2.50				
75	1.99	2.02	2.02	2.02	1.99	1.95	1.87	1.66	1.67	1.88	1.95	1.87	1.91	1.86	1.84				
80	0.13	0.24	0.37	0.52	0.69	0.86	0.96	0.53	0.53	0.68	0.88	0.87	0.56	0.34	0.30				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.03	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				

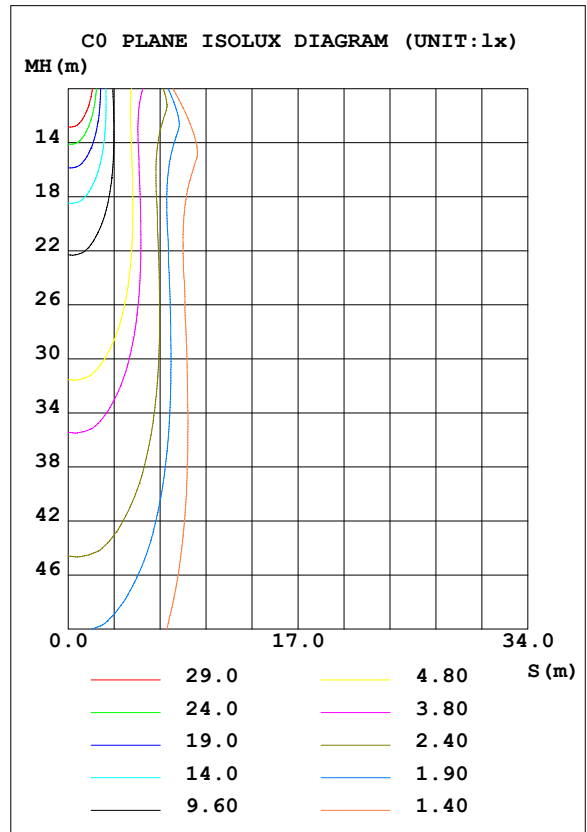
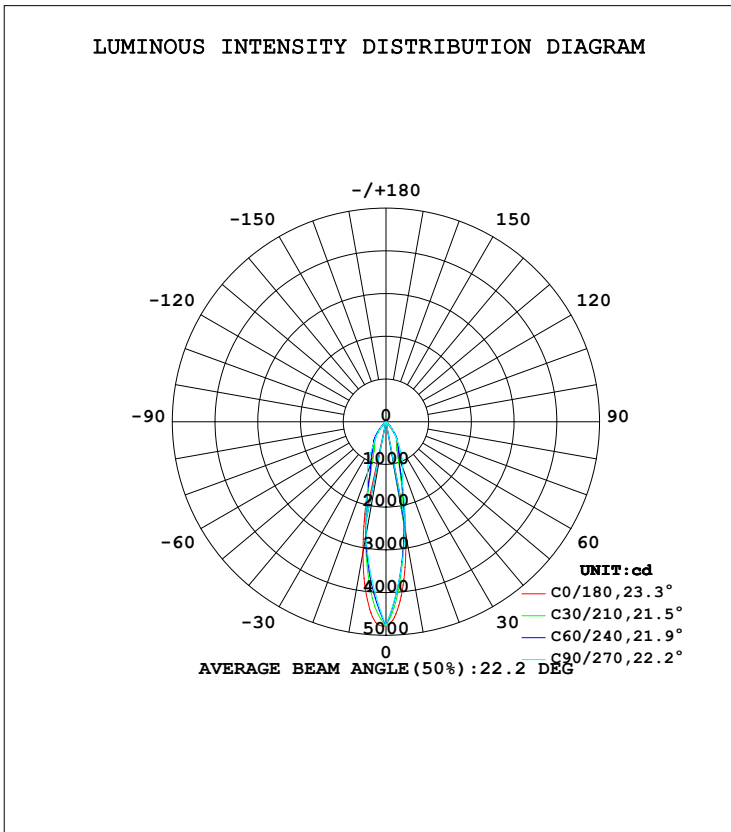
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Juvenis Surface-20W-24D-3000K-90	Imax (cd)	4788	S/MH (C0/180)	0.42
NOMINAL POWER (W)	20	LOR (%)	100.0	S/MH (C90/270)	0.39
RATED VOLTAGE (V)	228	TOTAL FLUX (lm)	1397.3	η UP, DN (C0-180)	0.0, 50.9
NOMINAL FLUX (lm)	1397.27	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	230	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: 2017-11-07

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	4401	3913	3733	3728	4095	3686	3670	3875	0- 5	100.5	100.5	7.2,7.2
10	3111	2721	2691	2493	2678	2427	2566	2668	5- 10	227.9	328.4	23.5,23.5
15	1688	1626	1649	1466	1395	1399	1461	1581	10- 15	238.3	566.8	40.6,40.6
20	927.0	913.9	1281	863.7	799.6	813.0	1156	889.5	15- 20	193.8	760.6	54.4,54.4
25	647.7	666.9	912.5	644.2	602.1	613.6	850.9	660.6	20- 25	170.1	930.7	66.6,66.6
30	551.8	513.5	544.1	495.9	527.0	462.3	545.8	507.1	25- 30	155.8	1086	77.8,77.8
35	444.0	357.9	375.9	335.0	363.2	292.5	376.4	343.8	30- 35	136.8	1223	87.6,87.6
40	150.4	174.4	207.6	146.7	93.61	100.3	207.0	153.8	35- 40	92.73	1316	94.2,94.2
45	40.10	63.10	39.43	53.19	37.96	44.16	37.63	54.84	40- 45	42.17	1358	97.2,97.2
50	29.72	31.67	29.20	30.49	28.11	26.70	27.19	30.19	45- 50	16.67	1375	98.4,98.4
55	18.37	18.88	18.98	18.60	16.12	15.80	16.75	17.86	50- 55	10.09	1385	99.1,99.1
60	7.654	11.25	8.755	11.22	6.124	9.205	6.306	10.52	55- 60	5.969	1391	99.5,99.5
65	3.232	5.331	6.549	5.593	3.129	4.499	4.730	5.059	60- 65	2.819	1394	99.8,99.8
70	2.429	2.387	4.342	2.825	2.370	2.133	3.153	2.230	65- 70	1.692	1395	99.9,99.9
75	1.737	1.357	2.136	1.839	1.606	1.041	1.577	1.134	70- 75	1.162	1397	100,100
80	0.1771	0.3679	0	0.7886	0.1091	0.0886	0	0.1568	75- 80	0.5419	1397	100,100
85	0	0	0	0	0.0175	0	0	0	80- 85	0.0671	1397	100,100
90	0	0	0	0	0.0000	0	0	0	85- 90	0.0097	1397	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			

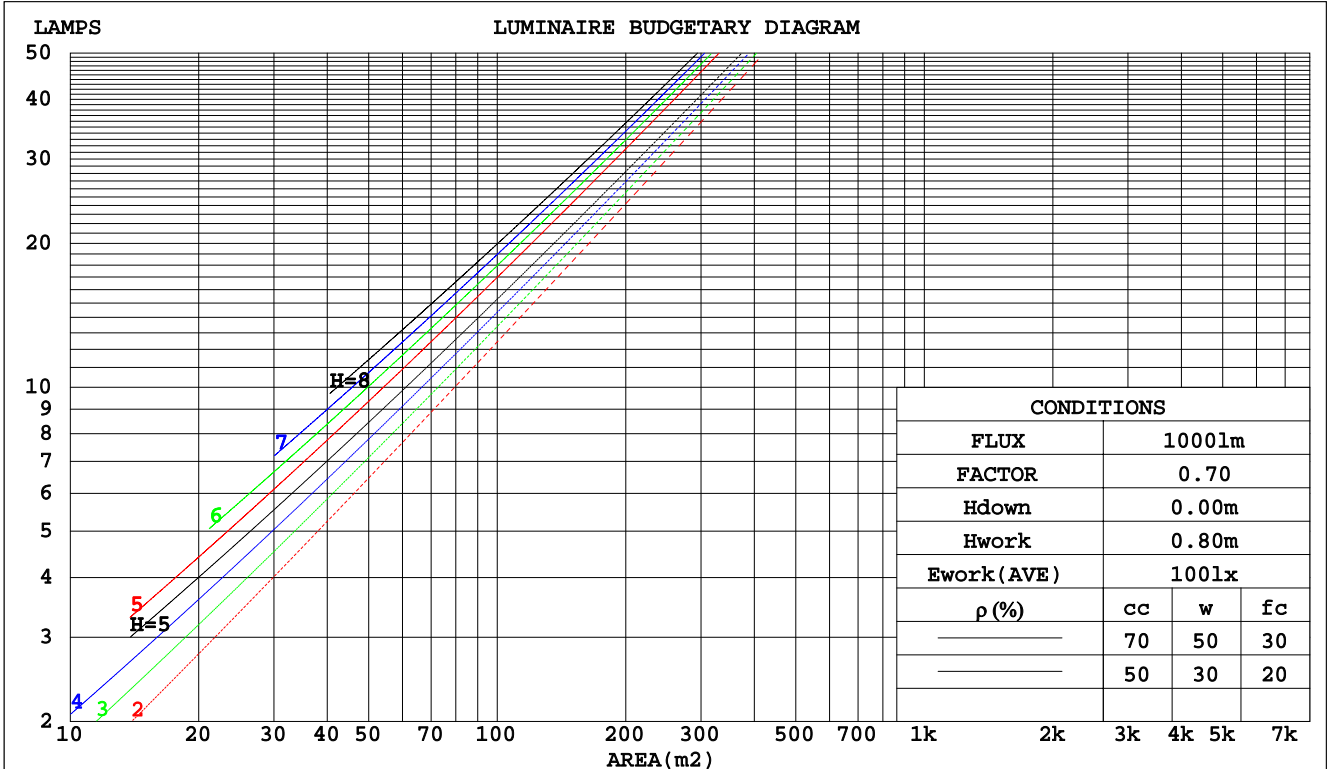
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-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	1.12	1.09	1.07	1.09	1.07	1.06	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	.90	.97	.95	.97	.95	.93	.94	.93	.91	.89
3.0	.99	.94	.91	.97	.93	.90	.95	.91	.89	.92	.90	.87	.90	.88	.86	.85
4.0	.93	.88	.85	.92	.88	.84	.90	.86	.83	.88	.85	.82	.86	.84	.81	.80
5.0	.88	.83	.80	.88	.83	.79	.86	.82	.79	.84	.81	.78	.83	.80	.77	.76
6.0	.84	.79	.75	.83	.78	.75	.82	.78	.74	.81	.77	.74	.79	.76	.73	.72
7.0	.80	.75	.71	.79	.74	.71	.78	.74	.71	.77	.73	.70	.76	.73	.70	.69
8.0	.76	.71	.68	.76	.71	.68	.75	.70	.67	.74	.70	.67	.73	.69	.67	.66
9.0	.73	.68	.65	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.67	.64	.63
10.0	.70	.65	.62	.70	.65	.62	.69	.65	.62	.68	.64	.61	.68	.64	.61	.60



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-07

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 Surface-20W-24D-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	.162	.092	.029	.155	.088	.028	.143	.082	.026	.131	.076	.024	.120	.070	.023	
2.0	.154	.084	.026	.148	.082	.025	.138	.077	.024	.128	.072	.022	.119	.067	.021	
3.0	.146	.077	.023	.141	.075	.023	.132	.072	.022	.124	.068	.021	.116	.064	.020	
4.0	.138	.072	.021	.134	.070	.021	.126	.067	.020	.119	.064	.019	.113	.061	.019	
5.0	.131	.067	.019	.128	.065	.019	.121	.063	.019	.115	.061	.018	.109	.058	.018	
6.0	.125	.062	.018	.122	.061	.018	.116	.059	.017	.111	.057	.017	.106	.056	.017	
7.0	.119	.059	.017	.116	.058	.017	.111	.056	.016	.106	.055	.016	.102	.053	.016	
8.0	.114	.055	.016	.111	.055	.015	.107	.053	.015	.103	.052	.015	.099	.051	.015	
9.0	.109	.053	.015	.107	.052	.015	.103	.051	.014	.099	.050	.014	.095	.048	.014	
10.0	.104	.050	.014	.102	.049	.014	.099	.048	.014	.095	.047	.013	.092	.046	.013	

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	.170	.157	.146	.146	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.141	.113	.092	.120	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.129	.099	.075	.111	.085	.065	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.120	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.112	.077	.052	.096	.067	.045	.066	.047	.032	.039	.027	.019	.012	.009	.006	
7.0	.105	.069	.044	.091	.060	.038	.063	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.099	.063	.038	.085	.055	.033	.059	.038	.023	.034	.023	.014	.011	.007	.005	
9.0	.094	.057	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.089	.053	.029	.077	.046	.025	.053	.032	.018	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DOBAC
 Test Date:2017-11-07

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 Surface-20W-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	17.7	18.5	17.9	18.7	18.9	18.8	19.6	19.0	19.8	20.0				
3H	17.6	18.3	17.8	18.5	18.7	18.7	19.5	18.9	19.6	19.8				
4H	17.5	18.2	17.7	18.4	18.6	18.6	19.3	18.9	19.6	19.8				
6H	17.4	18.1	17.7	18.3	18.6	18.5	19.2	18.8	19.4	19.7				
8H	17.3	18.0	17.6	18.3	18.5	18.5	19.1	18.8	19.4	19.6				
12H	17.3	17.9	17.6	18.2	18.5	18.4	19.1	18.7	19.3	19.6				
4H 2H	17.5	18.2	17.8	18.4	18.7	18.6	19.3	18.9	19.5	19.8				
3H	17.3	18.0	17.6	18.2	18.5	18.4	19.1	18.8	19.3	19.6				
4H	17.2	17.8	17.6	18.1	18.4	18.4	18.9	18.7	19.2	19.5				
6H	17.2	17.7	17.5	18.0	18.3	18.3	18.8	18.6	19.1	19.5				
8H	17.1	17.6	17.5	17.9	18.3	18.2	18.7	18.6	19.0	19.4				
12H	17.0	17.5	17.5	17.8	18.2	18.2	18.6	18.6	19.0	19.4				
8H 4H	17.1	17.6	17.5	17.9	18.3	18.2	18.7	18.6	19.0	19.4				
6H	17.0	17.4	17.4	17.8	18.2	18.1	18.5	18.5	18.9	19.3				
8H	16.9	17.3	17.4	17.7	18.1	18.1	18.4	18.5	18.8	19.3				
12H	16.9	17.2	17.4	17.6	18.1	18.0	18.3	18.5	18.7	19.2				
12H 4H	17.1	17.5	17.5	17.9	18.2	18.2	18.6	18.6	19.0	19.4				
6H	16.9	17.3	17.4	17.7	18.1	18.1	18.4	18.5	18.8	19.3				
8H	16.9	17.2	17.4	17.6	18.1	18.0	18.3	18.5	18.7	19.2				
Variations with the observer position at spacings:														
S = 1.0H	+ 4.2 / - 9.8					+ 2.5 / -10.0								
1.5H	+ 6.7 / - 7.0					+ 5.0 / - 7.5								
2.0H	+ 3.0 / - 6.2					+ 2.8 / - 6.0								

CIE Pub.117 Corrected 1397 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.2)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

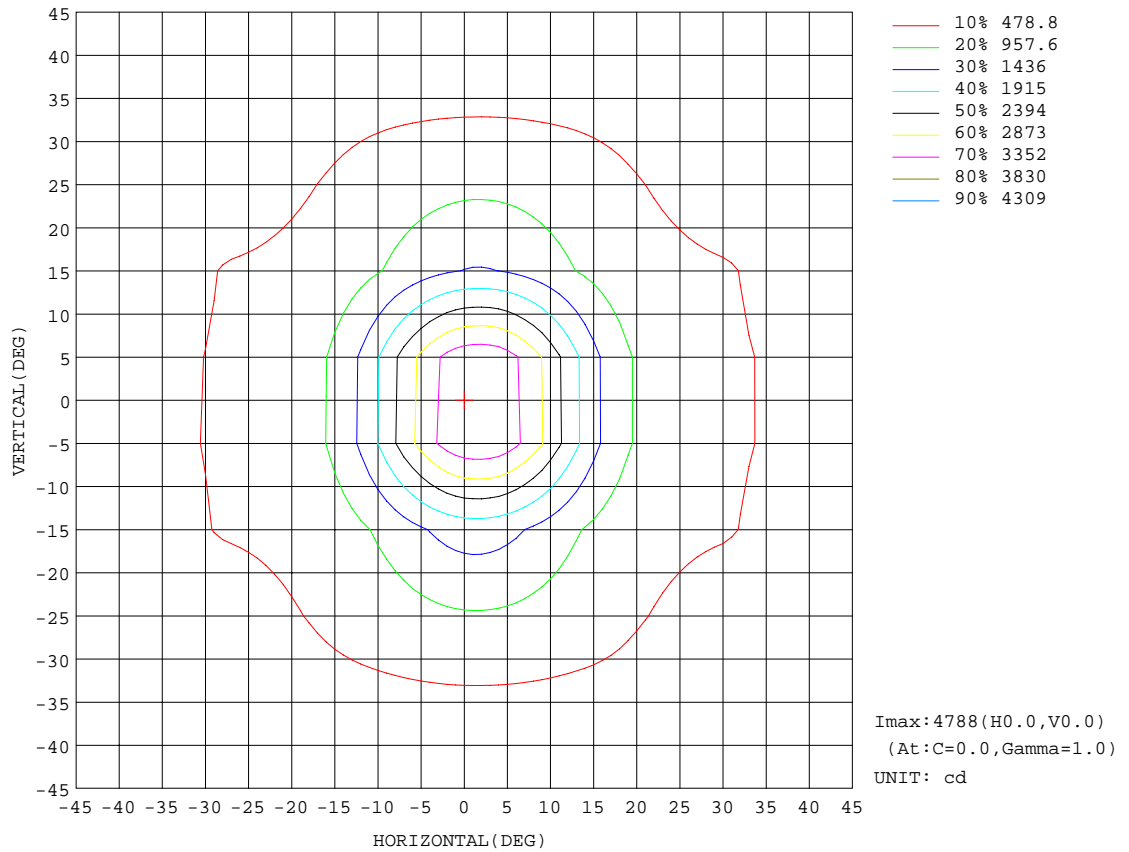
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	88	82	78	87	81	78	87	81	78	74
0.80	95	90	86	95	89	86	93	89	85	82
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: 2017-11-07

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 Surface-20W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

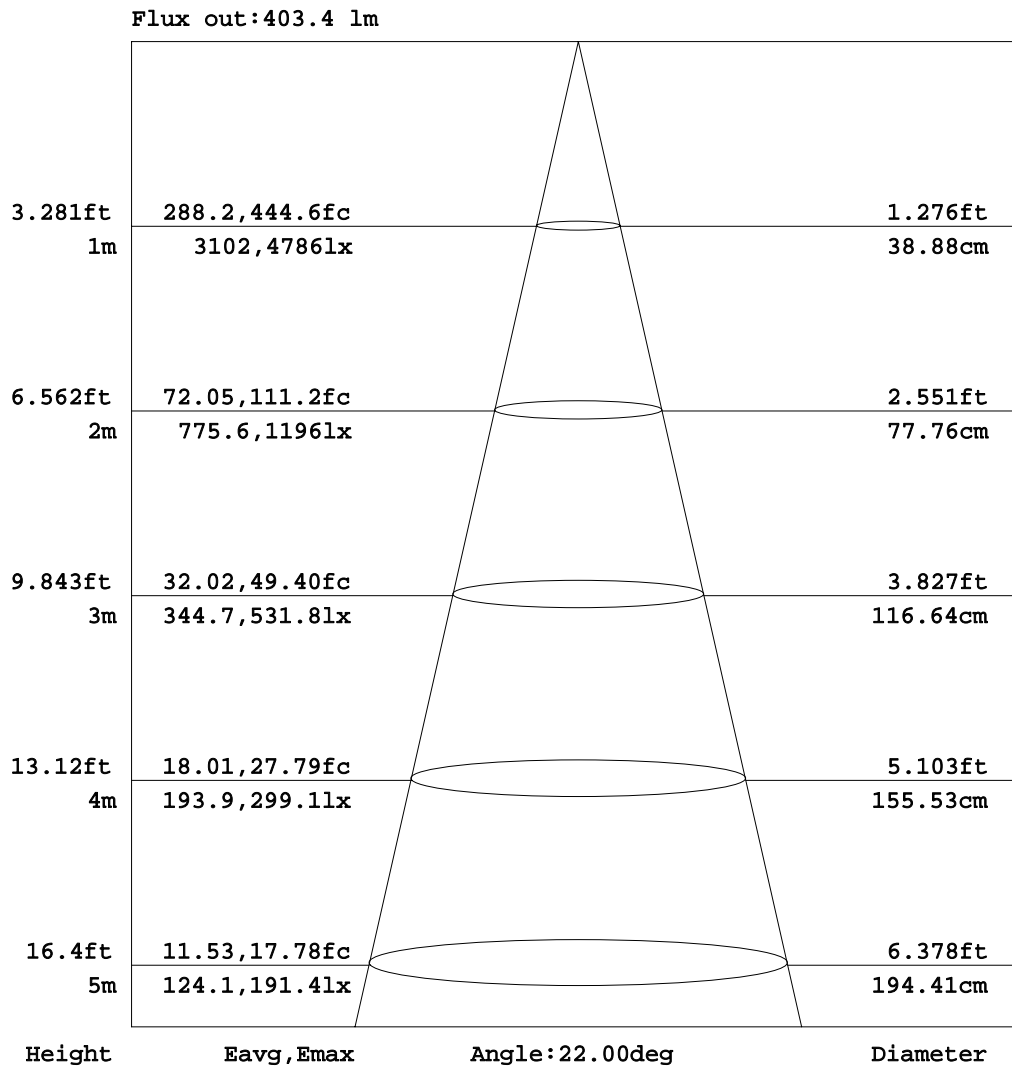


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-07

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 Surface-20W-24D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



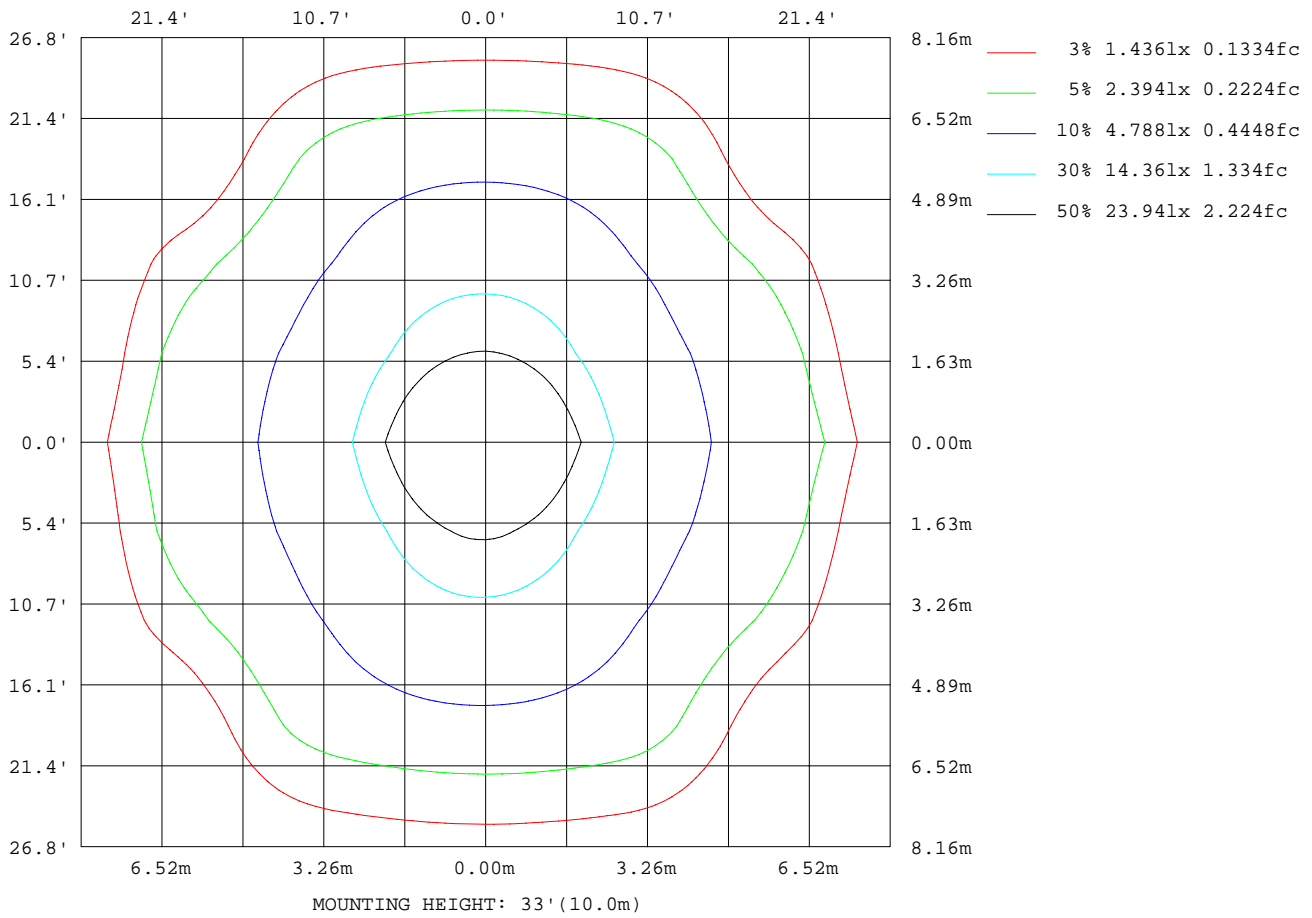
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-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: 2017-11-07

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 Surface-20W-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	1397.27	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.006	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	5339	5105	5082	5276	5303	5769	5814	5631	5492	5515	5448	5613	5803	5735	5220	5193	4955	4979	4685
60	2551	2416	2563	2850	3304	3851	3487	3100	2939	2918	2968	3111	3533	3873	3283	2813	2465	2331	2041
65	1275	1255	1367	1351	2013	1805	1526	2012	2425	2583	2467	2056	1623	1910	2112	1401	1367	1275	1234
70	1184	1160	1192	1187	1183	1231	1407	1740	2014	2116	2064	1826	1550	1415	1413	1358	1210	1174	1155
75	1119	1066	976	1042	898	1098	1289	1381	1379	1376	1452	1532	1502	1383	1236	1426	1182	1068	1034
80	170	147	242	592	355	629	482	229	60	0	63	259	583	896	915	1240	787	163	105
85	0	204	244	0	0	0	0	0	0	0	0	0	0	0	0	0	1547	1314	33

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	5814	200	---	500
Category 2	65 to 90	2583	200	---	500
Category 3	75 to 90	1547	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:2017-11-07

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 Surface-20W-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	1397.27	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.006	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	5339	5105	5082	5276	5303	5769	5814	5631	5492	5515	5448	5613	5803	5735	5220	5193	4955	4979	4685
60	2551	2416	2563	2850	3304	3851	3487	3100	2939	2918	2968	3111	3533	3873	3283	2813	2465	2331	2041
65	1275	1255	1367	1351	2013	1805	1526	2012	2425	2583	2467	2056	1623	1910	2112	1401	1367	1275	1234
70	1184	1160	1192	1187	1183	1231	1407	1740	2014	2116	2064	1826	1550	1415	1413	1358	1210	1174	1155
75	1119	1066	976	1042	898	1098	1289	1381	1379	1376	1452	1532	1502	1383	1236	1426	1182	1068	1034
80	170	147	242	592	355	629	482	229	60	0	63	259	583	896	915	1240	787	163	105
85	0	204	244	0	0	0	0	0	0	0	0	0	0	0	0	0	1547	1314	33

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	5814	1000	1500	200	500
65 to 90	2583	1000	1500	200	500

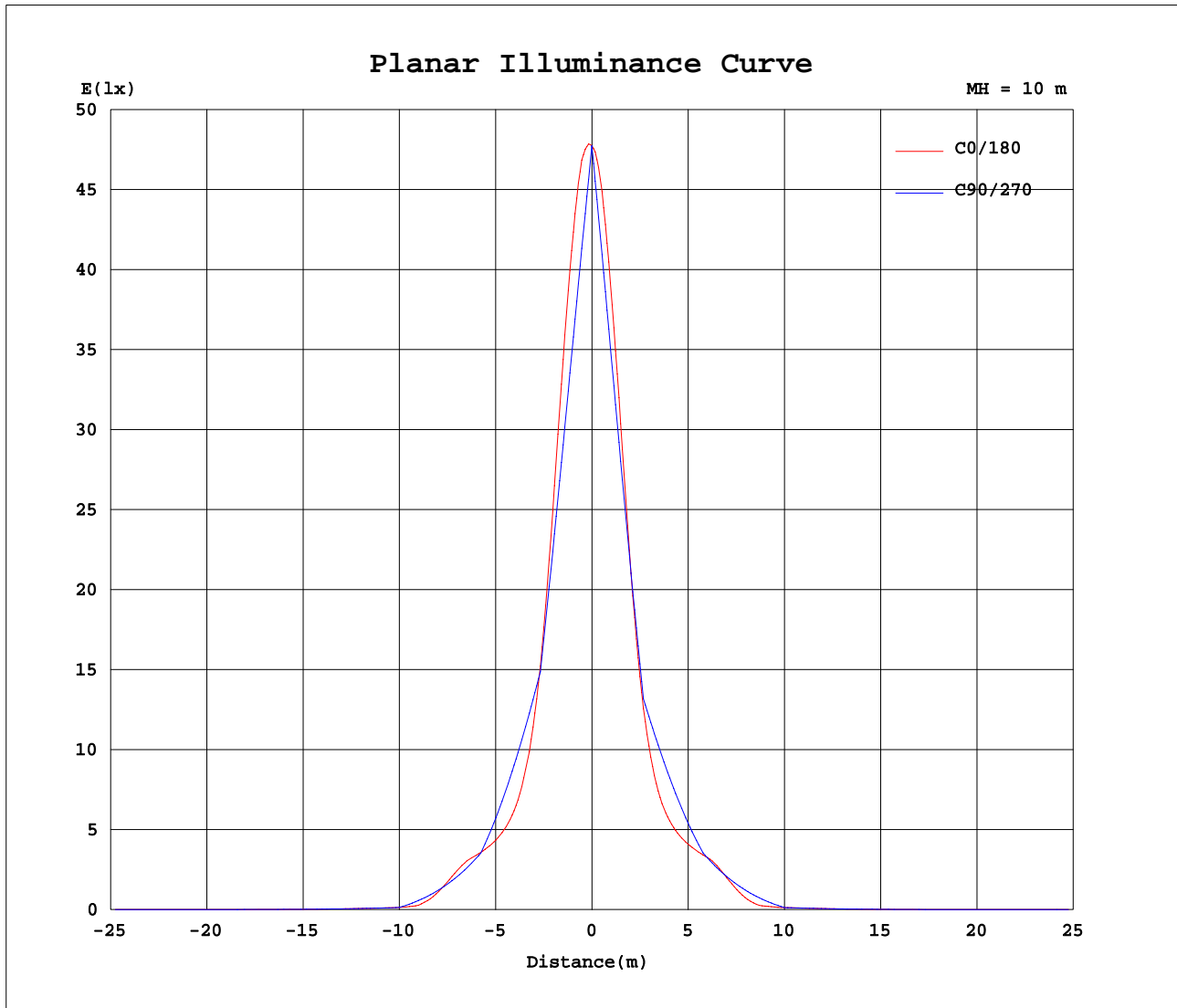
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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: 2017-11-07

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 Surface-20W-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	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775
5	4401	4319	4245	4178	4118	4065	4020	3982	3946	3913	3887	3862	3832	3809	3787	3770	3756	3741	3733
10	3111	3006	2922	2857	2808	2773	2749	2736	2726	2721	2717	2718	2725	2725	2725	2720	2710	2702	2691
15	1688	1624	1583	1560	1549	1554	1565	1585	1606	1626	1643	1653	1658	1661	1663	1660	1656	1653	1649
20	927	901	887	882	882	883	895	906	913	914	936	991	1051	1110	1167	1218	1254	1276	1281
25	648	637	632	629	631	634	637	638	646	667	697	733	771	810	846	876	899	911	913
30	552	544	541	542	543	545	529	506	501	514	540	570	592	599	596	583	566	551	544
35	444	410	393	393	411	418	388	354	344	358	391	436	453	442	419	400	387	379	376
40	150	134	127	129	148	176	186	167	145	174	228	263	281	277	256	235	220	211	208
45	40.1	39.7	39.9	39.3	42.4	46.7	57.2	41.8	46.0	63.1	105	128	131	118	93.6	69.4	52.8	43.1	39.4
50	29.7	28.6	28.7	28.8	28.7	28.8	29.4	29.2	28.3	31.7	38.4	37.4	30.0	30.1	29.6	28.7	29.0	29.3	29.2
55	18.4	17.3	17.6	17.3	17.5	18.3	18.2	18.0	18.3	18.9	19.9	20.2	20.0	19.9	19.4	18.9	18.9	19.0	19.0
60	7.65	7.03	7.25	7.38	7.69	8.79	8.55	7.90	9.91	11.2	11.6	11.2	10.5	9.81	9.30	8.98	8.82	8.78	8.75
65	3.23	3.16	3.18	3.23	3.47	3.74	3.43	4.18	5.10	5.33	4.58	3.50	3.87	4.44	5.10	5.70	6.15	6.45	6.55
70	2.43	2.38	2.38	2.41	2.45	2.41	2.44	2.53	2.43	2.39	2.53	2.67	2.89	3.21	3.57	3.89	4.13	4.29	4.34
75	1.74	1.65	1.66	1.74	1.51	1.59	1.62	1.50	1.39	1.36	1.71	1.89	2.00	2.09	2.14	2.16	2.14	2.12	2.14
80	0.18	0.15	0.15	0.42	0.25	0.67	0.62	0.47	0.37	0.37	0.66	0.64	0.50	0.36	0.24	0.14	0.06	0.02	0.00
85	0.00	0.01	0.11	0.14	0.13	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
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:2017-11-07

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 Surface-20W-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	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775
5	3725	3724	3719	3716	3717	3714	3719	3723	3728	3741	3760	3783	3814	3854	3902	3958	4022	4095	4017
10	2681	2666	2646	2621	2594	2569	2540	2514	2493	2476	2464	2453	2453	2466	2492	2535	2595	2678	2590
15	1640	1629	1616	1600	1582	1560	1533	1501	1466	1430	1394	1359	1336	1319	1318	1327	1351	1395	1348
20	1264	1230	1183	1126	1064	1003	947	894	864	851	833	814	797	785	779	778	784	800	783
25	903	882	853	817	780	742	704	672	644	627	623	615	607	600	596	595	596	602	596
30	549	560	574	582	583	572	550	520	496	485	492	519	535	530	525	520	521	527	517
35	378	383	395	411	430	436	415	369	335	323	337	373	397	383	356	342	344	363	336
40	210	217	231	251	268	268	246	206	147	126	156	172	157	129	104	90.9	89.1	93.6	87.4
45	42.9	52.1	68.5	91.5	114	125	118	90.5	53.2	43.4	40.4	53.4	44.6	40.8	39.1	38.3	37.8	38.0	37.4
50	29.2	28.6	28.5	29.3	29.7	29.9	36.0	34.7	30.5	27.9	28.7	29.0	28.5	28.5	28.8	28.3	27.6	28.1	27.1
55	18.9	18.8	18.8	19.3	19.8	20.0	20.1	19.7	18.6	18.0	17.8	17.9	17.8	17.1	17.0	17.1	15.9	16.1	15.3
60	8.81	8.90	9.01	9.33	9.89	10.6	11.3	11.6	11.2	9.85	7.86	8.44	8.53	7.40	7.16	6.99	6.26	6.12	5.86
65	6.48	6.26	5.79	5.21	4.63	4.12	3.79	4.84	5.59	5.36	4.40	3.55	3.73	3.47	3.26	3.23	3.16	3.13	3.10
70	4.33	4.24	4.02	3.75	3.45	3.18	3.00	2.90	2.82	2.90	2.97	2.79	2.62	2.48	2.43	2.41	2.41	2.37	2.36
75	2.18	2.25	2.33	2.38	2.37	2.33	2.27	2.15	1.84	1.92	2.06	2.22	2.15	1.84	1.75	1.66	1.66	1.61	1.55
80	0.02	0.07	0.15	0.27	0.42	0.61	0.81	0.93	0.79	0.95	1.10	1.29	1.40	0.82	0.79	0.17	0.12	0.11	0.09
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	0.31	0.81	0.88	0.69	0.04	0.02	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:2017-11-07

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 Surface-20W-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	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775
5	3948	3887	3835	3790	3754	3727	3703	3686	3677	3669	3661	3660	3657	3658	3662	3662	3670	3679	3695
10	2523	2474	2441	2421	2414	2416	2419	2427	2439	2455	2474	2490	2509	2527	2542	2555	2566	2579	2592
15	1319	1305	1301	1311	1326	1351	1375	1399	1420	1435	1443	1446	1447	1446	1448	1452	1461	1472	1489
20	775	772	776	784	795	807	814	813	828	871	919	969	1021	1069	1109	1139	1156	1156	1144
25	593	593	596	600	605	609	605	614	636	665	701	736	769	798	822	841	851	852	846
30	513	518	526	531	511	475	460	462	481	512	545	567	575	570	560	550	546	551	565
35	326	333	354	369	353	316	289	292	319	361	399	415	411	398	385	379	376	380	388
40	86.3	88.0	106	134	153	143	106	100	161	207	236	251	247	233	218	210	207	210	220
45	37.6	38.0	37.8	40.9	47.1	39.6	38.0	44.2	64.8	96.0	108	104	89.3	68.9	51.6	41.1	37.6	41.2	52.3
50	27.2	27.4	26.6	26.8	27.5	26.9	26.5	26.7	29.2	31.3	28.0	28.2	28.6	28.1	27.4	27.2	27.2	27.3	27.9
55	15.7	15.4	15.2	15.8	15.9	15.5	15.3	15.8	17.4	18.1	18.3	18.1	17.9	17.4	17.0	16.8	16.7	16.9	17.3
60	6.15	6.24	5.97	7.17	7.12	5.87	7.58	9.21	9.99	9.89	9.20	8.31	7.44	6.81	6.41	6.25	6.31	6.44	6.78
65	3.11	3.12	3.19	3.35	3.14	3.44	4.11	4.50	4.03	3.05	3.10	3.31	3.58	3.95	4.31	4.57	4.73	4.71	4.59
70	2.33	2.31	2.33	2.30	2.31	2.36	2.29	2.13	2.02	1.94	2.14	2.35	2.53	2.74	2.93	3.07	3.15	3.15	3.10
75	1.40	1.52	1.14	1.43	1.50	1.36	1.19	1.04	0.91	0.83	1.13	1.42	1.52	1.57	1.58	1.57	1.58	1.60	1.63
80	0.08	0.15	0.10	0.35	0.47	0.30	0.12	0.09	0.10	0.11	0.21	0.23	0.17	0.10	0.05	0.01	0.00	0.01	0.05
85	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	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:2017-11-07

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 Surface-20W-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	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775	4775				
5	3711	3731	3756	3782	3816	3846	3875	3912	3953	3995	4044	4101	4165	4237	4315				
10	2610	2624	2634	2642	2646	2655	2668	2682	2700	2719	2749	2790	2844	2914	3002				
15	1510	1531	1549	1566	1579	1584	1581	1572	1561	1547	1542	1541	1554	1580	1623				
20	1119	1081	1039	991	943	900	890	900	899	892	882	882	883	888	901				
25	831	808	780	748	716	685	661	645	641	641	637	633	631	633	638				
30	579	591	593	581	559	531	507	497	505	531	547	545	543	541	545				
35	402	421	437	440	420	376	344	332	347	385	418	409	391	392	410				
40	236	256	271	271	250	211	154	131	164	184	176	147	127	126	133				
45	70.0	93.0	115	125	120	93.8	54.8	44.1	41.1	56.9	46.0	42.2	39.1	39.8	39.7				
50	28.6	29.1	29.0	29.2	35.5	34.6	30.2	27.8	28.9	29.4	28.7	28.8	29.0	28.9	28.7				
55	18.0	18.5	18.7	19.1	19.2	18.9	17.9	17.5	17.6	18.0	18.3	17.7	17.5	17.9	17.4				
60	7.27	7.95	8.79	9.75	10.5	10.9	10.5	9.24	7.36	8.36	8.77	7.83	7.59	7.53	7.18				
65	4.30	3.93	3.60	3.35	3.17	4.29	5.06	4.85	3.99	3.33	3.72	3.51	3.27	3.25	3.19				
70	2.96	2.77	2.58	2.42	2.27	2.13	2.23	2.40	2.53	2.45	2.42	2.43	2.42	2.41	2.41				
75	1.66	1.66	1.63	1.55	1.32	1.05	1.13	1.28	1.48	1.69	1.72	1.58	1.74	1.71	1.70				
80	0.11	0.18	0.28	0.36	0.33	0.18	0.16	0.16	0.35	0.56	0.71	0.24	0.39	0.18	0.17				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	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				

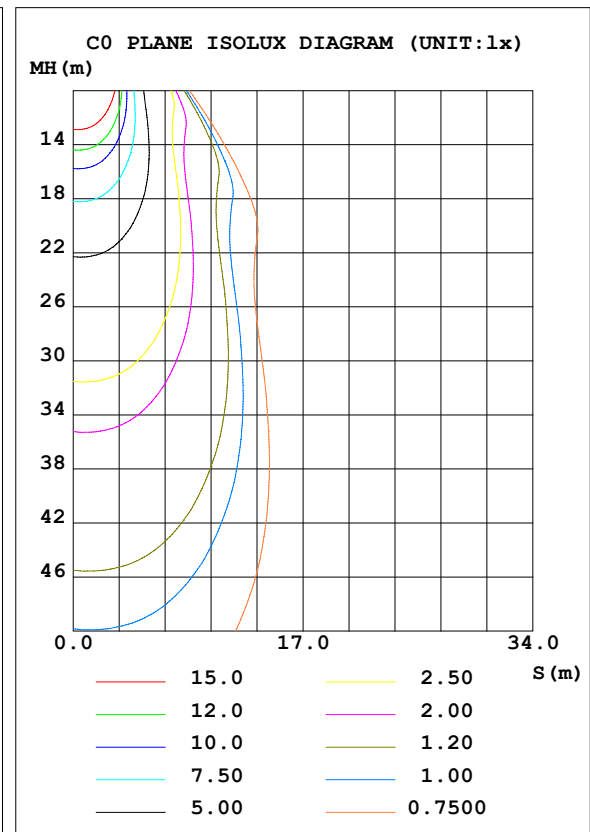
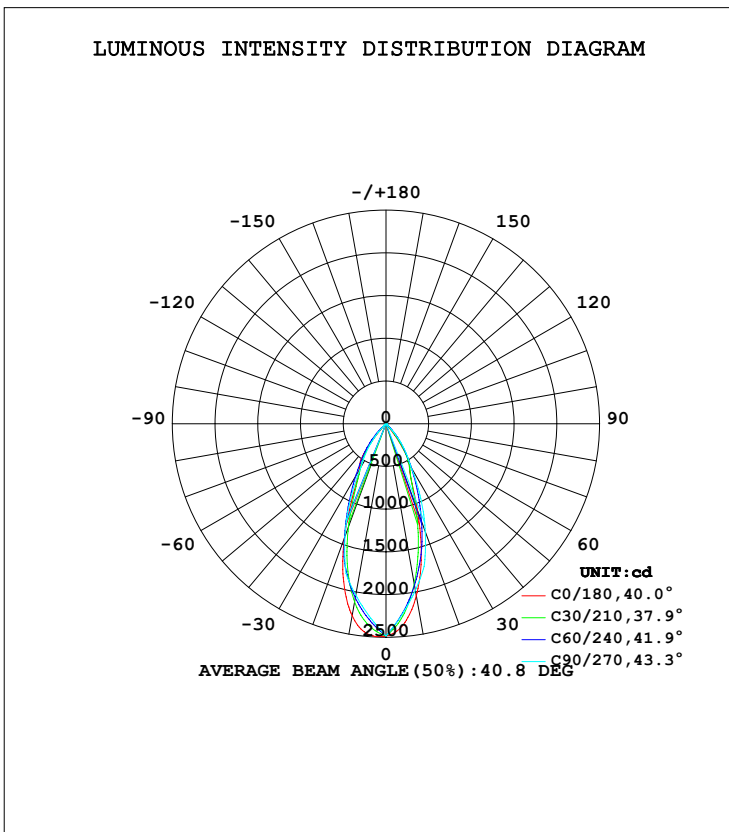
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-07

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 Surface-20W-3000k-40D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Juvenis Surface-20W-3000k-40D	Imax (cd)	2494	S/MH (C0/180)	0.68
NOMINAL POWER (W)	20	LOR (%)	129.1	S/MH (C90/270)	0.70
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	1397.6	η UP, DN (C0-180)	0.0, 65.7
NOMINAL FLUX (lm)	1082.75	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 63.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	229.9	η down (%)	129.1	CIBSE SHR MAX	0.65



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-07

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	2470	2326	2260	2257	2359	2235	2232	2308	0- 5	56.59	56.59	4.05,5.23
10	2282	2086	2037	1943	2045	1899	1981	2055	5- 10	154.1	210.7	15.1,19.5
15	1915	1753	1814	1565	1599	1505	1729	1714	10- 15	219.0	429.7	30.7,39.7
20	1425	1362	1405	1164	1075	1095	1347	1323	15- 20	240.9	670.6	48,61.9
25	904.1	960.2	995.0	803.1	680.8	742.3	963.8	937.6	20- 25	219.9	890.5	63.7,82.2
30	620.5	651.9	585.4	539.7	549.6	488.8	581.1	632.6	25- 30	182.7	1073	76.8,99.1
35	512.2	430.1	401.0	327.4	331.8	272.9	397.4	406.3	30- 35	146.4	1220	87.3,113
40	216.6	224.7	216.7	118.3	59.28	73.38	213.7	195.8	35- 40	97.22	1317	94.2,122
45	38.92	91.49	32.40	40.20	26.71	33.69	29.92	75.74	40- 45	42.85	1360	97.3,126
50	24.23	30.55	25.11	21.96	19.21	20.05	23.30	29.33	45- 50	14.30	1374	98.3,127
55	17.23	16.52	17.82	14.20	13.25	13.42	16.68	16.78	50- 55	8.317	1382	98.9,128
60	11.63	11.69	10.53	9.898	8.679	9.295	10.05	11.90	55- 60	6.036	1388	99.3,128
65	7.426	7.472	7.982	6.281	5.267	5.645	7.462	7.537	60- 65	4.115	1392	99.6,129
70	4.384	4.357	5.438	3.627	3.280	3.104	4.874	4.372	65- 70	2.768	1395	99.8,129
75	2.894	2.352	2.893	1.765	1.777	1.447	2.285	2.304	70- 75	1.729	1397	99.9,129
80	0.3701	0.5699	0	0.2104	0.0779	0.0777	0	0.4081	75- 80	0.7044	1398	100,129
85	0.0172	0	0	0	0.0136	0	0	0	80- 85	0.0498	1398	100,129
90	0	0	0	0	0	0	0	0	85- 90	0.0009	1398	100,129
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			

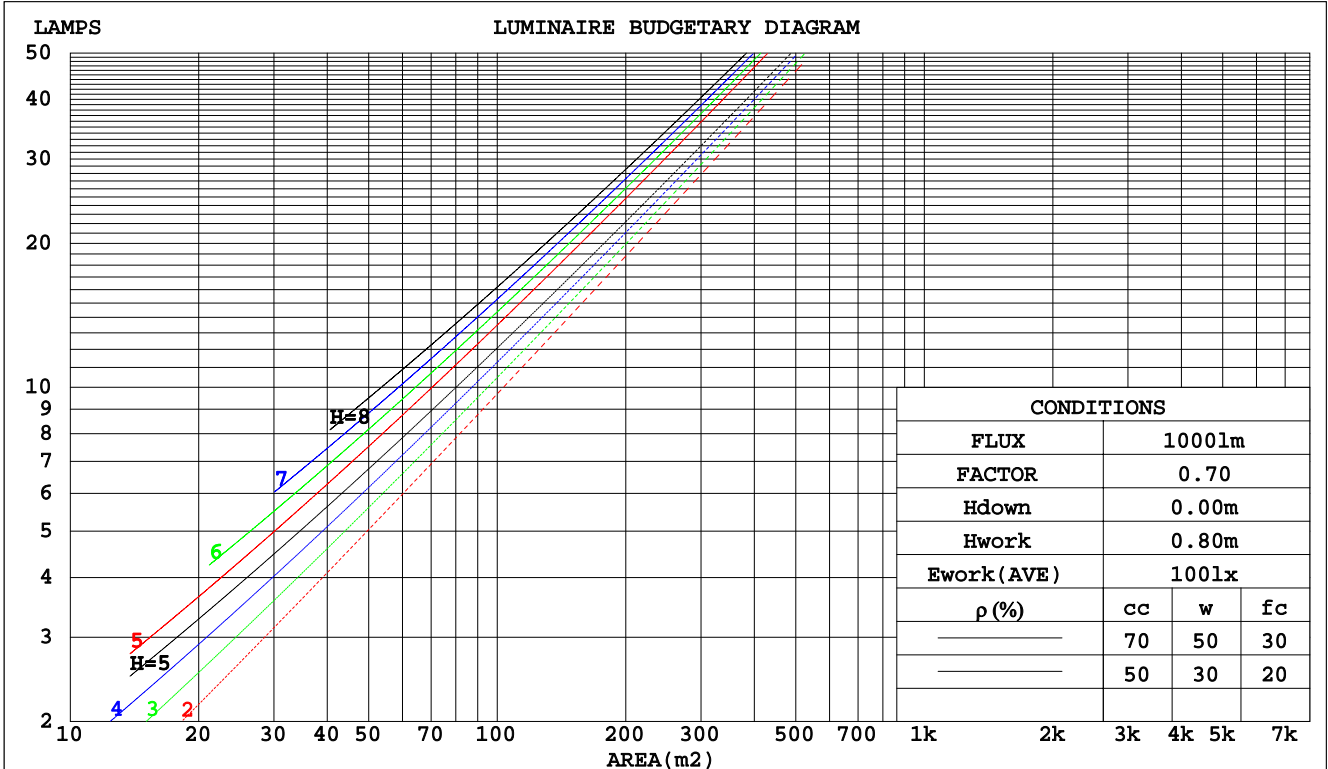
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-3000k-40D	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																
pfc																
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.54	1.54	1.54	1.50	1.50	1.50	1.43	1.43	1.43	1.37	1.37	1.37	1.32	1.32	1.32	1.29
1.0	1.44	1.40	1.38	1.41	1.38	1.36	1.36	1.33	1.31	1.31	1.29	1.27	1.26	1.25	1.24	1.22
2.0	1.34	1.29	1.25	1.32	1.28	1.24	1.28	1.24	1.21	1.24	1.21	1.19	1.21	1.18	1.16	1.14
3.0	1.26	1.20	1.15	1.24	1.19	1.14	1.21	1.16	1.12	1.18	1.14	1.11	1.15	1.12	1.09	1.07
4.0	1.18	1.12	1.07	1.17	1.11	1.06	1.14	1.09	1.05	1.12	1.07	1.04	1.09	1.06	1.02	1.00
5.0	1.12	1.05	.99	1.10	1.04	.99	1.08	1.02	.98	1.06	1.01	.97	1.04	.99	.96	.95
6.0	1.05	.98	.93	1.04	.98	.93	1.03	.97	.92	1.01	.96	.92	.99	.95	.91	.89
7.0	.99	.93	.88	.99	.92	.87	.97	.91	.87	.96	.90	.86	.95	.90	.86	.84
8.0	.95	.88	.83	.94	.87	.82	.93	.86	.82	.91	.86	.82	.90	.85	.81	.80
9.0	.90	.83	.78	.89	.83	.78	.88	.82	.78	.87	.82	.78	.86	.81	.77	.76
10.0	.86	.79	.74	.85	.79	.74	.84	.78	.74	.83	.78	.74	.82	.77	.73	.72



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-07

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 Surface-20W-3000k-40D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.219	.124	.039	.210	.120	.038	.194	.111	.036	.179	.103	.033	.165	.096	.031	
2.0	.209	.114	.035	.201	.111	.034	.188	.104	.032	.175	.098	.031	.164	.093	.029	
3.0	.198	.105	.032	.192	.103	.031	.180	.098	.030	.170	.093	.029	.160	.089	.027	
4.0	.188	.098	.029	.183	.096	.028	.173	.092	.027	.164	.088	.027	.155	.084	.026	
5.0	.179	.091	.026	.175	.090	.026	.166	.086	.025	.158	.083	.025	.151	.080	.024	
6.0	.171	.086	.025	.167	.084	.024	.159	.082	.024	.152	.079	.023	.146	.077	.023	
7.0	.163	.081	.023	.160	.080	.023	.153	.077	.022	.147	.075	.022	.141	.073	.022	
8.0	.156	.076	.021	.153	.075	.021	.147	.074	.021	.142	.072	.021	.136	.070	.020	
9.0	.150	.072	.020	.147	.072	.020	.142	.070	.020	.137	.068	.020	.132	.067	.019	
10.0	.144	.069	.019	.141	.068	.019	.136	.067	.019	.132	.065	.019	.128	.064	.018	

ρ _{cc}	80%			70%			50%			30%			10%			0
ρ _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ _{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.246	.246	.246	.210	.210	.210	.143	.143	.143	.082	.082	.082	.026	.026	.026	
1.0	.220	.203	.188	.188	.174	.162	.129	.120	.112	.074	.069	.065	.024	.022	.021	
2.0	.200	.171	.147	.171	.147	.127	.117	.102	.089	.068	.059	.052	.022	.019	.017	
3.0	.183	.147	.117	.157	.126	.102	.108	.088	.071	.062	.051	.042	.020	.017	.014	
4.0	.170	.127	.095	.146	.110	.083	.100	.077	.058	.058	.045	.034	.019	.015	.011	
5.0	.158	.112	.078	.136	.097	.068	.093	.068	.048	.054	.040	.029	.017	.013	.009	
6.0	.148	.100	.066	.127	.087	.057	.088	.061	.040	.051	.036	.024	.016	.012	.008	
7.0	.140	.090	.056	.120	.078	.048	.083	.055	.034	.048	.032	.020	.016	.011	.007	
8.0	.132	.082	.048	.114	.071	.042	.079	.050	.029	.046	.029	.018	.015	.010	.006	
9.0	.125	.075	.041	.108	.065	.036	.075	.046	.026	.044	.027	.015	.014	.009	.005	
10.0	.119	.070	.036	.103	.060	.032	.071	.042	.022	.042	.025	.013	.014	.008	.004	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DOBAC
 Test Date:2017-11-07

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 Surface-20W-3000k-40D					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	23.3	23.4	22.9	23.8	23.1	24.0	24.1				
3H	22.1	22.9	22.4	23.1	23.3	22.8	23.6	23.0	23.8	24.0				
4H	22.0	22.8	22.3	23.0	23.2	22.7	23.5	23.0	23.7	23.9				
6H	22.0	22.7	22.2	22.9	23.2	22.6	23.4	22.9	23.6	23.8				
8H	21.9	22.6	22.2	22.9	23.1	22.6	23.3	22.9	23.5	23.8				
12H	21.9	22.5	22.2	22.8	23.1	22.5	23.2	22.9	23.5	23.7				
4H 2H	22.0	22.8	22.3	23.0	23.2	22.7	23.5	23.0	23.7	23.9				
3H	21.9	22.6	22.2	22.8	23.1	22.6	23.2	22.9	23.5	23.8				
4H	21.8	22.4	22.2	22.7	23.0	22.5	23.1	22.8	23.4	23.7				
6H	21.7	22.3	22.1	22.6	22.9	22.4	22.9	22.8	23.3	23.6				
8H	21.7	22.2	22.1	22.5	22.9	22.4	22.9	22.7	23.2	23.6				
12H	21.6	22.1	22.0	22.5	22.8	22.3	22.8	22.7	23.1	23.5				
8H 4H	21.7	22.2	22.1	22.5	22.9	22.4	22.9	22.8	23.2	23.6				
6H	21.6	22.0	22.0	22.4	22.8	22.3	22.7	22.7	23.1	23.5				
8H	21.5	21.9	22.0	22.3	22.8	22.2	22.6	22.7	23.0	23.4				
12H	21.5	21.8	22.0	22.2	22.7	22.2	22.5	22.6	22.9	23.4				
12H 4H	21.6	22.1	22.0	22.5	22.8	22.3	22.8	22.7	23.1	23.5				
6H	21.5	21.9	22.0	22.3	22.8	22.2	22.6	22.7	23.0	23.4				
8H	21.5	21.8	22.0	22.2	22.7	22.2	22.5	22.6	22.9	23.4				
Variations with the observer position at spacings:														
S = 1.0H	+ 4.0 / - 9.5					+ 2.5 / - 9.5								
1.5H	+ 6.6 / - 8.1					+ 4.9 / - 8.1								
2.0H	+ 2.6 / - 1.9					+ 2.0 / - 2.1								

CIE Pub.117 Corrected 1083 lm Total Lamp Luminous Flux. (8log(F/F0) = 0.3)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-07

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 Surface-20W-3000k-40D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

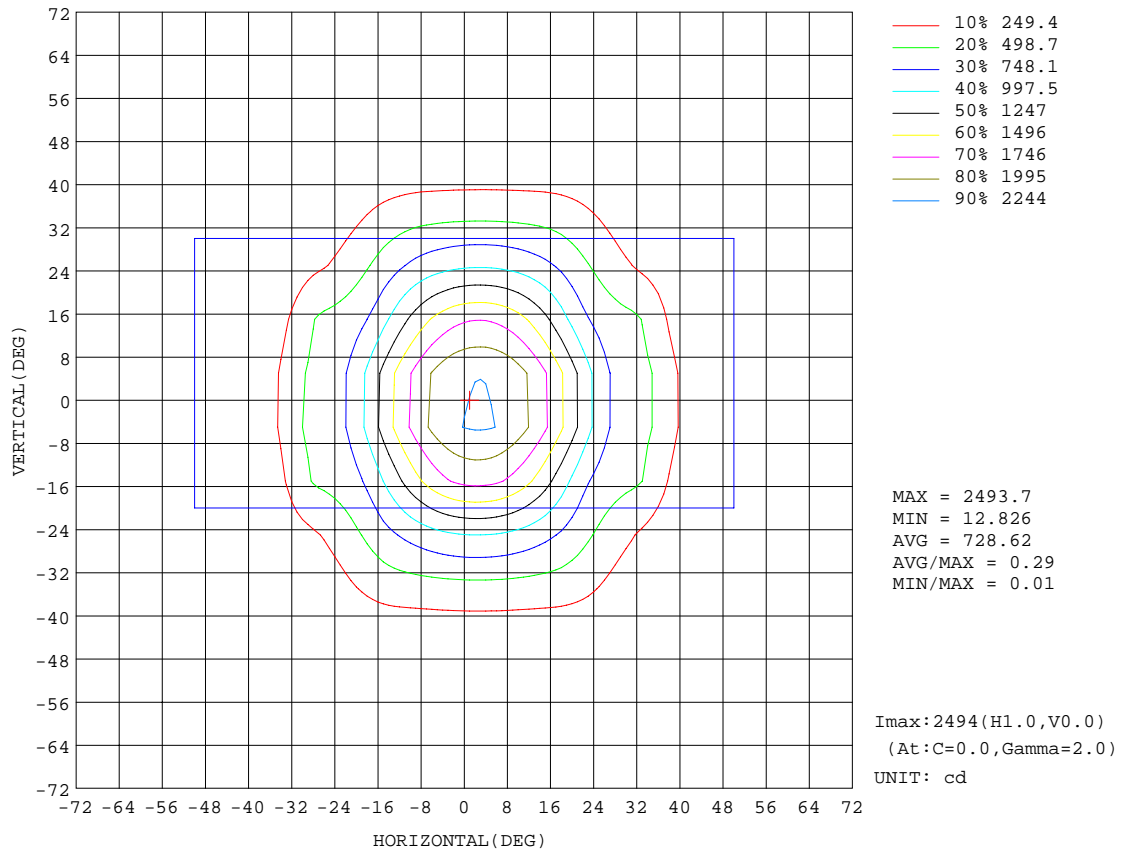
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	114	105	101	113	105	101	112	105	100	96
0.80	123	116	111	122	115	111	121	114	110	106
1.00	129	122	117	128	121	117	126	121	116	111
1.25	134	127	123	132	126	122	130	125	121	116
1.50	137	131	127	136	130	126	133	128	125	119
2.00	140	135	131	139	134	130	135	131	128	122
2.50	143	138	134	141	136	133	137	133	130	123
3.00	145	140	137	142	138	135	138	135	133	124
4.00	147	144	141	144	142	139	140	137	136	126
5.00	149	146	144	146	144	141	141	139	137	128
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: 2017-11-07

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 Surface-20W-3000k-40D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

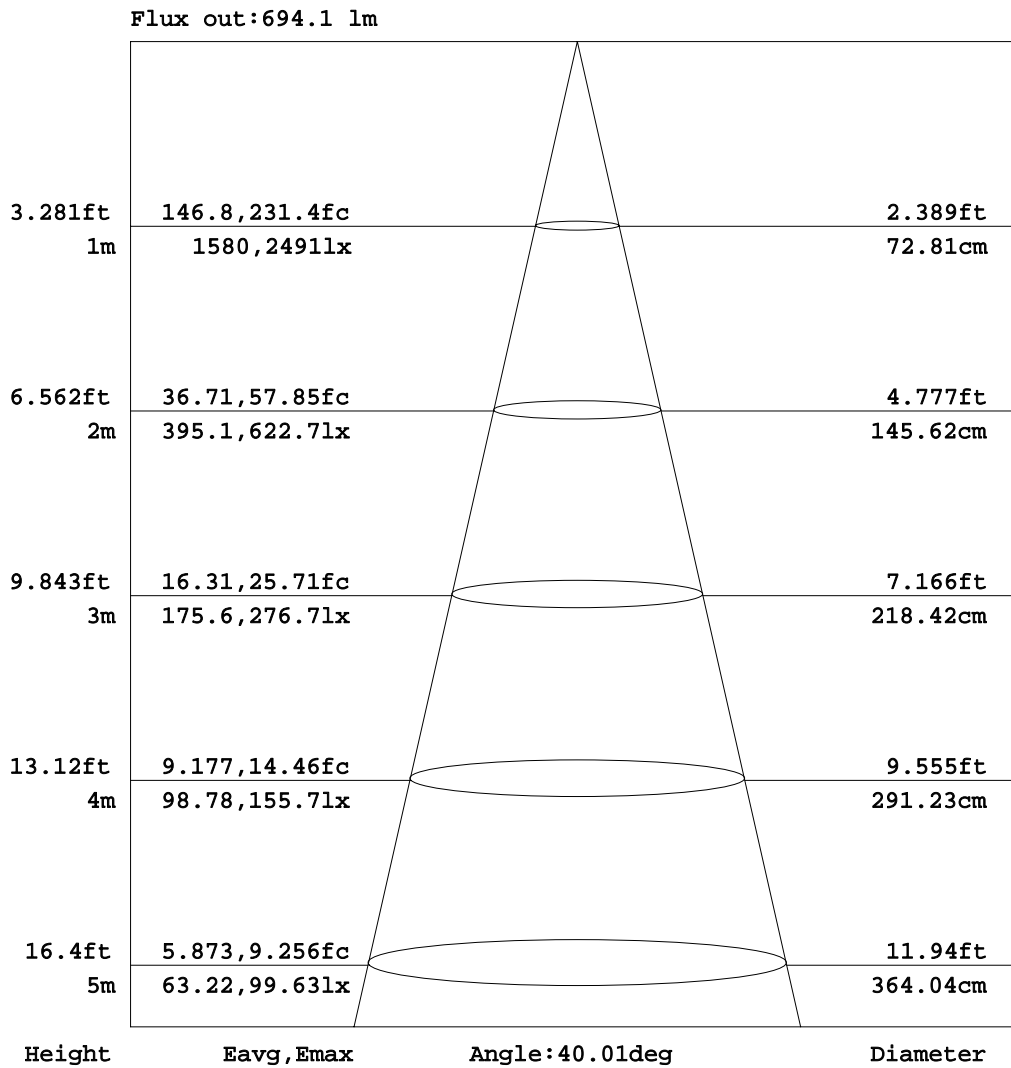


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-07

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 Surface-20W-3000k-40D	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



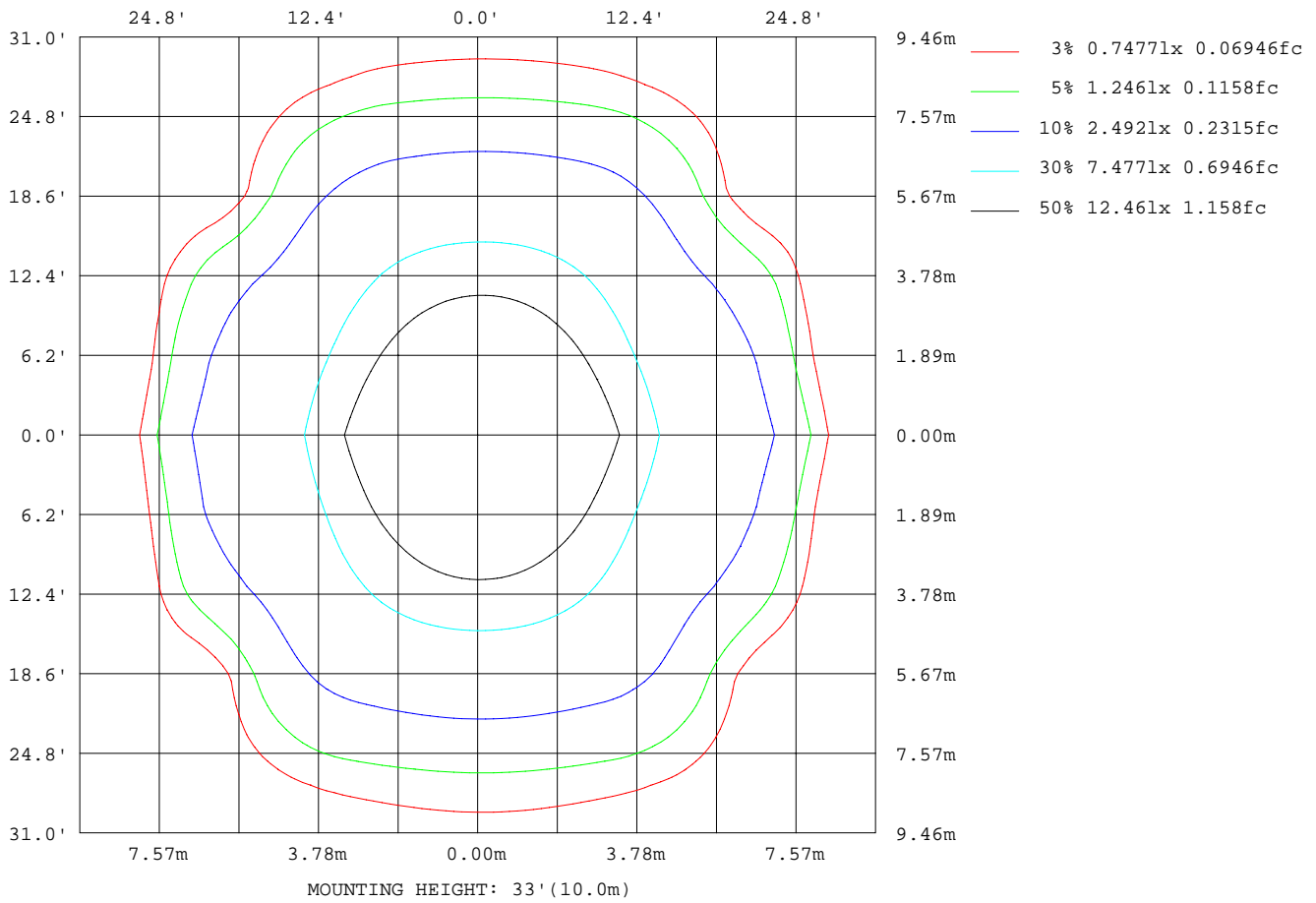
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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 Surface-20W-3000k-40D	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: 2017-11-07

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 Surface-20W-3000k-40D	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	1082.75	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	14303	13900	13904	14022	14042	13901	14207	14453	14736	14793	13881	13623	12828	12227	11765	11531	11258	11270	11004
60	11079	10844	10905	10873	10938	11302	11132	10768	10391	10026	9972	10058	9947	9665	9189	8811	8601	8512	8265
65	8367	8005	8194	8209	8468	8143	8284	8800	9063	8994	8713	8115	7375	6989	7099	6605	6361	6092	5934
70	6103	5954	5984	6497	5961	6379	7022	7594	7671	7571	7375	6790	6258	5227	5046	5324	4831	4743	4567
75	5325	5144	4940	5216	4177	4610	5266	5749	5490	5324	5307	4765	4616	3220	3448	4309	3094	3183	3270
80	1015	1000	2448	2655	1119	1791	1676	929	238	0	230	751	1437	705	605	1831	415	235	214
85	94	164	236	0	0	0	0	0	0	0	0	0	0	0	0	0	74	72	74

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	14793	200	---	500
Category 2	65 to 90	9063	200	---	500
Category 3	75 to 90	5749	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:2017-11-07

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 Surface-20W-3000k-40D	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	1082.75	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	14303	13900	13904	14022	14042	13901	14207	14453	14736	14793	13881	13623	12828	12227	11765	11531	11258	11270	11004
60	11079	10844	10905	10873	10938	11302	11132	10768	10391	10026	9972	10058	9947	9665	9189	8811	8601	8512	8265
65	8367	8005	8194	8209	8468	8143	8284	8800	9063	8994	8713	8115	7375	6989	7099	6605	6361	6092	5934
70	6103	5954	5984	6497	5961	6379	7022	7594	7671	7571	7375	6790	6258	5227	5046	5324	4831	4743	4567
75	5325	5144	4940	5216	4177	4610	5266	5749	5490	5324	5307	4765	4616	3220	3448	4309	3094	3183	3270
80	1015	1000	2448	2655	1119	1791	1676	929	238	0	230	751	1437	705	605	1831	415	235	214
85	94	164	236	0	0	0	0	0	0	0	0	0	0	0	0	0	74	72	74

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	14793	1000	1500	200	500
65 to 90	9063	1000	1500	200	500

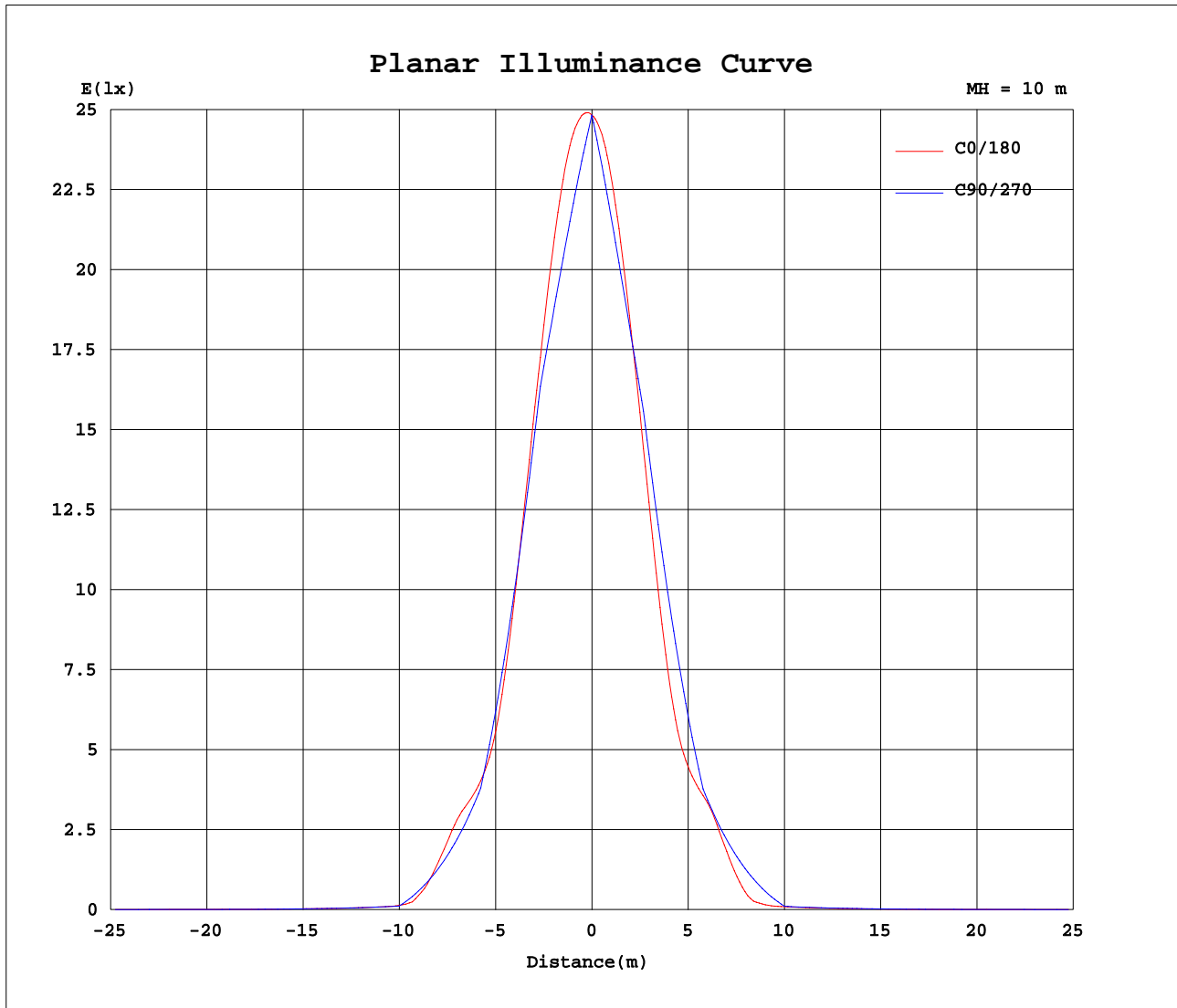
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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: 2017-11-07

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 Surface-20W-3000k-40D	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	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483
5	2470	2450	2431	2413	2395	2379	2364	2351	2338	2326	2316	2306	2297	2289	2282	2276	2270	2265	2260
10	2282	2243	2209	2179	2154	2134	2117	2104	2094	2086	2079	2074	2071	2065	2060	2055	2050	2045	2037
15	1915	1862	1818	1785	1762	1747	1740	1739	1744	1753	1766	1780	1794	1806	1817	1822	1823	1822	1814
20	1425	1368	1327	1300	1285	1281	1288	1304	1329	1362	1391	1409	1423	1430	1431	1429	1421	1413	1405
25	904	872	854	844	840	842	850	871	915	960	997	1023	1035	1039	1034	1025	1014	1003	995
30	620	609	604	602	604	607	597	594	615	652	692	716	715	696	669	639	612	594	585
35	512	479	460	459	481	476	430	402	403	430	467	489	483	460	439	424	413	405	401
40	217	189	180	187	212	228	222	199	191	225	278	305	306	288	263	243	230	221	217
45	38.9	37.0	36.3	37.2	41.9	54.3	66.3	40.7	49.2	91.5	129	147	142	118	89.0	64.5	47.3	36.5	32.4
50	24.2	23.6	23.6	23.8	23.7	23.7	23.9	24.2	25.7	30.6	42.2	33.4	23.3	23.6	23.6	23.8	24.7	25.3	25.1
55	17.2	16.7	16.7	16.6	16.7	17.0	16.9	16.9	16.9	16.5	16.7	17.0	17.1	17.5	17.4	17.3	17.7	18.0	17.8
60	11.6	11.3	11.4	11.3	11.5	11.4	11.4	11.2	11.5	11.7	11.9	11.8	11.7	11.6	11.3	11.1	10.9	10.7	10.5
65	7.43	7.15	7.10	7.25	7.27	7.20	7.29	7.46	7.52	7.47	7.23	7.09	7.35	7.64	7.81	7.98	8.04	8.03	7.98
70	4.38	4.28	4.28	4.33	4.30	4.50	4.67	4.53	4.28	4.36	4.58	4.93	5.04	5.31	5.45	5.50	5.51	5.46	5.44
75	2.89	2.84	2.80	2.93	2.68	3.02	2.84	2.43	2.27	2.35	2.51	2.84	2.86	3.03	3.12	3.06	2.98	2.91	2.89
80	0.37	0.39	0.36	0.71	0.89	1.15	0.97	0.64	0.41	0.57	0.65	0.74	0.61	0.48	0.34	0.20	0.09	0.02	0.00
85	0.02	0.02	0.03	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
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:2017-11-07

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 Surface-20W-3000k-40D	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	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483
5	2257	2254	2252	2251	2251	2251	2252	2254	2257	2262	2268	2275	2284	2295	2309	2324	2341	2359	2338
10	2030	2021	2011	2000	1988	1976	1963	1952	1943	1936	1933	1932	1937	1947	1962	1984	2012	2045	2007
15	1801	1783	1759	1732	1699	1664	1628	1594	1565	1538	1517	1503	1497	1499	1508	1528	1557	1599	1551
20	1394	1382	1366	1346	1319	1288	1253	1210	1164	1122	1084	1052	1031	1019	1016	1023	1042	1075	1038
25	989	984	978	968	953	930	896	855	803	757	727	706	691	679	670	668	670	681	669
30	588	600	618	638	652	650	625	581	540	516	516	541	556	549	538	534	538	550	531
35	400	404	412	425	441	440	413	369	327	313	333	362	380	358	324	306	309	332	303
40	217	223	236	254	268	263	236	183	118	109	142	147	121	92.9	70.7	62.6	58.5	59.3	57.4
45	35.0	44.7	61.8	85.2	107	115	103	71.4	40.2	31.3	28.4	35.9	30.6	27.3	27.0	26.3	26.2	26.7	26.0
50	24.2	23.1	22.6	22.5	22.0	20.8	26.0	25.1	22.0	20.2	19.9	19.6	19.5	19.3	19.5	19.1	18.9	19.2	18.8
55	17.3	16.7	16.5	16.4	15.9	15.5	15.1	14.7	14.2	14.2	14.1	13.9	13.8	13.6	13.5	13.6	13.2	13.3	13.0
60	10.5	10.5	10.4	10.6	10.5	10.4	10.3	10.1	9.90	9.65	9.25	9.25	9.15	9.03	8.88	8.94	8.65	8.68	8.49
65	7.89	7.73	7.44	7.20	6.85	6.55	6.07	6.20	6.28	6.30	6.19	5.86	5.66	5.65	5.50	5.41	5.31	5.27	5.19
70	5.37	5.30	5.13	4.88	4.66	4.50	4.14	3.75	3.63	3.62	3.86	3.82	3.51	3.47	3.43	3.41	3.37	3.28	3.30
75	2.86	2.88	2.84	2.59	2.56	2.51	2.22	1.75	1.76	1.87	2.14	2.34	1.99	1.68	1.93	1.73	1.80	1.78	1.62
80	0.02	0.08	0.18	0.27	0.40	0.52	0.50	0.26	0.21	0.22	0.48	0.67	0.56	0.15	0.19	0.09	0.09	0.08	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	0.01	0.01	0.02	0.01	0.00	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:2017-11-07

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 Surface-20W-3000k-40D	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	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483
5	2318	2300	2285	2271	2259	2250	2242	2235	2231	2227	2224	2223	2223	2224	2226	2228	2232	2236	2242
10	1974	1948	1927	1912	1903	1898	1897	1899	1904	1911	1922	1931	1942	1952	1962	1972	1981	1989	1996
15	1515	1490	1474	1466	1466	1472	1486	1505	1528	1555	1585	1614	1642	1669	1693	1713	1729	1739	1746
20	1014	1001	997	1000	1010	1033	1061	1095	1137	1179	1216	1249	1276	1298	1317	1333	1347	1357	1368
25	666	667	674	682	689	696	709	742	790	836	877	908	929	940	948	956	964	974	986
30	522	526	540	553	533	496	480	489	519	561	598	618	623	611	595	584	581	590	609
35	292	299	318	337	335	310	278	273	298	340	382	405	412	410	401	397	397	402	411
40	60.0	62.4	66.1	104	129	123	92.0	73.4	129	181	220	238	240	233	222	215	214	218	228
45	26.2	26.9	26.6	28.6	31.4	28.1	27.4	33.7	47.4	76.5	93.5	93.0	79.8	61.1	44.1	33.4	29.9	34.1	46.0
50	19.0	19.2	19.0	19.3	19.3	19.4	19.9	20.1	22.1	22.8	20.3	20.7	21.8	22.4	22.7	23.0	23.3	23.6	23.9
55	13.3	13.2	13.2	13.2	13.4	13.5	13.5	13.4	14.0	14.5	14.9	15.1	15.6	16.1	16.3	16.5	16.7	16.9	17.2
60	8.68	8.55	8.62	8.68	8.73	8.69	9.02	9.29	9.52	9.67	9.73	9.81	9.77	9.92	9.90	9.90	10.1	10.3	10.6
65	5.21	5.12	5.26	5.25	5.35	5.66	5.74	5.64	5.50	5.44	5.70	6.19	6.47	6.86	7.08	7.25	7.46	7.60	7.67
70	3.28	3.24	3.28	3.13	3.36	3.40	3.12	3.10	3.19	3.31	3.53	3.99	4.25	4.46	4.58	4.69	4.87	5.01	5.10
75	1.54	1.65	1.49	1.27	1.67	1.80	1.61	1.45	1.38	1.32	1.39	1.83	2.06	2.10	2.10	2.13	2.29	2.42	2.54
80	0.05	0.10	0.07	0.18	0.51	0.38	0.12	0.08	0.12	0.14	0.16	0.24	0.21	0.13	0.06	0.02	0.00	0.02	0.07
85	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	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:2017-11-07

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 Surface-20W-3000k-40D	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	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483	2483				
5	2249	2256	2265	2274	2285	2296	2308	2322	2336	2352	2369	2387	2406	2427	2448				
10	2004	2012	2019	2028	2035	2044	2055	2066	2080	2096	2117	2140	2169	2202	2240				
15	1749	1748	1744	1737	1729	1721	1714	1710	1711	1717	1728	1748	1775	1812	1858				
20	1376	1381	1382	1376	1363	1346	1323	1300	1281	1271	1267	1275	1294	1323	1366				
25	998	1009	1014	1011	1000	974	938	896	858	845	841	840	844	854	872				
30	635	665	692	707	700	671	633	602	588	598	611	606	604	605	610				
35	425	442	463	474	465	439	406	385	389	425	471	478	459	460	479				
40	244	265	286	293	283	252	196	168	189	221	226	198	177	176	189				
45	64.9	90.1	116	134	136	114	75.7	45.6	39.6	63.0	53.3	41.9	37.5	36.6	37.1				
50	24.1	24.3	24.5	23.4	32.5	37.8	29.3	25.4	24.4	24.1	24.0	23.9	24.1	23.8	23.7				
55	17.5	17.7	17.9	17.4	17.3	17.1	16.8	17.2	17.1	17.1	17.1	16.9	16.8	16.9	16.7				
60	10.9	11.3	11.6	11.7	11.9	12.0	11.9	11.7	11.4	11.6	11.6	11.6	11.4	11.5	11.4				
65	7.65	7.63	7.54	7.26	7.11	7.25	7.54	7.61	7.56	7.40	7.32	7.39	7.40	7.19	7.20				
70	5.10	5.08	5.05	4.98	4.88	4.66	4.37	4.30	4.55	4.66	4.52	4.36	4.39	4.33	4.30				
75	2.55	2.55	2.65	2.73	2.76	2.64	2.30	2.24	2.41	2.70	2.90	2.64	2.84	2.81	2.84				
80	0.16	0.26	0.41	0.57	0.72	0.73	0.41	0.36	0.62	0.91	1.14	1.02	0.72	0.44	0.49				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.05	0.03	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				

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-07

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: