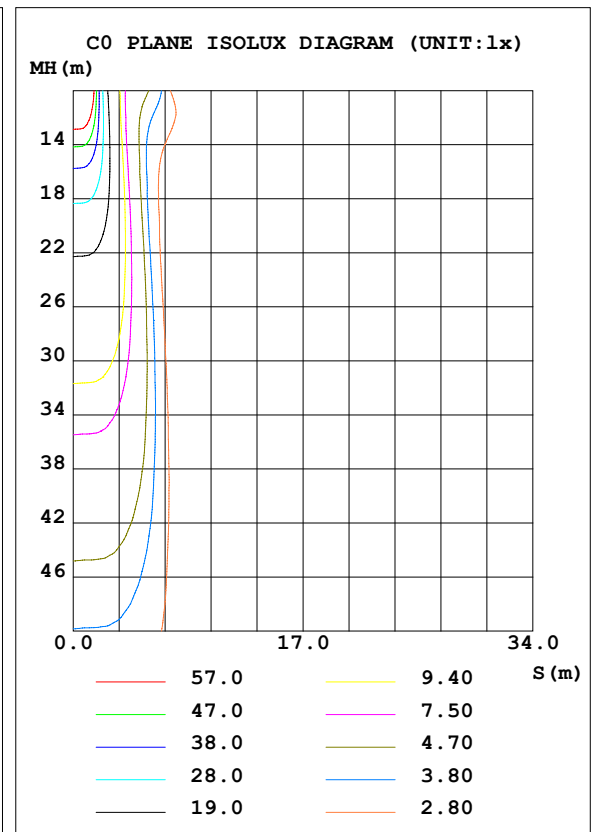
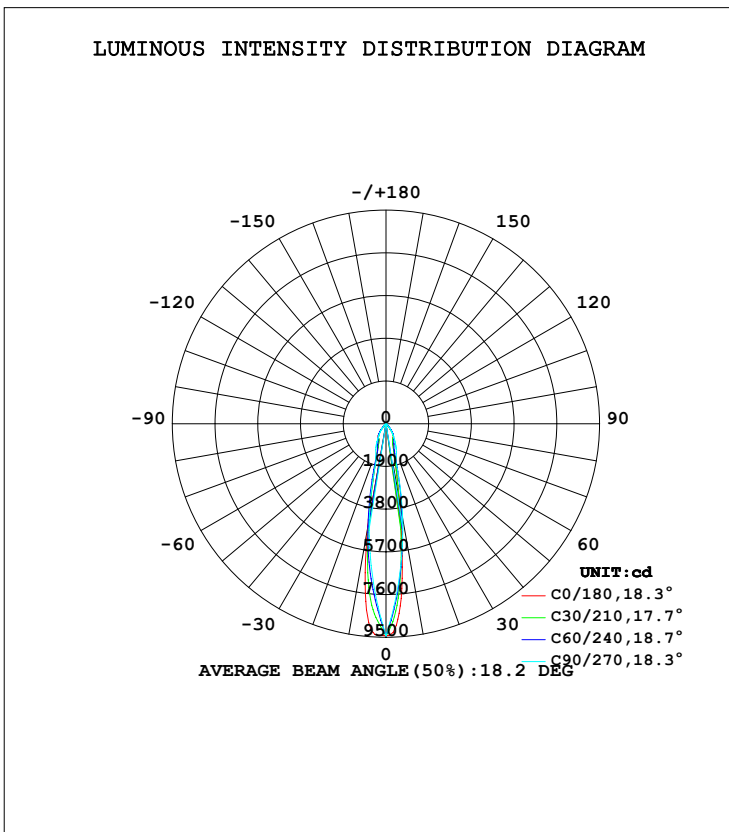


LUMINAIRE PHOTOMETRIC TEST REPORT

NAME: Juvenis DC-20W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 95.47 lm/W			
MODEL	Juvenis DC-20W-15D-3000K-90	I _{max} (cd)	9437	S/MH (C0/180)	0.33
NOMINAL POWER (W)	20	LOR (%)	100.0	S/MH (C90/270)	0.31
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1919.0	η UP, DN (C0-180)	0.0, 49.9
NOMINAL FLUX (lm)	1918.96	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	219.7	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: 2017-11-01

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	8873	7490	6853	7004	7801	7007	6853	7492	0- 5	194.8	194.8	10.1,10.1
10	4731	4618	4269	3709	3385	3715	4270	4638	5- 10	398.9	593.6	30.9,30.9
15	1860	2027	1685	1637	1442	1644	1686	2063	10- 15	324.5	918.2	47.8,47.8
20	1012	984.9	1350	917.7	883.0	925.8	1353	1019	15- 20	213.8	1132	59.59
25	768.1	764.3	1014	732.1	732.4	744.1	1020	788.8	20- 25	193.0	1325	69.69
30	696.6	623.9	679.1	588.3	667.1	603.6	687.5	647.3	25- 30	188.1	1513	78.8,78.8
35	568.0	454.0	473.8	405.0	460.1	420.7	480.1	482.4	30- 35	172.9	1686	87.9,87.9
40	232.4	239.0	268.5	182.8	139.4	193.7	272.8	267.5	35- 40	122.4	1808	94.2,94.2
45	67.10	98.72	63.17	64.32	66.23	69.29	65.39	112.7	40- 45	59.93	1868	97.4,97.4
50	50.91	33.02	43.48	27.05	34.55	29.40	45.23	34.70	45- 50	26.66	1895	98.7,98.7
55	9.002	8.924	23.79	7.454	6.457	7.247	25.07	9.870	50- 55	12.89	1908	99.4,99.4
60	4.931	5.272	4.106	4.789	4.173	5.027	4.904	5.962	55- 60	5.495	1913	99.7,99.7
65	3.676	3.531	3.335	3.314	3.201	3.724	4.036	4.147	60- 65	2.224	1916	99.8,99.8
70	2.838	2.426	2.564	2.249	2.502	2.589	3.167	3.014	65- 70	1.584	1917	99.9,99.9
75	2.105	1.328	1.793	1.156	1.761	1.326	2.299	1.851	70- 75	1.204	1918	100,100
80	0.2369	0.3161	0	0.1769	0.1381	0.2028	0	0.5905	75- 80	0.5995	1919	100,100
85	0.0116	0	0	0	0.0389	0	0	0	80- 85	0.0490	1919	100,100
90	0.0116	0	0	0	0.0072	0	0	0	85- 90	0.0021	1919	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			

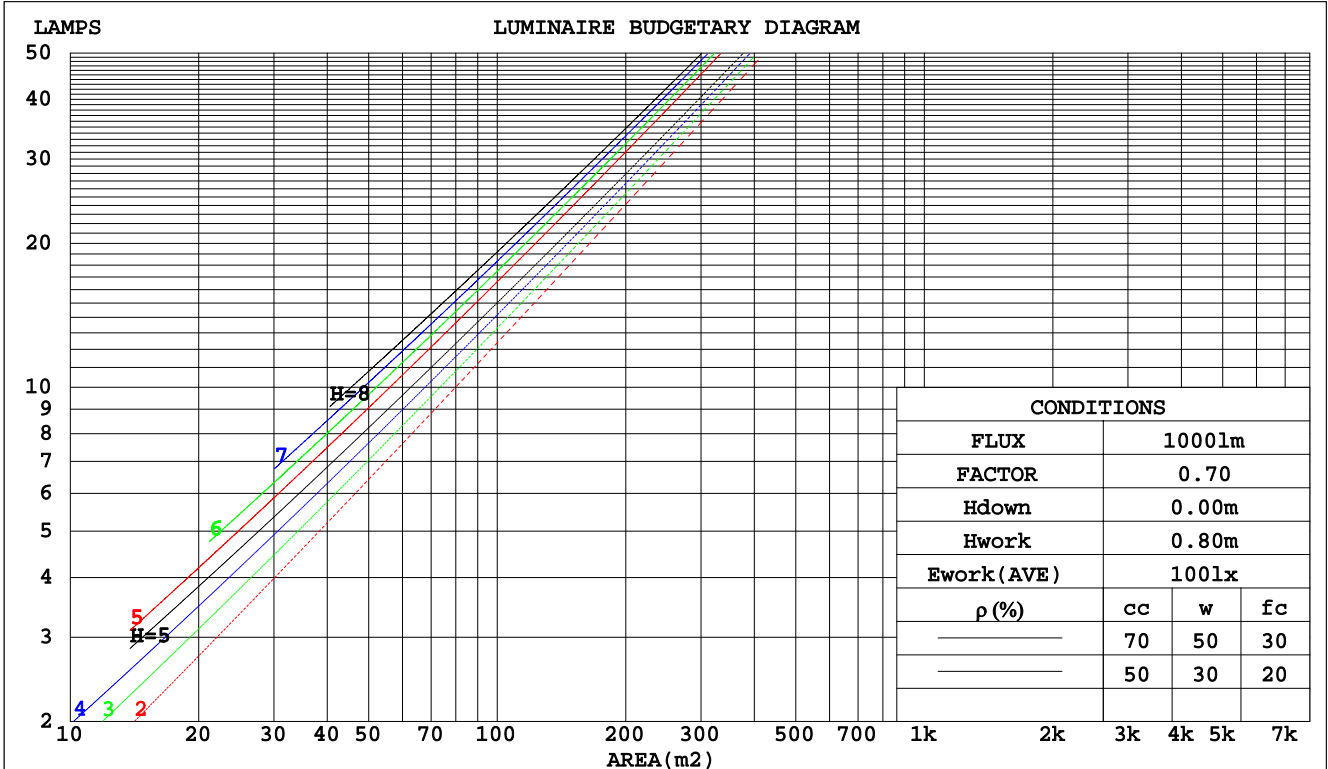
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DOBAC
 Test Date:2017-11-01

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-20W-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	1.06	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.93	.92	.90
3.0	.00	.96	.92	.98	.95	.92	.96	.93	.90	.94	.91	.89	.91	.89	.87	.86
4.0	.95	.90	.87	.94	.89	.86	.92	.88	.85	.90	.87	.84	.88	.85	.83	.82
5.0	.90	.85	.82	.89	.85	.81	.88	.84	.81	.86	.83	.80	.85	.82	.79	.78
6.0	.86	.81	.78	.85	.81	.77	.84	.80	.77	.83	.79	.76	.81	.78	.76	.75
7.0	.82	.77	.74	.82	.77	.74	.81	.76	.73	.80	.76	.73	.79	.75	.73	.71
8.0	.79	.74	.71	.79	.74	.71	.78	.73	.70	.77	.73	.70	.76	.72	.70	.69
9.0	.76	.71	.68	.76	.71	.68	.75	.71	.68	.74	.70	.67	.73	.70	.67	.66
10.0	.73	.69	.65	.73	.68	.65	.72	.68	.65	.71	.68	.65	.71	.67	.65	.64



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-01

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-20W-15D-3000K-90	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	.155	.088	.028	.149	.085	.027	.136	.078	.025	.125	.072	.023	.114	.066	.021	
2.0	.147	.081	.025	.141	.078	.024	.131	.073	.023	.121	.068	.021	.113	.064	.020	
3.0	.139	.074	.022	.134	.072	.022	.125	.068	.021	.117	.064	.020	.110	.061	.019	
4.0	.131	.068	.020	.127	.067	.020	.120	.064	.019	.113	.061	.018	.106	.058	.018	
5.0	.124	.063	.018	.121	.062	.018	.115	.060	.018	.109	.057	.017	.103	.055	.017	
6.0	.118	.059	.017	.115	.058	.017	.110	.056	.016	.104	.054	.016	.099	.052	.016	
7.0	.112	.056	.016	.110	.055	.016	.105	.053	.015	.100	.051	.015	.096	.050	.015	
8.0	.107	.052	.015	.105	.052	.015	.101	.050	.014	.096	.049	.014	.093	.048	.014	
9.0	.102	.050	.014	.100	.049	.014	.097	.048	.014	.093	.047	.013	.089	.045	.013	
10.0	.098	.047	.013	.096	.046	.013	.093	.045	.013	.089	.044	.013	.086	.043	.012	

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.170	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.081	.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	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.110	.077	.053	.094	.066	.046	.065	.047	.033	.038	.027	.019	.012	.009	.006	
7.0	.103	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.005	
8.0	.097	.062	.039	.083	.054	.034	.058	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.091	.057	.034	.079	.049	.029	.054	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.086	.052	.030	.074	.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:2017-11-01

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-20W-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				
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	18.8	19.6	19.0	19.7	19.9	19.8	20.6	20.0	20.7	20.9				
3H	18.6	19.4	18.9	19.6	19.7	19.6	20.4	19.9	20.6	20.7				
4H	18.6	19.2	18.8	19.5	19.7	19.6	20.2	19.8	20.5	20.7				
6H	18.5	19.1	18.8	19.4	19.6	19.5	20.1	19.8	20.4	20.6				
8H	18.4	19.1	18.7	19.3	19.6	19.4	20.0	19.7	20.3	20.6				
12H	18.4	19.0	18.7	19.2	19.5	19.4	20.0	19.7	20.2	20.5				
4H 2H	18.6	19.2	18.8	19.5	19.7	19.5	20.2	19.8	20.5	20.7				
3H	18.4	19.0	18.7	19.3	19.5	19.4	20.0	19.7	20.2	20.5				
4H	18.3	18.9	18.7	19.2	19.5	19.3	19.8	19.6	20.1	20.4				
6H	18.2	18.7	18.6	19.0	19.4	19.2	19.7	19.6	20.0	20.4				
8H	18.2	18.6	18.6	19.0	19.3	19.1	19.6	19.5	19.9	20.3				
12H	18.1	18.5	18.5	18.9	19.3	19.1	19.5	19.5	19.9	20.3				
8H 4H	18.2	18.6	18.6	19.0	19.3	19.1	19.6	19.5	19.9	20.3				
6H	18.1	18.4	18.5	18.8	19.2	19.0	19.4	19.5	19.8	20.2				
8H	18.0	18.3	18.4	18.7	19.2	19.0	19.3	19.4	19.7	20.2				
12H	17.9	18.2	18.4	18.7	19.1	18.9	19.2	19.4	19.6	20.1				
12H 4H	18.1	18.5	18.5	18.9	19.3	19.1	19.5	19.5	19.9	20.3				
6H	18.0	18.3	18.4	18.7	19.2	19.0	19.3	19.4	19.7	20.2				
8H	17.9	18.2	18.4	18.7	19.1	18.9	19.2	19.4	19.6	20.1				
Variations with the observer position at spacings:														
S = 1.0H	+ 4.0 / -14.3					+ 2.5 / -11.6								
1.5H	+ 6.3 / - 9.9					+ 4.9 / - 7.2								
2.0H	+ 5.4 / - 7.8					+ 4.1 / - 9.8								

CIE Pub.117 Corrected 1919 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.3)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

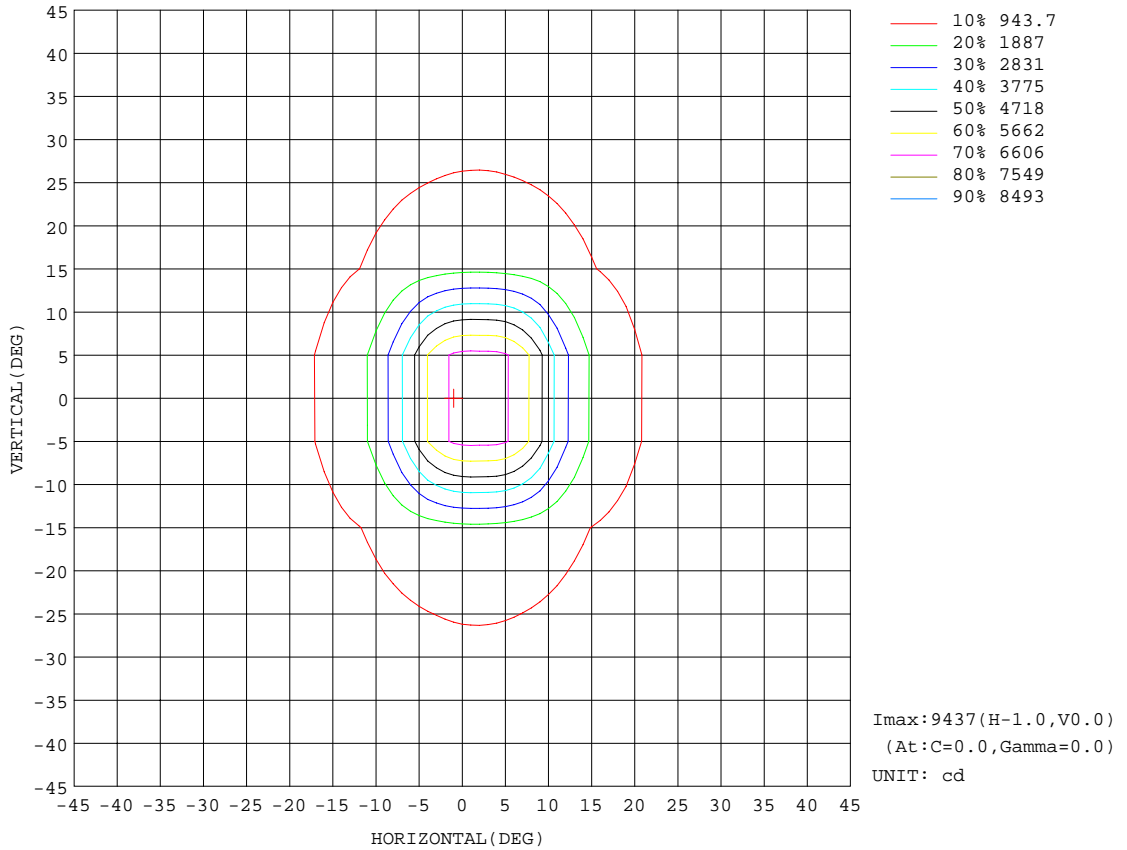
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	88	82	78	87	81	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	85	82
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	99	105	101	98	103	100	97	93
2.00	109	105	102	108	104	101	105	102	100	94
2.50	111	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				SHR NOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-01

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-20W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

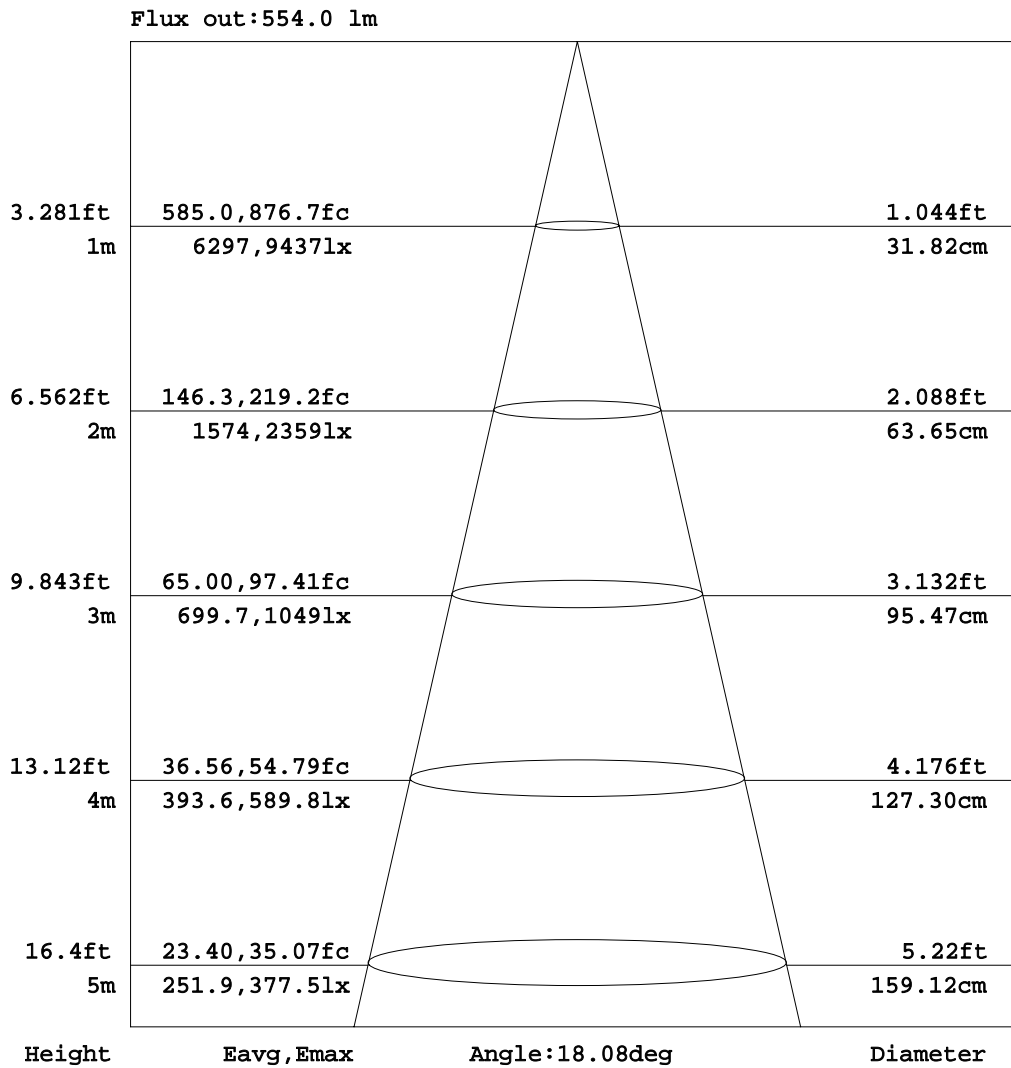


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-01

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-20W-15D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



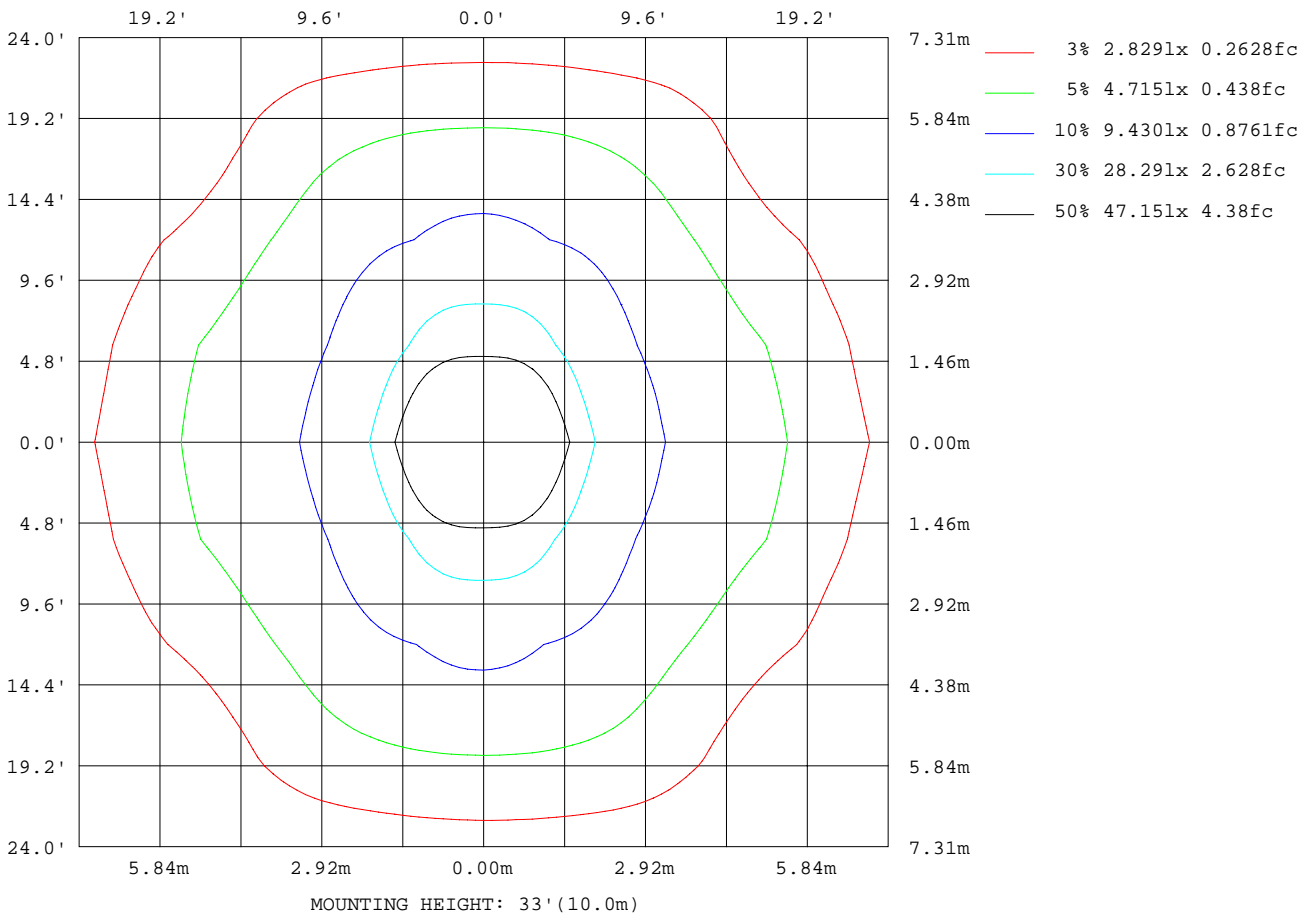
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-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: 2017-11-01

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-20W-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	1918.96	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0055	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	2854	2797	3910	5415	5123	5013	10176	10411	8381	7542	8087	9834	9158	3991	4514	3945	2883	2098	2047
60	1793	1720	1689	1906	1668	2643	5022	3847	2045	1493	2001	3647	4505	2229	1571	1652	1526	1525	1517
65	1582	1553	1525	1481	1491	1551	1392	1424	1440	1435	1409	1370	1334	1434	1409	1370	1380	1370	1377
70	1509	1480	1459	1441	1367	1305	1339	1375	1381	1363	1338	1302	1259	1170	1305	1331	1337	1331	1330
75	1479	1425	1341	1347	1025	1061	1261	1315	1298	1260	1237	1212	1151	819	942	1234	1065	1231	1237
80	248	254	394	737	336	489	475	229	57	0	55	210	424	226	228	639	197	141	145
85	24	98	172	0	0	0	0	0	0	0	0	0	0	0	0	0	93	72	81

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	10411	200	---	500
Category 2	65 to 90	1582	200	---	500
Category 3	75 to 90	1479	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:2017-11-01

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-20W-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	1918.96	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0055	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	2854	2797	3910	5415	5123	5013	10176	10411	8381	7542	8087	9834	9158	3991	4514	3945	2883	2098	2047
60	1793	1720	1689	1906	1668	2643	5022	3847	2045	1493	2001	3647	4505	2229	1571	1652	1526	1525	1517
65	1582	1553	1525	1481	1491	1551	1392	1424	1440	1435	1409	1370	1334	1434	1409	1370	1380	1370	1377
70	1509	1480	1459	1441	1367	1305	1339	1375	1381	1363	1338	1302	1259	1170	1305	1331	1337	1331	1330
75	1479	1425	1341	1347	1025	1061	1261	1315	1298	1260	1237	1212	1151	819	942	1234	1065	1231	1237
80	248	254	394	737	336	489	475	229	57	0	55	210	424	226	228	639	197	141	145
85	24	98	172	0	0	0	0	0	0	0	0	0	0	0	0	0	93	72	81

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	10411	1000	1500	200	500
65 to 90	1582	1000	1500	200	500

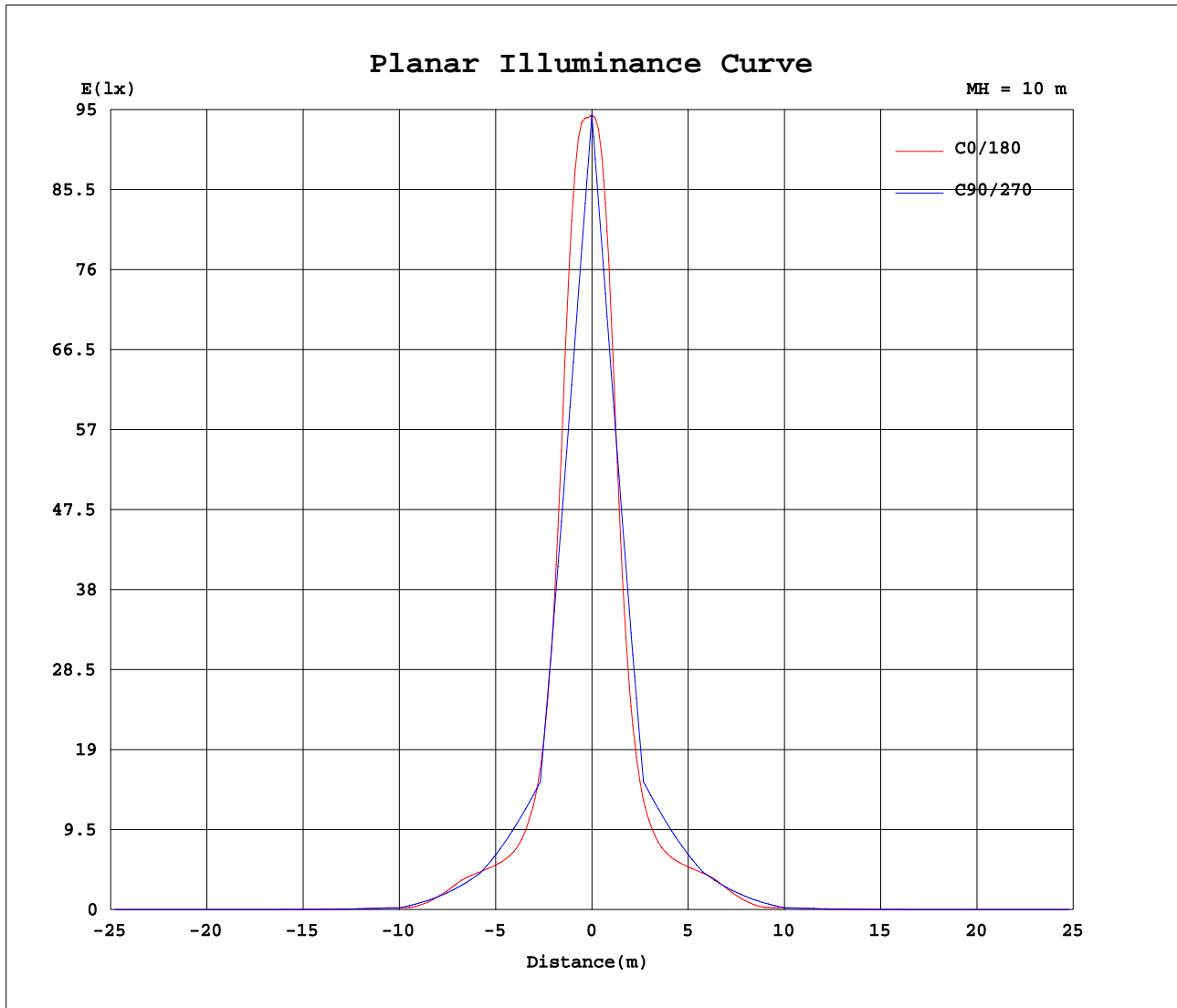
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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: 2017-11-01

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-20W-15D-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	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437
5	8873	8666	8473	8295	8133	7986	7855	7741	7616	7490	7380	7275	7165	7073	6991	6924	6879	6856	6853
10	4731	4555	4440	4376	4353	4361	4421	4501	4563	4618	4640	4645	4628	4572	4494	4409	4333	4282	4269
15	1860	1792	1757	1745	1748	1780	1819	1886	1955	2027	2088	2121	2107	2042	1949	1851	1768	1710	1685
20	1012	989	977	972	976	984	988	995	996	985	991	1039	1095	1154	1218	1280	1326	1349	1350
25	768	761	757	756	758	761	762	758	754	764	787	820	857	895	932	969	999	1015	1014
30	697	687	683	683	684	689	668	634	620	624	643	674	701	717	719	712	700	686	679
35	568	530	511	509	527	533	501	460	443	454	488	536	557	552	529	506	490	479	474
40	232	205	196	202	228	253	248	221	210	239	297	336	354	353	331	306	286	274	268
45	67.1	67.5	67.8	68.9	63.7	81.9	100	71.6	60.7	98.7	144	173	179	165	137	106	83.1	68.5	63.2
50	50.9	46.0	47.0	48.6	43.9	41.7	51.2	50.2	39.0	33.0	49.7	54.9	54.4	56.7	54.6	50.2	47.0	44.5	43.5
55	9.00	8.66	8.82	10.5	12.3	9.71	17.1	21.6	16.2	8.92	15.8	25.0	32.1	34.2	32.8	29.1	26.4	24.5	23.8
60	4.93	4.77	4.73	4.70	4.64	4.79	5.24	4.61	4.59	5.27	7.27	11.3	13.8	13.2	10.6	7.64	5.62	4.48	4.11
65	3.68	3.61	3.61	3.60	3.55	3.50	3.44	3.44	3.46	3.53	3.61	3.25	3.24	3.26	3.31	3.34	3.35	3.35	3.34
70	2.84	2.80	2.78	2.77	2.75	2.71	2.71	2.67	2.57	2.43	2.46	2.49	2.52	2.55	2.59	2.61	2.60	2.59	2.56
75	2.11	2.05	2.03	2.04	1.91	1.99	1.92	1.66	1.46	1.33	1.51	1.73	1.80	1.84	1.87	1.88	1.85	1.82	1.79
80	0.24	0.24	0.24	0.52	0.38	0.90	0.70	0.48	0.32	0.32	0.47	0.56	0.45	0.33	0.22	0.12	0.05	0.01	0.00
85	0.01	0.03	0.05	0.08	0.08	0.04	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	0.01	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	0.00

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-15D-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	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437
5	6851	6869	6885	6911	6941	6951	6980	6993	7004	7034	7071	7110	7170	7251	7354	7479	7628	7801	7628
10	4270	4274	4266	4237	4189	4129	4003	3861	3709	3569	3438	3329	3239	3205	3195	3217	3278	3385	3278
15	1685	1707	1750	1804	1830	1822	1777	1710	1637	1566	1503	1443	1411	1385	1378	1382	1401	1442	1402
20	1324	1274	1216	1154	1093	1037	982	933	918	914	903	891	880	871	865	865	870	883	871
25	997	965	930	893	856	816	781	751	732	727	736	733	729	726	723	724	727	732	728
30	681	689	696	698	690	669	637	607	588	587	606	646	665	658	653	648	654	667	655
35	475	482	495	514	529	521	489	439	405	399	420	451	470	457	431	421	431	460	432
40	271	281	298	320	333	325	297	247	183	158	185	208	199	165	136	124	126	139	128
45	67.3	80.7	102	130	154	160	147	112	64.3	50.0	63.4	80.6	59.9	56.3	63.8	64.3	65.1	66.2	65.5
50	43.7	45.3	47.8	51.8	52.6	49.1	46.9	37.1	27.0	34.5	43.5	41.2	33.4	35.9	37.9	33.3	31.8	34.6	30.6
55	24.1	25.5	27.7	31.0	31.6	28.9	21.3	12.6	7.45	14.2	17.5	12.4	7.35	9.09	7.52	6.62	6.33	6.46	6.33
60	4.45	5.50	7.35	10.0	12.1	12.4	9.78	6.13	4.79	4.32	4.26	4.54	4.28	4.20	4.19	4.19	4.13	4.17	4.19
65	3.32	3.28	3.23	3.18	3.14	3.10	3.08	3.33	3.31	3.27	3.23	3.18	3.18	3.21	3.21	3.18	3.17	3.20	3.22
70	2.54	2.52	2.49	2.45	2.41	2.37	2.31	2.20	2.25	2.46	2.53	2.50	2.46	2.52	2.50	2.50	2.50	2.50	2.50
75	1.77	1.76	1.75	1.72	1.69	1.64	1.52	1.17	1.16	1.34	1.56	1.76	1.75	1.52	1.81	1.75	1.76	1.76	1.73
80	0.01	0.05	0.12	0.20	0.30	0.40	0.45	0.22	0.18	0.22	0.41	0.61	0.72	0.19	0.39	0.13	0.13	0.14	0.12
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	0.04	0.05	0.03	0.01	0.04	0.01
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	0.01	0.00

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-15D-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	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437
5	7480	7355	7253	7172	7113	7074	7037	7007	6996	6982	6953	6942	6912	6885	6869	6851	6853	6857	6880
10	3218	3197	3207	3242	3333	3443	3574	3715	3868	4010	4137	4197	4244	4271	4276	4269	4270	4284	4336
15	1384	1381	1388	1415	1448	1508	1573	1644	1719	1787	1833	1842	1818	1762	1714	1685	1686	1714	1773
20	868	869	875	885	897	910	921	926	943	993	1047	1106	1167	1230	1285	1329	1353	1355	1334
25	726	727	731	736	741	745	737	744	765	795	830	868	907	943	978	1006	1020	1022	1009
30	651	657	665	672	654	617	600	604	624	657	690	708	713	710	701	692	687	694	707
35	424	436	463	478	459	431	411	421	457	511	545	550	530	508	493	483	480	485	495
40	126	139	168	205	218	193	168	194	260	311	340	348	333	308	289	277	273	277	289
45	66.5	68.9	59.9	61.4	84.8	74.3	58.8	69.3	116	152	167	161	139	110	86.3	71.4	65.4	69.6	83.8
50	30.8	34.9	34.5	30.2	36.8	43.9	39.5	29.4	34.9	43.5	47.8	55.4	56.2	53.4	49.4	46.9	45.2	45.4	47.3
55	6.56	7.23	8.48	7.02	10.2	15.7	14.5	7.25	10.4	18.6	27.6	32.9	33.4	31.1	28.0	26.1	25.1	25.3	26.9
60	4.30	4.32	4.39	4.52	4.74	4.59	4.67	5.03	5.95	8.49	11.9	12.7	11.1	8.48	6.39	5.24	4.90	5.30	6.42
65	3.27	3.31	3.34	3.42	3.47	3.54	3.62	3.72	3.81	3.67	3.70	3.76	3.84	3.90	3.96	4.00	4.04	4.06	4.06
70	2.53	2.55	2.60	2.60	2.68	2.73	2.71	2.59	2.64	2.78	2.85	2.93	3.01	3.07	3.11	3.14	3.17	3.19	3.19
75	1.69	1.80	1.45	1.79	1.83	1.64	1.45	1.33	1.47	1.87	2.00	2.10	2.18	2.24	2.28	2.29	2.30	2.31	2.33
80	0.12	0.32	0.17	0.68	0.61	0.41	0.20	0.20	0.34	0.58	0.50	0.38	0.26	0.15	0.07	0.02	0.00	0.02	0.07
85	0.03	0.03	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	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:2017-11-01

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-20W-15D-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	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437	9437				
5	6926	6992	7075	7166	7276	7382	7492	7619	7744	7858	7988	8135	8297	8474	8666				
10	4413	4499	4580	4641	4661	4659	4638	4583	4521	4438	4376	4365	4385	4447	4558				
15	1862	1971	2075	2147	2163	2128	2063	1986	1912	1840	1797	1760	1754	1763	1795				
20	1298	1250	1195	1139	1082	1032	1019	1024	1016	1004	995	983	977	980	990				
25	988	957	921	883	846	813	789	771	766	766	762	758	756	757	761				
30	721	729	728	719	702	672	647	636	643	669	687	682	681	683	688				
35	511	533	560	584	575	525	482	462	471	508	545	540	519	517	533				
40	308	334	363	377	365	327	268	230	232	253	259	237	208	199	206				
45	106	137	170	190	187	160	113	62.8	66.7	100	83.1	62.4	66.1	66.4	66.9				
50	49.9	53.9	56.7	54.6	57.4	55.1	34.7	37.0	48.7	52.0	42.2	43.9	48.3	47.1	46.0				
55	29.3	32.5	34.7	32.7	26.7	17.1	9.87	16.4	22.4	17.8	10.3	12.7	10.8	9.02	8.77				
60	8.34	11.1	13.8	14.6	12.3	8.19	5.96	5.19	5.16	5.78	5.25	5.06	5.02	4.95	4.86				
65	4.04	4.01	3.98	3.96	3.94	4.28	4.15	4.01	3.95	3.91	3.91	3.87	3.83	3.74	3.69				
70	3.19	3.17	3.14	3.12	3.08	3.04	3.01	3.07	3.10	3.05	3.01	2.96	2.93	2.87	2.84				
75	2.34	2.33	2.31	2.28	2.21	2.12	1.85	1.74	1.92	2.12	2.17	2.07	2.14	2.09	2.08				
80	0.16	0.27	0.42	0.58	0.75	0.86	0.59	0.40	0.53	0.75	0.96	0.56	0.55	0.28	0.25				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.05	0.02	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				

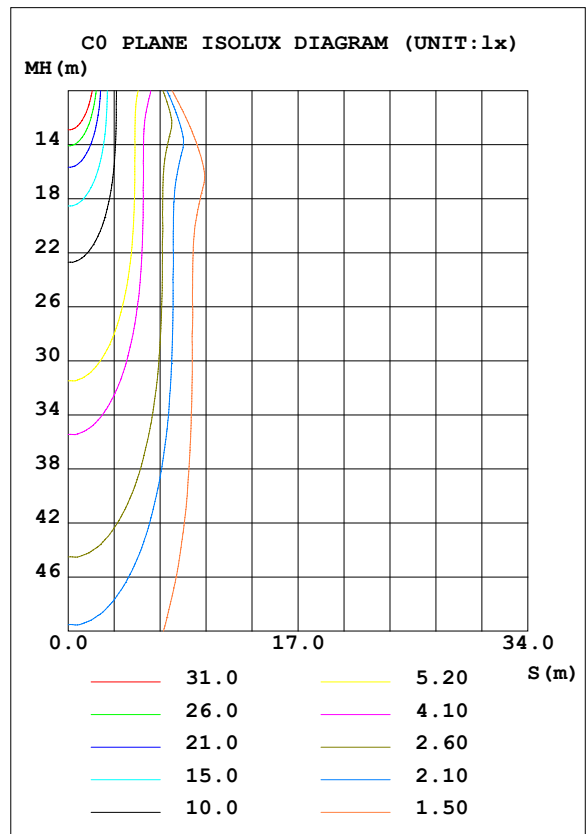
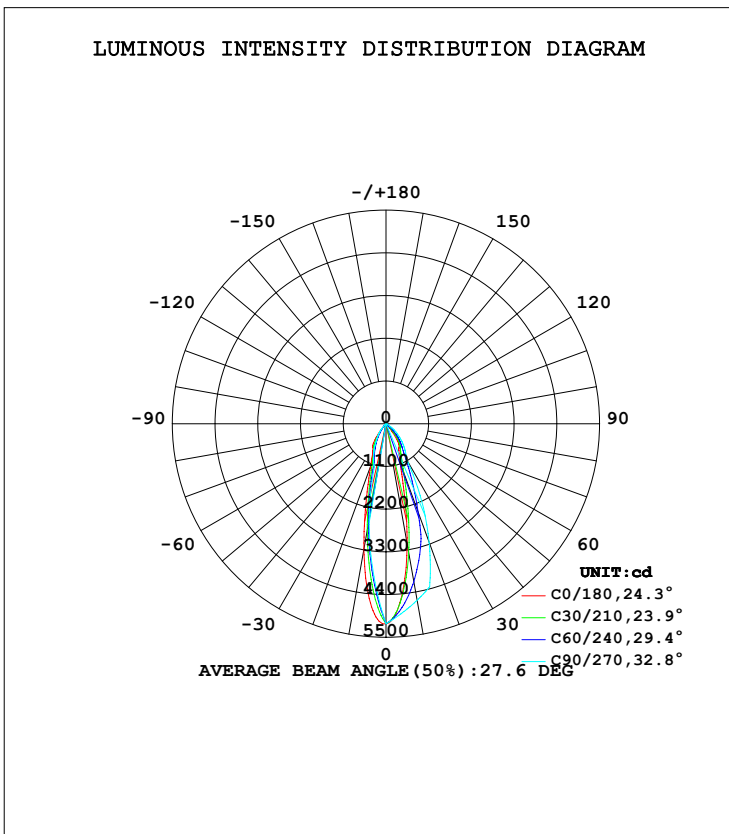
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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

DATA OF LAMP		PHOTOMETRIC DATA Eff: 97.76 lm/W			
MODEL	Juvenis DC-20W-24D-3000K-90	I _{max} (cd)	5152	S/MH (C0/180)	0.42
NOMINAL POWER (W)	20	LOR (%)	100.0	S/MH (C90/270)	0.33
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1945.5	η UP, DN (C0-180)	0.0, 35.0
NOMINAL FLUX (lm)	1945.47	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 65.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220.1	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: 2017-11-01

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	4631	4012	3824	3937	4514	4633	4884	4713	0- 5	111.8	111.8	5.75,5.75
10	3276	2679	2496	2597	3139	3720	4616	3815	5- 10	269.5	381.3	19.6,19.6
15	1922	1569	1168	1522	1788	2683	4348	2754	10- 15	317.8	699.1	35.9,35.9
20	1152	899.2	941.5	892.0	1074	1817	3250	1833	15- 20	295.5	994.6	51.1,51.1
25	813.6	656.7	714.6	658.3	790.1	1178	2152	1186	20- 25	256.9	1252	64.3,64.3
30	686.0	447.1	487.7	451.5	680.2	845.0	1055	860.3	25- 30	215.1	1467	75.4,75.4
35	473.6	225.1	337.7	229.6	472.2	693.7	869.5	706.7	30- 35	174.6	1641	84.4,84.4
40	153.7	59.40	187.7	53.78	154.3	529.6	684.4	544.3	35- 40	129.2	1770	91,91
45	49.67	41.12	37.69	39.56	52.01	280.0	499.3	288.8	40- 45	77.42	1848	95,95
50	35.99	25.24	26.48	25.94	37.25	115.7	345.3	116.9	45- 50	44.20	1892	97.3,97.3
55	21.50	11.39	15.27	13.30	22.47	42.45	191.4	39.78	50- 55	26.61	1919	98.6,98.6
60	8.601	6.677	4.054	7.875	8.664	27.52	37.38	27.05	55- 60	14.28	1933	99.4,99.4
65	3.993	3.764	2.769	4.147	3.951	13.88	26.28	14.47	60- 65	6.038	1939	99.7,99.7
70	2.944	2.167	1.484	2.262	3.015	5.848	15.18	6.666	65- 70	3.587	1943	99.9,99.9
75	1.957	1.058	0.1995	1.087	2.142	3.766	4.077	4.053	70- 75	2.009	1945	100,100
80	0.1388	0.1065	0	0.0722	0.1874	2.025	0	2.025	75- 80	0.7546	1945	100,100
85	0.0097	0	0	0	0.0369	0	0	0	80- 85	0.1065	1945	100,100
90	0.0058	0	0	0	0.0075	0	0	0	85- 90	0.0023	1945	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			

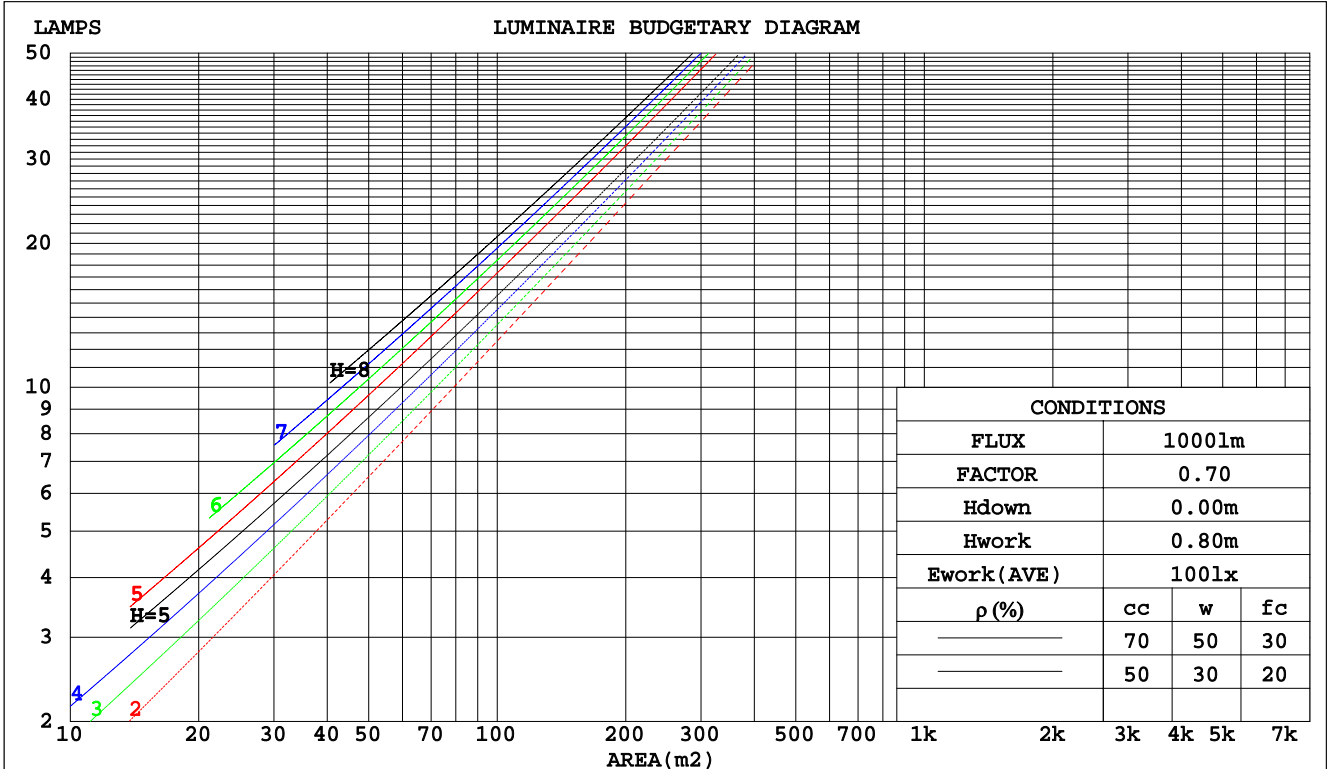
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-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	1.11	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	.94	.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	.81	.85	.82	.80	.78
5.0	.87	.81	.77	.86	.81	.77	.84	.80	.76	.83	.79	.76	.81	.78	.75	.74
6.0	.82	.77	.73	.81	.76	.72	.80	.75	.72	.79	.75	.72	.77	.74	.71	.70
7.0	.78	.72	.69	.77	.72	.68	.76	.71	.68	.75	.71	.68	.74	.70	.67	.66
8.0	.74	.69	.65	.74	.68	.65	.73	.68	.65	.72	.67	.64	.71	.67	.64	.63
9.0	.71	.65	.62	.70	.65	.62	.69	.65	.61	.69	.64	.61	.68	.64	.61	.60
10.0	.68	.62	.59	.67	.62	.59	.66	.62	.59	.66	.61	.58	.65	.61	.58	.57



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-01

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-20W-24D-3000K-90	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	.168	.096	.030	.162	.092	.029	.149	.086	.027	.138	.079	.025	.127	.074	.024	
2.0	.161	.088	.027	.155	.085	.026	.145	.080	.025	.135	.076	.024	.126	.071	.022	
3.0	.152	.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	.119	.065	.020	
5.0	.137	.070	.020	.134	.069	.020	.127	.066	.020	.121	.064	.019	.115	.062	.019	
6.0	.131	.066	.019	.128	.065	.019	.122	.062	.018	.116	.061	.018	.111	.059	.017	
7.0	.125	.062	.017	.122	.061	.017	.117	.059	.017	.112	.057	.017	.108	.056	.016	
8.0	.119	.058	.016	.117	.057	.016	.112	.056	.016	.108	.055	.016	.104	.053	.016	
9.0	.114	.055	.015	.112	.054	.015	.108	.053	.015	.104	.052	.015	.100	.051	.015	
10.0	.109	.052	.015	.107	.052	.014	.103	.051	.014	.100	.050	.014	.097	.049	.014	

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	.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	.083	.068	.055	.048	.040	.033	.015	.013	.011	
4.0	.131	.099	.074	.112	.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	.044	.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	.032	.060	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.096	.058	.032	.083	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.091	.054	.028	.079	.047	.025	.055	.033	.018	.032	.019	.010	.010	.006	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DOBAC
 Test Date:2017-11-01

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-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	16.4	17.3	16.7	17.5	17.7	15.6	16.5	15.8	16.6	16.8				
3H	16.3	17.1	16.6	17.3	17.5	15.4	16.2	15.7	16.4	16.6				
4H	16.2	17.0	16.5	17.2	17.4	15.4	16.1	15.6	16.3	16.6				
6H	16.1	16.9	16.4	17.1	17.3	15.3	16.0	15.6	16.2	16.5				
8H	16.1	16.8	16.4	17.0	17.3	15.2	15.9	15.5	16.2	16.4				
12H	16.0	16.7	16.4	17.0	17.2	15.2	15.8	15.5	16.1	16.4				
4H 2H	16.2	17.0	16.5	17.2	17.4	15.4	16.1	15.6	16.3	16.6				
3H	16.1	16.7	16.4	17.0	17.3	15.2	15.9	15.5	16.1	16.4				
4H	16.0	16.6	16.3	16.9	17.2	15.1	15.7	15.5	16.0	16.3				
6H	15.9	16.4	16.3	16.7	17.1	15.0	15.5	15.4	15.9	16.2				
8H	15.8	16.3	16.2	16.7	17.0	15.0	15.5	15.4	15.8	16.2				
12H	15.8	16.2	16.2	16.6	17.0	14.9	15.4	15.3	15.7	16.1				
8H 4H	15.8	16.3	16.2	16.7	17.0	15.0	15.5	15.4	15.8	16.2				
6H	15.7	16.1	16.2	16.5	16.9	14.9	15.3	15.3	15.7	16.1				
8H	15.7	16.0	16.1	16.4	16.9	14.8	15.2	15.2	15.6	16.0				
12H	15.6	15.9	16.1	16.4	16.8	14.7	15.1	15.2	15.5	16.0				
12H 4H	15.8	16.2	16.2	16.6	17.0	14.9	15.4	15.3	15.7	16.1				
6H	15.7	16.0	16.1	16.4	16.9	14.8	15.2	15.2	15.6	16.0				
8H	15.6	15.9	16.1	16.4	16.8	14.7	15.1	15.2	15.5	16.0				
Variations with the observer position at spacings:														
S = 1.0H	+ 5.5 / - 9.5					+ 3.7 / -10.4								
1.5H	+ 7.8 / - 7.1					+ 6.2 / - 7.3								
2.0H	+ 4.3 / - 7.3					+ 3.6 / - 7.5								

CIE Pub.117 Corrected 1945 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.3)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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

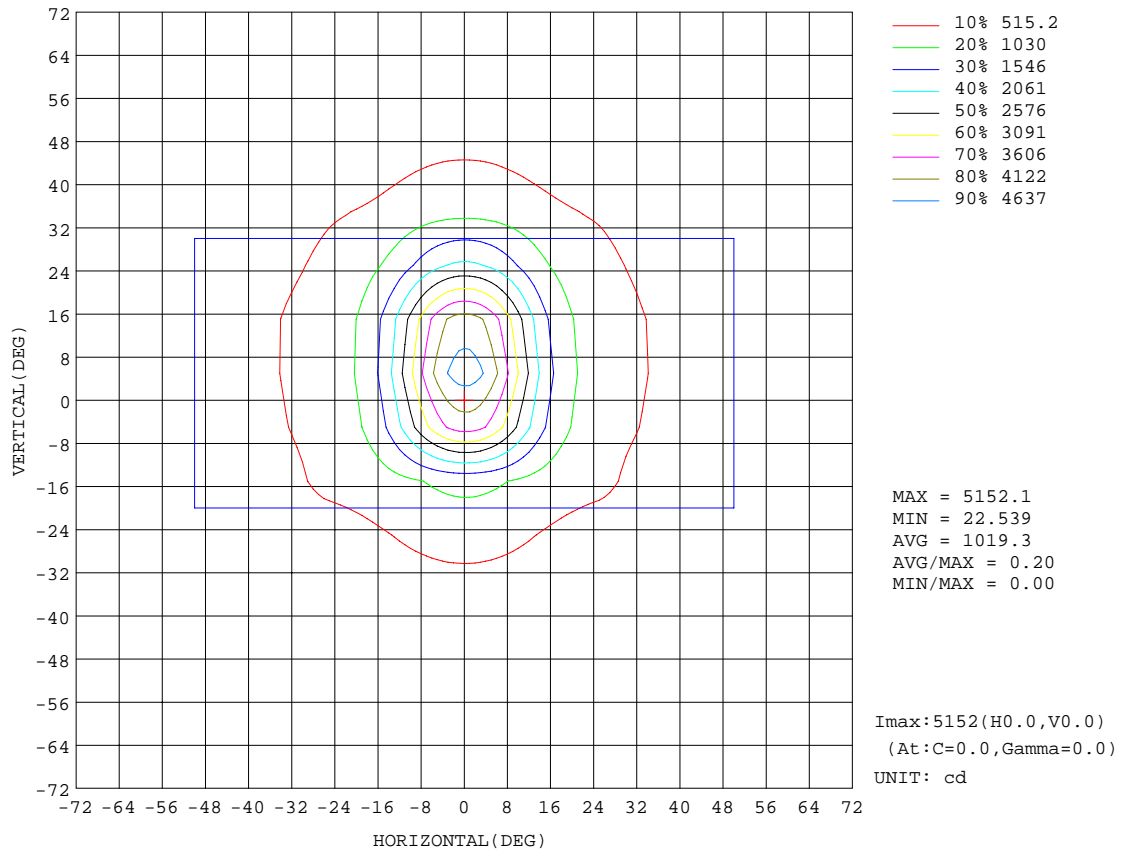
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	86	79	75	85	79	75	84	79	75	71
0.80	94	87	84	93	87	83	92	86	83	79
1.00	98	93	89	98	92	89	96	92	88	84
1.25	103	97	94	102	97	93	100	95	92	88
1.50	105	101	97	104	100	97	102	98	96	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	104	97
5.00	115	113	111	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: 2017-11-01

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

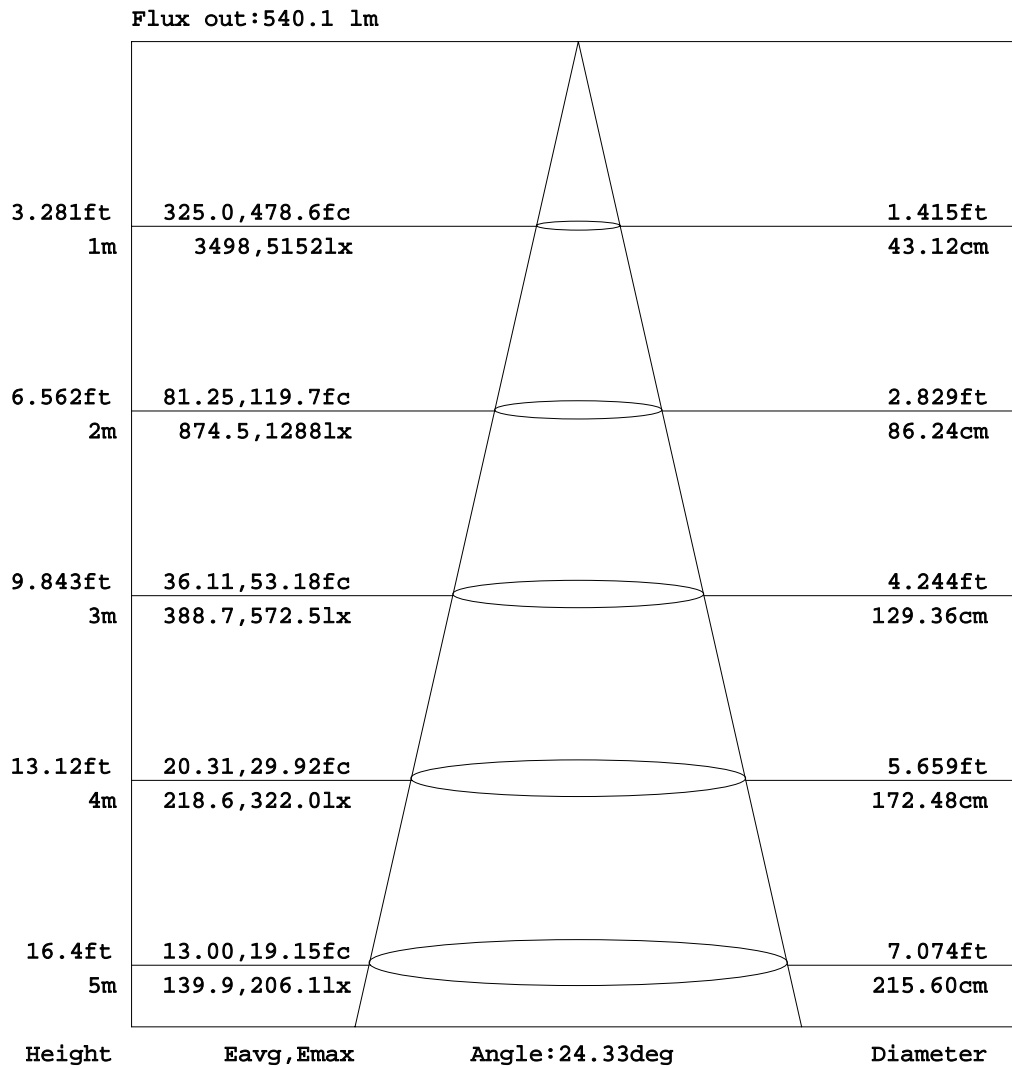


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-01

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



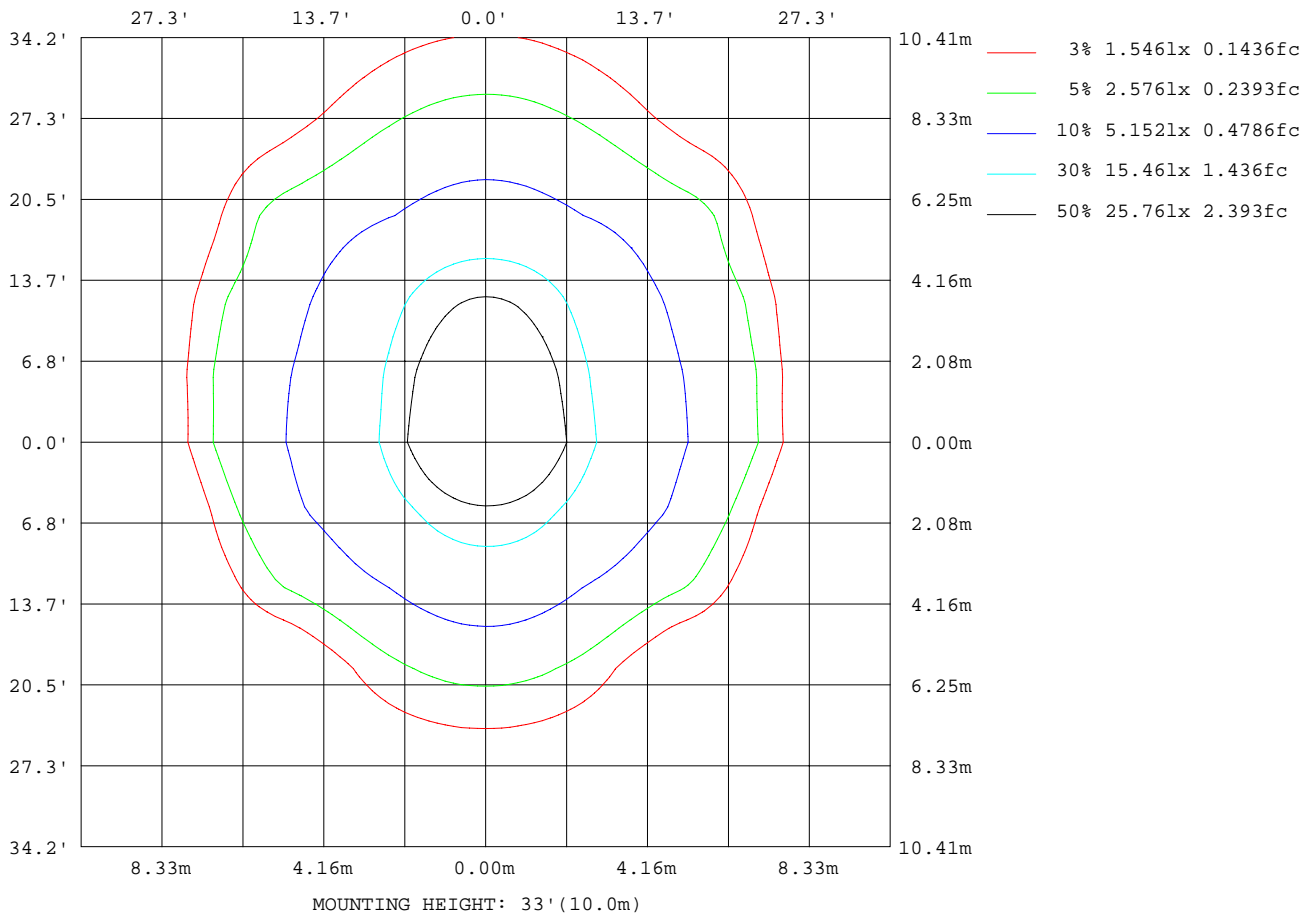
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-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: 2017-11-01

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-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	1945.47	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0055	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	6814	5796	4946	4973	3979	4322	5072	5126	4943	4840	4993	5235	5391	4856	4460	5409	5552	6293	7123
60	3128	2587	2127	2508	1963	2824	2967	2357	1728	1474	1759	2440	3161	3245	2313	2765	2391	2791	3151
65	1718	1612	1558	1437	1497	1568	1254	1194	1191	1191	1215	1247	1316	1695	1639	1488	1597	1636	1700
70	1565	1463	1388	1257	1225	1066	931	835	800	789	817	867	970	1111	1305	1363	1469	1533	1603
75	1375	1079	843	925	855	624	419	262	173	140	175	264	428	632	902	1121	965	1275	1505
80	145	105	113	406	173	82	48	22	6	0	6	21	44	61	138	538	141	123	196
85	20	88	136	0	0	0	0	0	0	0	0	0	0	0	0	0	86	76	77

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

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum calculated	specified maximum	maximum measured	specified maximum
Category 1	55 to 90	7123	200	---	500
Category 2	65 to 90	1718	200	---	500
Category 3	75 to 90	1505	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:2017-11-01

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-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	1945.47	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0055	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	6814	5796	4946	4973	3979	4322	5072	5126	4943	4840	4993	5235	5391	4856	4460	5409	5552	6293	7123
60	3128	2587	2127	2508	1963	2824	2967	2357	1728	1474	1759	2440	3161	3245	2313	2765	2391	2791	3151
65	1718	1612	1558	1437	1497	1568	1254	1194	1191	1191	1215	1247	1316	1695	1639	1488	1597	1636	1700
70	1565	1463	1388	1257	1225	1066	931	835	800	789	817	867	970	1111	1305	1363	1469	1533	1603
75	1375	1079	843	925	855	624	419	262	173	140	175	264	428	632	902	1121	965	1275	1505
80	145	105	113	406	173	82	48	22	6	0	6	21	44	61	138	538	141	123	196
85	20	88	136	0	0	0	0	0	0	0	0	0	0	0	0	0	86	76	77

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	7123	1000	1500	200	500
65 to 90	1718	1000	1500	200	500

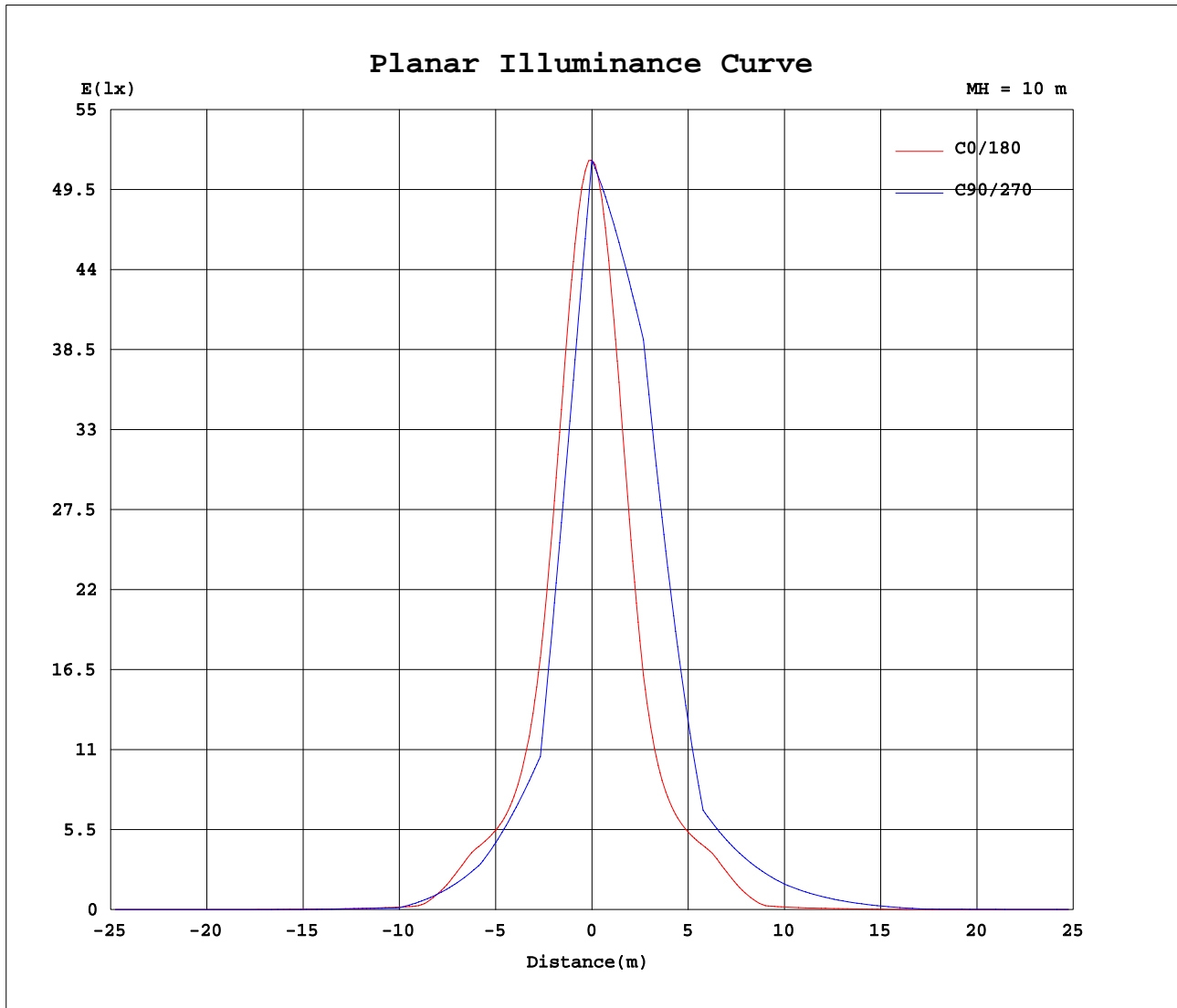
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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: 2017-11-01

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-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	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152
5	4631	4532	4441	4357	4282	4215	4155	4104	4056	4012	3977	3946	3915	3893	3871	3855	3844	3829	3824
10	3276	3151	3047	2959	2887	2827	2780	2743	2708	2679	2647	2620	2597	2572	2551	2532	2516	2505	2496
15	1922	1837	1772	1724	1686	1659	1636	1620	1597	1569	1533	1488	1435	1375	1314	1257	1211	1180	1168
20	1152	1109	1079	1057	1038	1019	1004	982	950	899	867	872	882	895	909	923	933	941	942
25	814	793	779	769	762	755	744	724	684	657	643	642	651	665	680	694	705	714	715
30	686	642	608	590	590	606	595	537	483	447	427	425	433	449	463	474	482	487	488
35	474	412	368	340	329	336	338	321	280	225	201	200	242	277	303	319	330	336	338
40	154	134	120	97.5	78.4	110	135	134	100	59.4	66.3	102	135	161	177	184	187	188	188
45	49.7	47.5	46.5	46.5	44.6	44.0	45.1	43.2	41.5	41.1	41.4	46.1	63.3	70.3	67.7	58.9	48.6	40.6	37.7
50	36.0	33.5	32.5	31.5	29.8	29.0	28.6	27.5	26.2	25.2	24.8	24.5	24.9	25.9	26.2	26.5	26.6	26.5	26.5
55	21.5	19.1	18.3	16.9	15.6	15.3	15.7	14.5	12.6	11.4	13.6	15.1	16.0	16.3	16.2	15.9	15.6	15.4	15.3
60	8.60	7.44	7.12	6.95	5.85	6.89	6.90	4.80	5.40	6.68	7.77	8.32	8.16	7.46	6.48	5.53	4.75	4.23	4.05
65	3.99	3.83	3.75	3.72	3.62	3.61	3.34	3.31	3.48	3.76	3.65	3.03	2.92	2.85	2.78	2.75	2.77	2.77	2.77
70	2.94	2.85	2.75	2.66	2.61	2.38	2.36	2.35	2.30	2.17	2.00	1.87	1.75	1.65	1.57	1.52	1.50	1.49	1.48
75	1.96	1.75	1.54	1.48	1.20	0.72	1.32	1.34	1.22	1.06	0.89	0.73	0.60	0.48	0.37	0.30	0.25	0.22	0.20
80	0.14	0.11	0.10	0.12	0.11	0.18	0.39	0.34	0.17	0.11	0.08	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00
85	0.01	0.02	0.04	0.07	0.07	0.03	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	0.01	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	0.00

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-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	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152
5	3820	3827	3829	3835	3848	3862	3886	3910	3937	3973	4015	4061	4117	4180	4252	4331	4419	4514	4499
10	2495	2495	2500	2510	2522	2540	2552	2571	2597	2623	2653	2687	2729	2781	2846	2925	3022	3139	3125
15	1175	1201	1242	1294	1349	1403	1452	1492	1522	1544	1561	1570	1584	1600	1626	1662	1714	1788	1787
20	936	927	914	898	884	872	864	861	892	933	957	970	978	987	999	1015	1039	1074	1077
25	711	702	690	675	662	649	643	646	658	684	724	739	746	750	754	762	773	790	791
30	488	484	476	466	451	438	430	432	451	487	541	605	620	603	599	613	642	680	681
35	337	331	322	306	282	248	208	208	230	284	330	355	358	351	358	378	416	472	477
40	189	188	186	180	166	141	107	68.3	53.8	99.9	138	147	126	89.2	97.9	119	134	154	162
45	40.8	48.8	59.5	68.9	72.5	66.1	48.9	39.4	39.6	39.9	43.4	46.6	44.3	44.8	46.4	47.6	49.3	52.0	53.0
50	26.6	26.7	26.7	26.7	26.7	26.1	26.0	25.8	25.9	27.2	28.7	30.3	30.3	31.3	33.4	34.0	35.0	37.3	37.7
55	15.4	15.8	16.1	16.5	17.0	17.0	16.7	15.3	13.3	14.1	15.8	17.1	17.2	17.5	18.7	19.9	20.4	22.5	23.0
60	4.27	4.84	5.69	6.71	7.79	8.69	9.09	8.92	7.88	6.36	5.28	7.60	7.84	6.58	7.55	7.68	7.83	8.66	9.39
65	2.80	2.82	2.86	2.90	2.97	3.06	3.16	3.94	4.15	3.81	3.51	3.46	3.80	3.71	3.76	3.80	3.85	3.95	4.09
70	1.51	1.54	1.58	1.63	1.72	1.83	1.94	2.09	2.26	2.46	2.54	2.56	2.60	2.76	2.82	2.88	2.95	3.02	3.09
75	0.21	0.25	0.30	0.38	0.48	0.61	0.74	0.90	1.09	1.28	1.48	1.60	1.15	1.37	1.88	1.81	2.03	2.14	2.23
80	0.00	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.13	0.35	0.51	0.22	0.13	0.22	0.12	0.16	0.19	0.26
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	0.04	0.05	0.04	0.01	0.04	0.01
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	0.01	0.00

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-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	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152
5	4491	4491	4499	4514	4536	4565	4598	4633	4674	4714	4747	4784	4814	4842	4866	4874	4884	4882	4883
10	3132	3161	3211	3280	3368	3473	3590	3720	3849	3986	4129	4253	4370	4469	4545	4597	4616	4608	4569
15	1812	1861	1932	2028	2146	2302	2480	2683	2906	3145	3396	3637	3866	4058	4212	4310	4348	4317	4229
20	1095	1127	1177	1245	1345	1464	1620	1817	2015	2220	2429	2637	2837	3004	3132	3217	3250	3224	3153
25	799	814	841	879	935	1016	1086	1178	1280	1408	1552	1709	1852	1977	2069	2130	2152	2136	2088
30	686	696	709	727	745	768	801	845	895	951	1003	1050	1082	1087	1075	1059	1055	1064	1087
35	502	545	599	617	603	615	652	694	713	718	711	724	754	793	831	858	870	862	839
40	190	240	297	325	359	401	456	530	543	521	518	536	571	612	649	675	684	677	653
45	55.6	59.7	69.2	102	113	131	217	280	308	302	310	342	390	435	471	493	499	493	470
50	39.6	41.6	43.8	46.6	50.4	52.9	73.3	116	121	89.5	112	186	247	293	323	341	345	340	322
55	25.4	26.9	29.1	32.1	34.0	37.1	40.0	42.5	45.1	47.9	60.0	104	142	168	182	190	191	189	181
60	11.2	12.6	15.1	17.4	19.8	23.2	25.7	27.5	29.4	31.8	34.8	47.5	54.8	53.0	46.1	39.8	37.4	39.7	45.7
65	4.38	4.76	5.88	6.93	8.75	11.8	13.2	13.9	15.0	17.2	20.5	22.8	24.3	25.4	25.9	26.2	26.3	26.1	25.7
70	3.20	3.31	3.49	3.69	4.38	4.99	4.43	5.85	8.27	10.8	12.7	13.9	14.6	15.0	15.1	15.2	15.2	15.1	15.1
75	2.35	2.54	2.64	2.80	2.89	3.00	3.22	3.77	4.67	5.43	5.68	5.54	5.17	4.74	4.37	4.13	4.08	4.20	4.46
80	0.46	0.86	1.56	1.41	1.87	2.16	2.31	2.03	1.62	1.27	0.95	0.68	0.44	0.26	0.12	0.03	0.00	0.03	0.12
85	0.04	0.07	0.06	0.08	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:2017-11-01

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-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	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152	5152				
5	4869	4851	4830	4802	4777	4745	4713	4686	4660	4634	4615	4604	4599	4602	4613				
10	4506	4421	4319	4203	4073	3942	3815	3691	3579	3476	3391	3327	3282	3259	3256				
15	4095	3914	3694	3457	3217	2979	2754	2551	2377	2227	2111	2020	1960	1923	1910				
20	3038	2874	2687	2478	2257	2050	1833	1640	1491	1379	1293	1235	1192	1163	1149				
25	2004	1888	1745	1584	1425	1291	1186	1102	1034	961	909	870	841	824	815				
30	1106	1108	1079	1027	968	913	860	820	788	763	739	716	699	690	686				
35	808	775	748	734	736	724	707	668	625	607	612	583	532	494	474				
40	621	583	550	529	527	551	544	471	409	356	313	277	220	176	155				
45	436	391	346	311	305	315	289	227	140	108	87.7	62.1	55.1	51.3	49.8				
50	292	246	184	111	87.6	119	117	77.6	50.1	45.7	43.8	41.4	39.9	38.1	36.3				
55	167	142	104	58.9	45.5	40.9	39.8	38.4	35.0	32.9	31.4	28.5	26.0	24.5	22.1				
60	52.5	54.6	47.2	34.6	30.5	28.6	27.1	25.4	23.1	20.0	17.8	15.6	12.7	10.9	9.15				
65	25.2	24.3	23.0	21.2	18.3	16.0	14.5	13.4	12.1	9.17	7.23	6.22	4.93	4.36	4.07				
70	14.9	14.7	14.1	13.2	11.6	9.29	6.67	4.67	5.15	4.53	3.72	3.49	3.30	3.14	3.00				
75	4.85	5.29	5.70	5.94	5.77	5.09	4.05	3.28	3.00	2.87	2.75	2.56	2.41	2.22	2.03				
80	0.27	0.46	0.70	0.98	1.30	1.64	2.03	2.28	2.10	1.83	1.35	1.46	0.75	0.37	0.18				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.09	0.07	0.04	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				

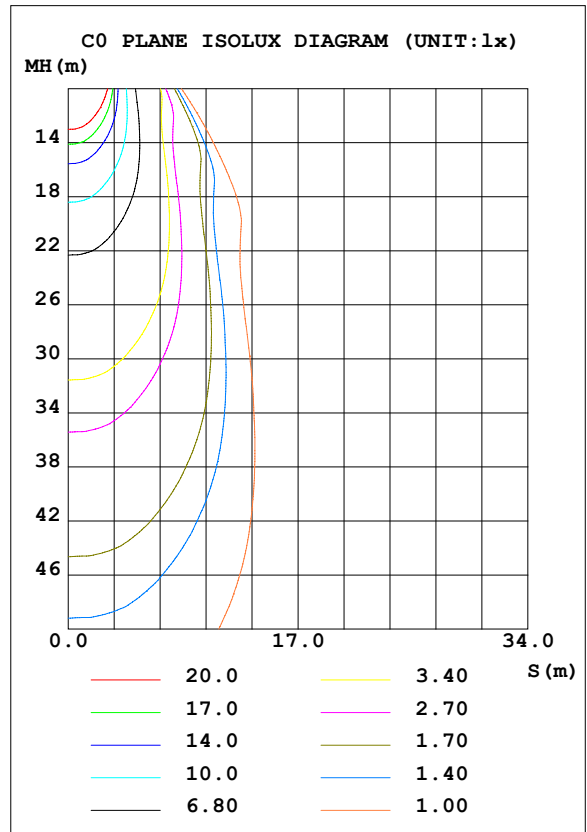
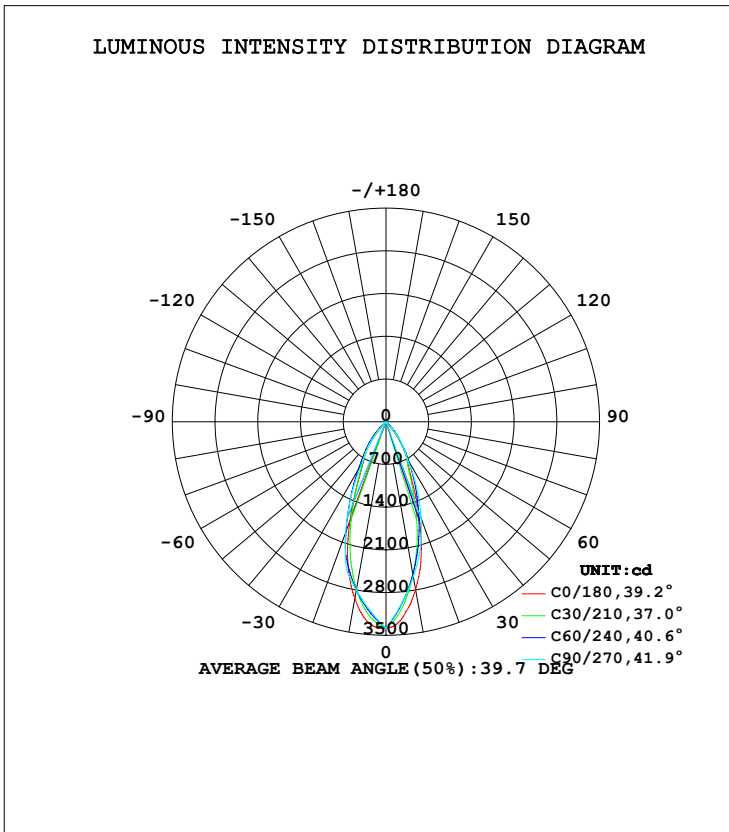
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-01

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-20W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	Juvenis DC-20W-40D-3000K-90	Imax (cd)	3388	S/MH (C0/180)	0.65
NOMINAL POWER (W)	20	LOR (%)	100.0	S/MH (C90/270)	0.70
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1821.4	η UP, DN (C0-180)	0.0, 52.7
NOMINAL FLUX (lm)	1821.39	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 47.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	219.7	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: 2017-11-01

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	3310	3147	3094	3095	3213	3014	2983	3068	0- 5	76.73	76.73	4.21,4.21
10	2943	2782	2801	2692	2797	2527	2578	2627	5- 10	206.5	283.2	15.6,15.6
15	2413	2325	2507	2232	2238	1988	2172	2103	10- 15	290.6	573.8	31.5,31.5
20	1732	1812	1933	1725	1537	1433	1680	1549	15- 20	317.8	891.7	49,49
25	1087	1259	1359	1190	943.9	973.8	1188	1069	20- 25	287.3	1179	64.7,64.7
30	746.4	835.7	784.7	790.1	695.6	633.0	696.3	705.1	25- 30	233.3	1412	77.5,77.5
35	562.6	536.1	538.8	502.0	469.1	367.4	476.5	433.4	30- 35	182.8	1595	87.6,87.6
40	218.5	288.8	292.8	257.1	136.5	125.6	256.6	187.5	35- 40	122.1	1717	94.3,94.3
45	42.18	123.2	46.80	100.6	39.49	45.67	36.81	65.99	40- 45	54.69	1772	97.3,97.3
50	28.43	39.92	36.17	37.09	27.72	27.58	28.41	29.54	45- 50	18.85	1791	98.3,98.3
55	20.08	21.79	25.53	21.97	19.28	17.96	20.00	19.20	50- 55	11.00	1802	98.9,98.9
60	13.37	15.32	14.90	15.45	12.32	12.53	11.59	13.23	55- 60	7.901	1810	99.4,99.4
65	7.999	9.617	11.06	9.681	7.622	7.621	8.495	8.256	60- 65	5.296	1815	99.6,99.6
70	4.641	5.570	7.215	5.613	4.585	4.150	5.398	4.591	65- 70	3.506	1818	99.8,99.8
75	3.092	2.962	3.372	2.970	2.739	1.926	2.301	2.175	70- 75	2.138	1821	100,100
80	0.2083	0.6173	0	0.5323	0.1485	0.1005	0	0.1968	75- 80	0.8267	1821	100,100
85	0.0155	0	0	0	0.0408	0	0	0	80- 85	0.0553	1821	100,100
90	0.0136	0	0	0	0.0139	0	0	0	85- 90	0.0021	1821	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			

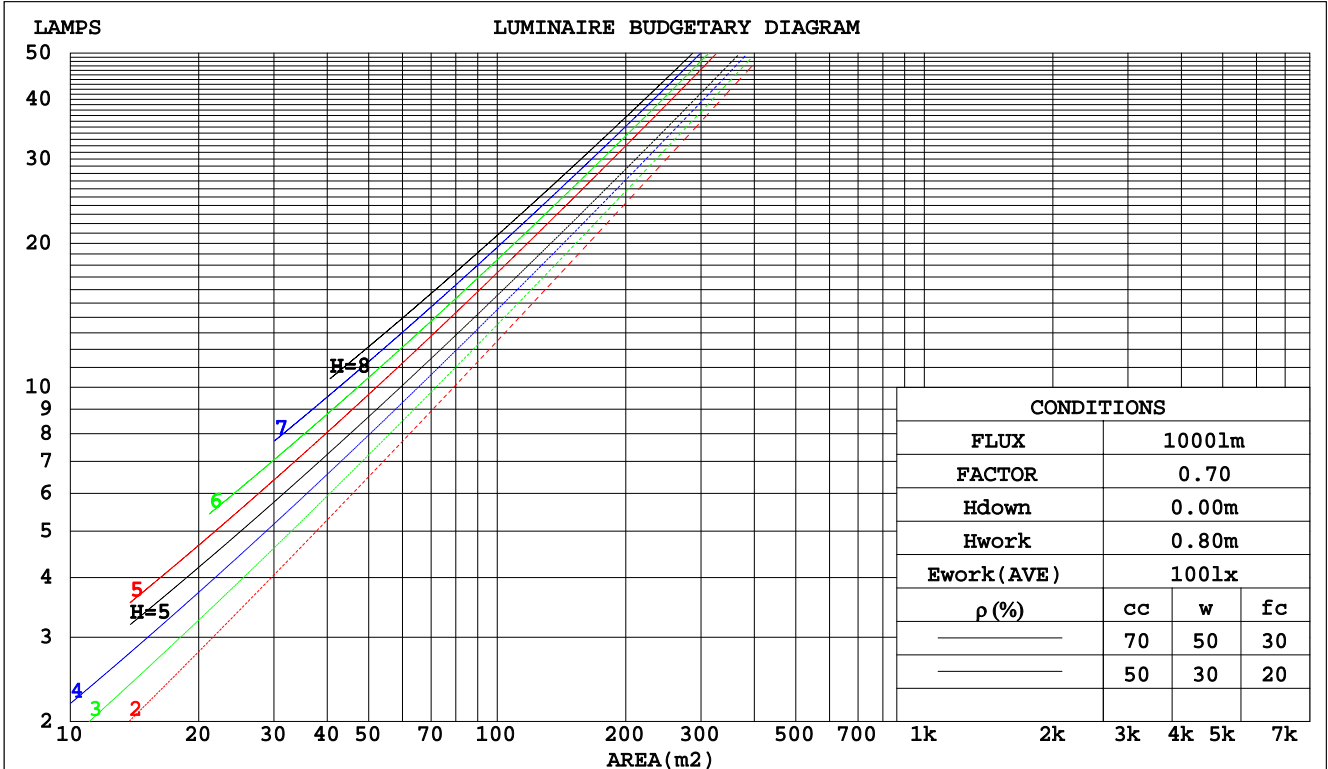
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-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	.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	.94	.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	.80	.78
5.0	.87	.81	.77	.86	.81	.77	.84	.80	.76	.82	.79	.76	.81	.78	.75	.74
6.0	.82	.76	.72	.81	.76	.72	.80	.75	.72	.78	.74	.71	.77	.74	.71	.69
7.0	.78	.72	.68	.77	.72	.68	.76	.71	.68	.75	.70	.67	.74	.70	.67	.66
8.0	.74	.68	.64	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.66	.64	.62
9.0	.70	.65	.61	.70	.65	.61	.69	.64	.61	.68	.64	.61	.67	.63	.60	.59
10.0	.67	.62	.58	.67	.61	.58	.66	.61	.58	.65	.61	.58	.64	.60	.57	.56



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-01

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-20W-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	.168	.096	.030	.162	.092	.029	.149	.086	.027	.138	.079	.025	.127	.074	.024	
2.0	.161	.088	.027	.155	.085	.026	.144	.080	.025	.135	.076	.024	.126	.071	.022	
3.0	.152	.081	.024	.148	.079	.024	.139	.075	.023	.130	.072	.022	.123	.068	.021	
4.0	.145	.075	.022	.141	.074	.022	.133	.071	.021	.126	.068	.020	.119	.065	.020	
5.0	.138	.070	.020	.134	.069	.020	.128	.066	.020	.121	.064	.019	.116	.062	.019	
6.0	.131	.066	.019	.128	.065	.019	.122	.063	.018	.117	.061	.018	.112	.059	.017	
7.0	.126	.062	.018	.123	.061	.017	.118	.059	.017	.113	.058	.017	.108	.056	.017	
8.0	.120	.059	.016	.118	.058	.016	.113	.056	.016	.109	.055	.016	.105	.054	.016	
9.0	.115	.056	.016	.113	.055	.015	.109	.054	.015	.105	.053	.015	.101	.051	.015	
10.0	.110	.053	.015	.108	.052	.015	.105	.051	.014	.101	.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	.083	.068	.055	.048	.040	.033	.015	.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	.044	.068	.047	.031	.039	.028	.019	.013	.009	.006	
7.0	.108	.070	.043	.093	.060	.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	.035	.020	.034	.021	.012	.011	.007	.004	
10.0	.092	.054	.028	.079	.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:2017-11-01

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-20W-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	19.1	20.0	19.4	20.2	20.4	20.4	21.3	20.7	21.5	21.6	19.1	20.0	19.4	20.2	20.4
3H	19.0	19.8	19.3	20.0	20.2	20.3	21.1	20.6	21.3	21.5	19.0	19.8	19.3	20.0	20.2
4H	18.9	19.7	19.2	19.9	20.1	20.3	21.0	20.5	21.2	21.5	18.9	19.7	19.2	19.9	20.1
6H	18.9	19.6	19.1	19.8	20.1	20.2	20.9	20.5	21.1	21.4	18.9	19.6	19.1	19.8	20.1
8H	18.8	19.5	19.1	19.8	20.0	20.1	20.8	20.4	21.1	21.3	18.8	19.5	19.1	19.8	20.0
12H	18.8	19.4	19.1	19.7	20.0	20.1	20.7	20.4	21.0	21.3	18.8	19.4	19.1	19.7	20.0
4H 2H	18.9	19.7	19.2	19.9	20.1	20.2	21.0	20.5	21.2	21.4	18.9	19.7	19.2	19.9	20.1
3H	18.8	19.5	19.1	19.7	20.0	20.1	20.8	20.4	21.0	21.3	18.8	19.5	19.1	19.7	20.0
4H	18.7	19.3	19.1	19.6	19.9	20.0	20.6	20.4	20.9	21.2	18.7	19.3	19.1	19.6	19.9
6H	18.6	19.2	19.0	19.5	19.8	19.9	20.5	20.3	20.8	21.1	18.6	19.2	19.0	19.5	19.8
8H	18.6	19.1	19.0	19.4	19.8	19.9	20.4	20.3	20.7	21.1	18.6	19.1	19.0	19.4	19.8
12H	18.5	19.0	18.9	19.4	19.7	19.8	20.3	20.2	20.7	21.0	18.5	19.0	18.9	19.4	19.7
8H 4H	18.6	19.1	19.0	19.4	19.8	19.9	20.4	20.3	20.7	21.1	18.6	19.1	19.0	19.4	19.8
6H	18.5	18.9	18.9	19.3	19.7	19.8	20.2	20.2	20.6	21.0	18.5	18.9	18.9	19.3	19.7
8H	18.4	18.8	18.9	19.2	19.7	19.7	20.1	20.2	20.5	21.0	18.4	18.8	18.9	19.2	19.7
12H	18.4	18.7	18.9	19.1	19.6	19.7	20.0	20.2	20.4	20.9	18.4	18.7	18.9	19.1	19.6
12H 4H	18.5	19.0	19.0	19.4	19.8	19.8	20.3	20.3	20.7	21.1	18.5	19.0	19.0	19.4	19.8
6H	18.4	18.8	18.9	19.2	19.7	19.7	20.1	20.2	20.5	21.0	18.4	18.8	18.9	19.2	19.7
8H	18.4	18.7	18.9	19.1	19.6	19.7	20.0	20.2	20.4	20.9	18.4	18.7	18.9	19.1	19.6
Variations with the observer position at spacings:															
S = 1.0H	+ 3.7 / - 9.0					+ 2.3 / - 9.2									
1.5H	+ 6.3 / - 7.4					+ 4.9 / - 7.9									
2.0H	+ 1.9 / - 2.0					+ 1.9 / - 2.4									

CIE Pub.117 Corrected 1821 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.1)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

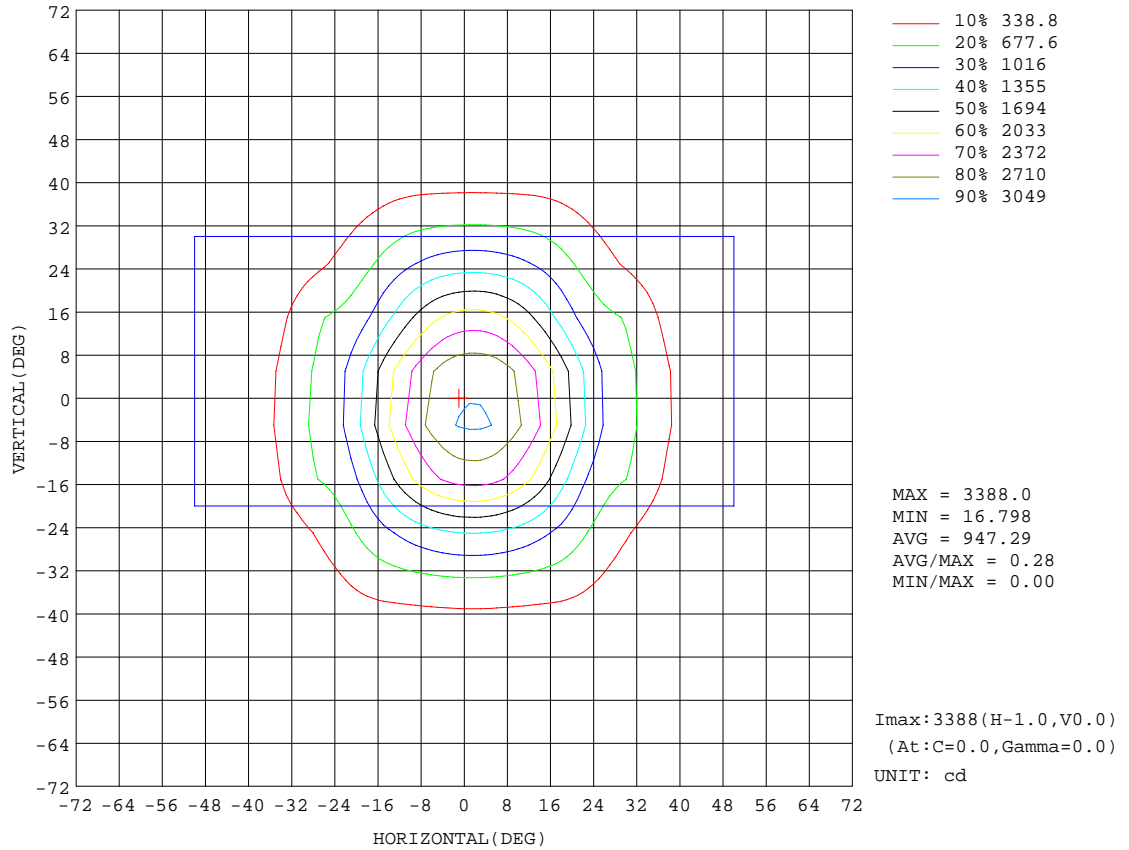
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	88	82	78	87	82	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	85	82
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: 2017-11-01

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-20W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:

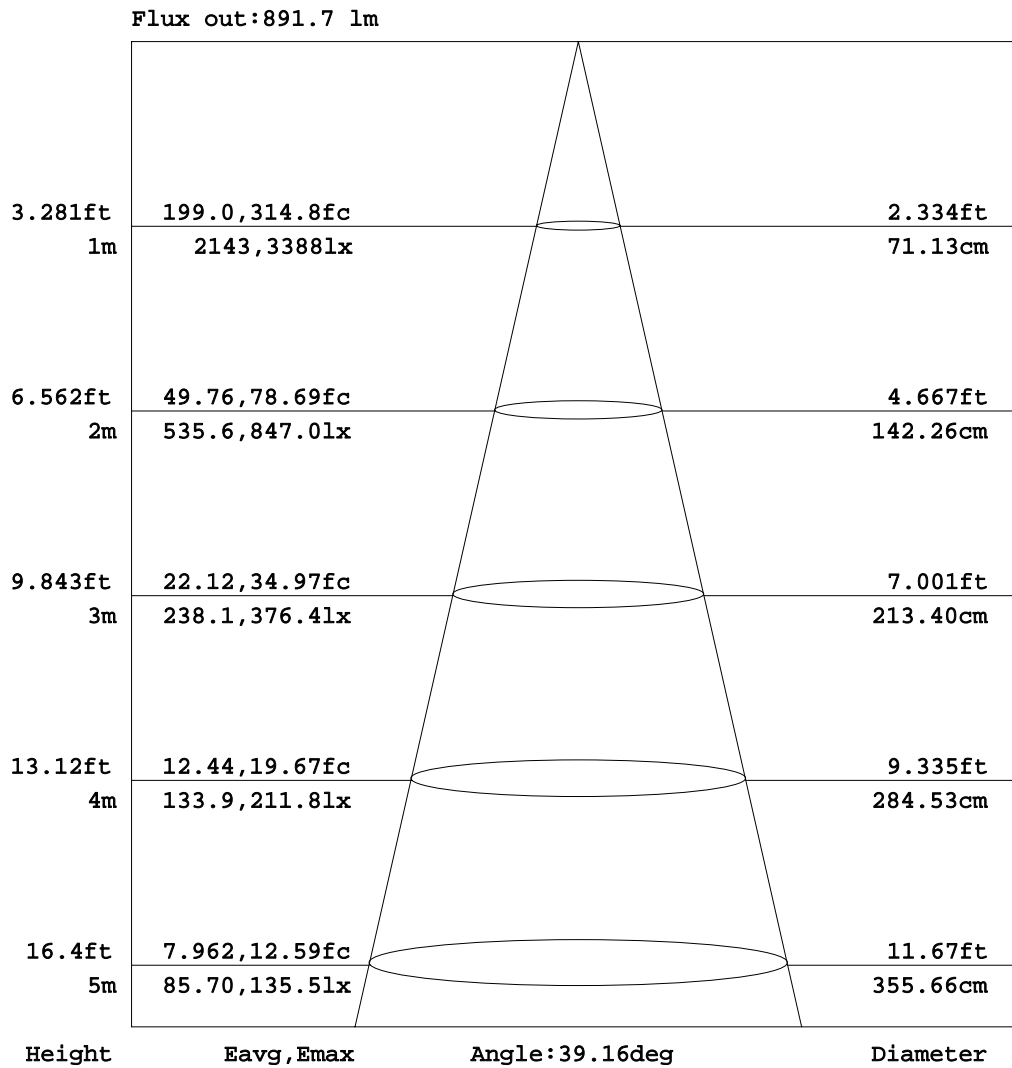


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DOBAC
 Test Date: 2017-11-01

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-20W-40D-3000K-90	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: DOBAC	SUR.:	PROTECTION ANGLE:



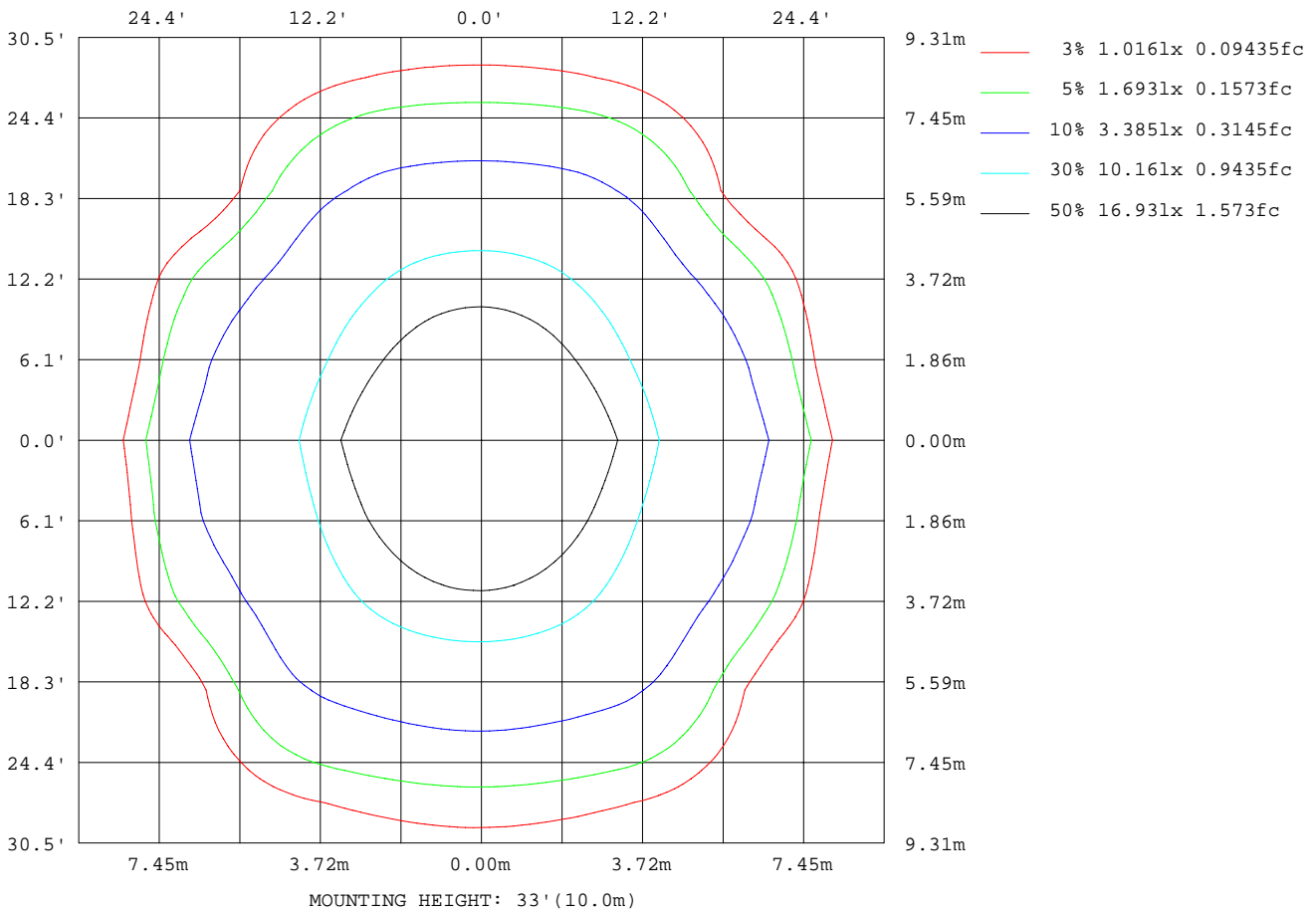
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-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: 2017-11-01

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-20W-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	1821.39	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0055	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	6364	6364	6450	6701	6935	7121	7503	7784	8018	8094	8087	7876	7505	7167	7015	6765	6488	6379	6112
60	4862	4783	4987	5116	5370	5681	5781	5707	5518	5418	5533	5720	5772	5737	5437	5201	5003	4777	4482
65	3441	3402	3622	3761	4091	4047	4249	4578	4709	4757	4721	4557	4216	4052	4160	3865	3687	3481	3279
70	2467	2447	2559	2866	2802	3191	3570	3819	3836	3835	3843	3800	3519	3212	2866	2991	2718	2580	2437
75	2172	2058	1957	2161	1896	2465	2579	2692	2463	2369	2462	2679	2568	2454	1942	2263	2050	2208	1924
80	218	248	428	1131	429	1124	794	428	106	0	106	425	799	1075	415	1146	413	245	156
85	32	92	129	0	0	0	0	0	0	0	0	0	0	0	0	0	81	80	85

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	8094	200	---	500
Category 2	65 to 90	4757	200	---	500
Category 3	75 to 90	2692	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:2017-11-01

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-20W-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	1821.39	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0055	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	6364	6364	6450	6701	6935	7121	7503	7784	8018	8094	8087	7876	7505	7167	7015	6765	6488	6379	6112
60	4862	4783	4987	5116	5370	5681	5781	5707	5518	5418	5533	5720	5772	5737	5437	5201	5003	4777	4482
65	3441	3402	3622	3761	4091	4047	4249	4578	4709	4757	4721	4557	4216	4052	4160	3865	3687	3481	3279
70	2467	2447	2559	2866	2802	3191	3570	3819	3836	3835	3843	3800	3519	3212	2866	2991	2718	2580	2437
75	2172	2058	1957	2161	1896	2465	2579	2692	2463	2369	2462	2679	2568	2454	1942	2263	2050	2208	1924
80	218	248	428	1131	429	1124	794	428	106	0	106	425	799	1075	415	1146	413	245	156
85	32	92	129	0	0	0	0	0	0	0	0	0	0	0	0	0	81	80	85

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	8094	1000	1500	200	500
65 to 90	4757	1000	1500	200	500

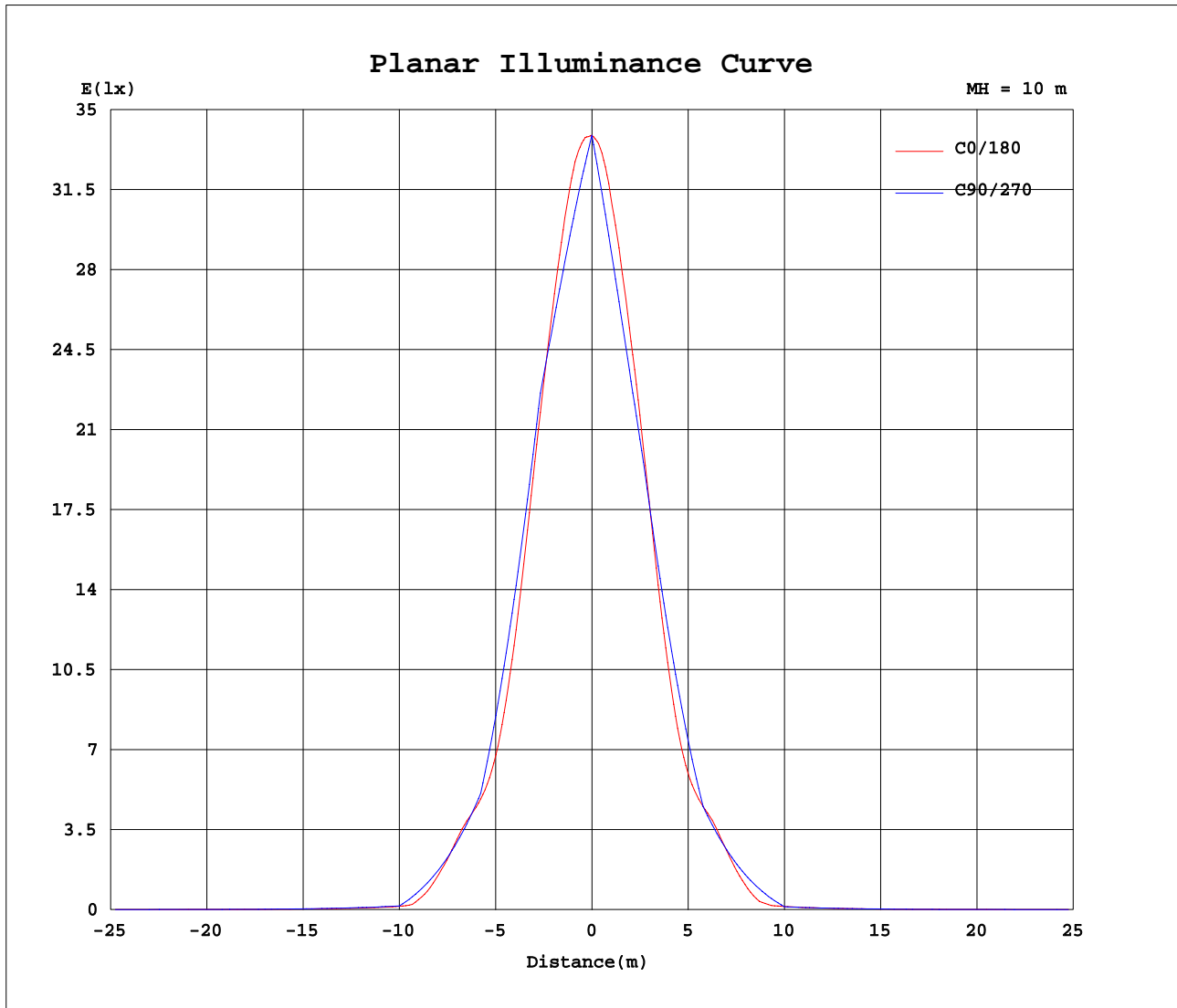
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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: 2017-11-01

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-20W-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	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388
5	3310	3285	3261	3239	3219	3201	3185	3172	3159	3147	3137	3129	3122	3117	3110	3103	3098	3095	3094
10	2943	2899	2862	2833	2810	2795	2785	2782	2780	2782	2786	2793	2802	2805	2806	2808	2808	2805	2801
15	2413	2355	2310	2279	2262	2255	2260	2275	2297	2325	2358	2392	2422	2451	2479	2497	2508	2514	2507
20	1732	1674	1637	1619	1617	1631	1658	1697	1747	1812	1865	1895	1918	1933	1939	1944	1943	1941	1933
25	1087	1055	1040	1037	1047	1065	1094	1141	1200	1259	1310	1350	1375	1385	1385	1379	1373	1366	1359
30	746	733	728	729	736	749	749	755	787	836	889	922	924	905	875	839	810	792	785
35	563	529	515	519	543	551	524	498	504	536	579	606	607	585	566	552	544	540	539
40	218	194	189	200	231	252	248	239	248	289	342	374	381	365	338	318	304	296	293
45	42.2	40.8	40.9	42.8	48.1	62.7	76.7	48.0	63.6	123	166	183	177	151	118	88.3	65.7	51.6	46.8
50	28.4	27.9	28.2	28.7	29.0	29.7	30.0	30.7	32.4	39.9	56.7	44.5	32.2	32.7	33.9	35.0	35.5	36.0	36.2
55	20.1	19.6	20.1	20.1	20.3	20.8	21.1	21.5	21.9	21.8	22.5	23.1	23.7	24.0	24.6	25.1	25.3	25.5	25.5
60	13.4	12.9	13.2	13.3	13.7	13.9	14.1	14.2	14.8	15.3	15.6	15.8	15.9	15.8	15.7	15.5	15.2	15.0	14.9
65	8.00	7.79	7.91	8.15	8.42	8.53	8.74	9.21	9.51	9.62	9.41	9.32	9.88	10.3	10.6	10.9	10.9	11.0	11.1
70	4.64	4.54	4.60	4.83	4.81	5.17	5.39	5.36	5.27	5.57	6.00	6.39	6.72	7.05	7.18	7.24	7.22	7.20	7.21
75	3.09	2.88	2.93	3.08	2.79	3.14	3.08	2.77	2.70	2.96	3.51	3.64	3.67	3.93	3.83	3.66	3.51	3.40	3.37
80	0.21	0.20	0.24	0.60	0.41	1.18	1.08	0.72	0.41	0.62	1.07	0.96	0.76	0.62	0.41	0.23	0.10	0.03	0.00
85	0.02	0.03	0.04	0.06	0.06	0.03	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	0.01	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	0.00

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DOBAC
Test Date:2017-11-01

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-20W-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	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388
5	3091	3089	3088	3090	3091	3091	3092	3093	3095	3100	3106	3114	3124	3137	3152	3170	3190	3213	3181
10	2796	2791	2781	2768	2753	2739	2718	2702	2692	2682	2675	2671	2674	2684	2701	2726	2758	2797	2737
15	2501	2487	2463	2436	2399	2360	2317	2274	2232	2194	2164	2141	2127	2125	2132	2153	2188	2238	2163
20	1930	1922	1914	1902	1884	1861	1827	1786	1725	1654	1593	1541	1505	1479	1467	1472	1494	1537	1473
25	1357	1355	1356	1354	1346	1326	1294	1249	1190	1131	1072	1016	976	948	928	922	925	944	917
30	788	803	827	856	881	894	884	846	790	739	711	713	715	701	691	685	687	696	675
35	537	538	544	556	573	591	585	550	502	472	472	498	521	507	472	451	450	469	431
40	294	301	314	333	357	369	357	317	257	214	212	230	226	198	161	137	127	136	121
45	51.7	66.1	87.9	116	148	171	172	149	101	56.1	48.2	70.0	52.8	42.9	41.9	39.8	39.1	39.5	38.4
50	36.0	35.9	35.5	34.4	33.1	32.6	43.2	50.4	37.1	32.7	31.4	30.2	29.8	29.4	28.7	28.1	27.5	27.7	26.8
55	25.5	25.5	25.4	24.8	24.3	23.7	23.2	22.6	22.0	22.1	21.7	21.3	21.0	20.5	20.2	20.1	19.2	19.3	18.6
60	15.0	15.2	15.5	15.7	15.8	15.9	15.9	15.8	15.5	15.0	14.4	14.3	14.1	13.8	13.3	13.1	12.5	12.3	12.1
65	11.0	11.0	10.9	10.6	10.2	9.80	9.30	9.42	9.68	9.67	9.41	8.98	8.77	8.57	8.29	8.09	7.77	7.62	7.43
70	7.22	7.23	7.25	7.15	7.02	6.62	6.39	6.04	5.61	5.39	5.52	5.63	5.45	5.11	5.09	4.85	4.74	4.59	4.50
75	3.41	3.50	3.65	3.81	3.88	3.66	3.66	3.49	2.97	2.76	2.88	3.22	3.15	2.92	3.29	3.14	3.05	2.74	2.69
80	0.03	0.10	0.23	0.41	0.61	0.76	0.98	1.03	0.53	0.40	0.70	1.09	1.22	0.39	0.65	0.23	0.19	0.15	0.13
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	0.04	0.06	0.04	0.01	0.04	0.01
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	0.01	0.00

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DOBAC
Test Date: 2017-11-01

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-20W-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	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388
5	3150	3123	3098	3076	3057	3041	3026	3014	3006	2998	2991	2988	2983	2979	2978	2979	2983	2983	2987
10	2686	2641	2604	2575	2554	2541	2531	2527	2525	2529	2541	2546	2553	2560	2566	2572	2578	2581	2587
15	2102	2055	2020	1994	1978	1974	1976	1988	2006	2028	2057	2085	2113	2131	2149	2163	2172	2177	2177
20	1427	1397	1379	1374	1376	1390	1409	1433	1473	1521	1562	1596	1627	1650	1662	1672	1680	1685	1687
25	904	898	899	899	901	905	930	974	1026	1073	1116	1150	1169	1180	1183	1185	1188	1194	1200
30	664	666	678	686	664	627	616	633	669	713	748	766	765	745	722	703	696	704	725
35	413	415	432	444	429	397	369	367	393	427	466	492	500	496	485	479	476	480	488
40	113	116	135	170	185	164	122	126	191	242	274	290	292	283	269	260	257	260	271
45	38.2	38.6	38.9	39.3	52.1	39.7	38.8	45.7	77.6	109	122	115	97.8	74.9	54.2	41.2	36.8	41.4	54.7
50	26.6	26.9	26.5	26.6	26.5	26.7	27.2	27.6	29.8	31.3	26.3	26.5	27.2	27.8	27.9	28.2	28.4	28.4	28.3
55	18.7	18.4	18.3	18.3	18.4	18.4	18.3	18.0	18.4	18.9	19.2	19.2	19.4	19.9	19.8	19.9	20.0	20.0	20.1
60	12.2	11.9	11.9	12.0	11.9	11.8	12.2	12.5	12.6	12.6	12.5	12.4	12.0	12.0	11.8	11.6	11.6	11.7	11.9
65	7.36	7.33	7.34	7.31	7.38	7.64	7.70	7.62	7.28	7.04	7.24	7.68	7.89	8.20	8.36	8.44	8.49	8.50	8.50
70	4.49	4.50	4.44	4.40	4.78	4.70	4.22	4.15	4.22	4.29	4.49	4.89	5.11	5.28	5.35	5.37	5.40	5.41	5.43
75	2.40	2.58	2.11	2.31	2.59	2.51	2.16	1.93	1.80	1.66	1.77	2.12	2.38	2.40	2.36	2.31	2.30	2.32	2.38
80	0.10	0.21	0.14	0.45	0.78	0.56	0.17	0.10	0.12	0.14	0.20	0.27	0.24	0.15	0.07	0.02	0.00	0.02	0.07
85	0.03	0.04	0.03	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:2017-11-01

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-20W-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	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388	3388				
5	2994	3004	3015	3025	3037	3052	3068	3087	3107	3129	3154	3181	3210	3242	3275				
10	2591	2596	2601	2609	2610	2616	2627	2640	2657	2677	2704	2737	2778	2826	2881				
15	2172	2164	2150	2139	2126	2113	2103	2099	2102	2113	2134	2167	2209	2264	2332				
20	1685	1677	1665	1646	1616	1582	1549	1526	1512	1508	1512	1528	1555	1596	1654				
25	1206	1211	1206	1188	1159	1116	1069	1023	985	983	987	994	1003	1020	1045				
30	755	787	809	808	787	748	705	679	674	697	718	720	718	719	728				
35	502	518	527	521	496	464	433	422	439	480	512	505	490	495	519				
40	288	307	319	314	292	251	188	165	192	221	220	193	172	172	187				
45	76.2	103	128	141	138	111	66.0	42.3	42.2	65.4	49.6	42.8	40.5	39.7	40.4				
50	28.1	28.0	27.2	26.9	35.5	37.9	29.5	28.5	28.2	27.6	27.7	27.8	27.5	27.6	27.5				
55	20.1	20.1	19.8	19.9	19.7	19.5	19.2	19.5	19.4	19.5	19.6	19.3	19.4	19.6	19.4				
60	12.3	12.5	12.7	13.1	13.3	13.4	13.2	13.0	12.7	12.9	13.0	13.0	12.8	12.9	12.8				
65	8.44	8.24	8.03	7.85	7.50	7.90	8.26	8.40	8.30	8.01	7.99	8.03	7.90	7.81	7.75				
70	5.44	5.36	5.28	5.10	4.80	4.59	4.59	4.58	4.82	5.04	4.90	4.62	4.75	4.58	4.54				
75	2.46	2.54	2.59	2.39	2.12	2.04	2.17	2.36	2.55	2.91	2.70	2.46	2.94	2.91	2.90				
80	0.15	0.26	0.37	0.40	0.29	0.21	0.20	0.28	0.62	0.97	1.02	0.26	0.56	0.24	0.20				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.04	0.02	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:2017-11-01

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: