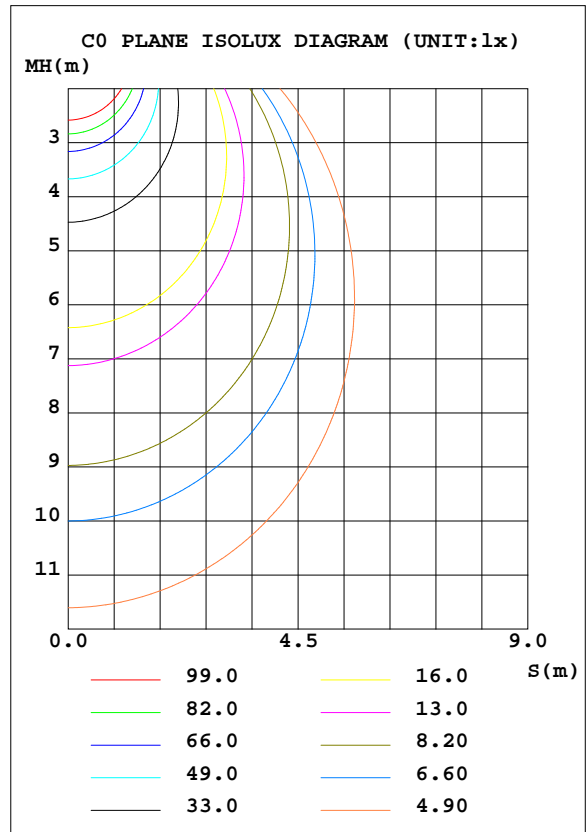
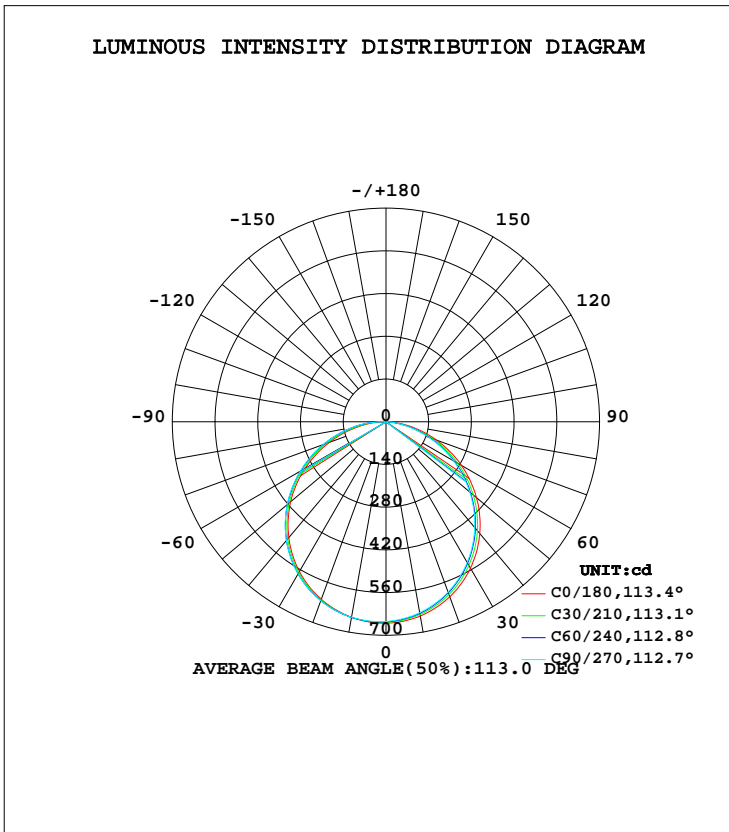


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 85.17 lm/W			
MODEL	FT-F9011-4000K	I _{max} (cd)	660.2	S/MH(C0/180)	1.25
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	1.22
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1936.3	η UP, DN(C0-180)	0.8, 45.8
NOMINAL FLUX(lm)	1936.26	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.9, 52.5
LAMPS INSIDE	1	η up(%)	1.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	232.1	η down(%)	98.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	646.5	639.3	635.7	636.5	650.8	651.1	650.8	647.6	0- 10	62.05	62.05	3.2,3.2
20	610.7	599.8	594.4	597.6	619.1	622.8	624.2	619.5	10- 20	177.9	239.9	12.4,12.4
30	553.9	539.3	532.3	538.2	567.3	573.4	576.1	570.6	20- 30	270.0	509.9	26.3,26.3
40	478.2	460.8	452.6	460.8	495.6	504.2	507.8	501.8	30- 40	326.1	836.1	43.2,43.2
50	387.4	367.5	358.5	368.3	408.1	418.0	422.4	416.0	40- 50	338.9	1175	60.7,60.7
60	285.5	264.3	255.0	265.8	305.9	319.1	324.5	317.8	50- 60	307.1	1482	76.5,76.5
70	176.8	158.0	149.7	159.3	197.2	212.6	218.8	212.5	60- 70	236.6	1719	88.8,88.8
80	72.30	58.61	53.88	59.51	89.84	107.0	114.9	107.0	70- 80	140.8	1859	96,96
90	3.190	3.543	3.417	3.378	7.956	19.21	19.28	18.12	80- 90	44.36	1904	98.3,98.3
100	3.564	3.728	3.920	3.844	3.709	3.620	3.652	3.749	90-100	4.779	1908	98.6,98.6
110	4.156	4.289	4.395	4.419	4.293	4.157	4.175	4.222	100-110	4.215	1913	98.8,98.8
120	4.728	4.878	4.940	4.992	4.865	4.725	4.741	4.785	110-120	4.511	1917	99,99
130	5.333	5.534	5.551	5.615	5.478	5.323	5.327	5.381	120-130	4.607	1922	99.3,99.3
140	5.932	6.140	6.143	6.231	6.093	5.944	5.934	6.005	130-140	4.450	1926	99.5,99.5
150	6.570	6.716	6.714	6.700	6.702	6.541	6.543	6.617	140-150	3.983	1930	99.7,99.7
160	7.136	7.209	7.243	7.192	7.251	7.085	7.104	7.143	150-160	3.189	1933	99.9,99.9
170	7.578	7.562	7.628	7.557	7.647	7.492	7.536	7.521	160-170	2.086	1936	100,100
180	7.759	7.671	7.736	7.677	7.784	7.650	7.726	7.682	170-180	0.7267	1936	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

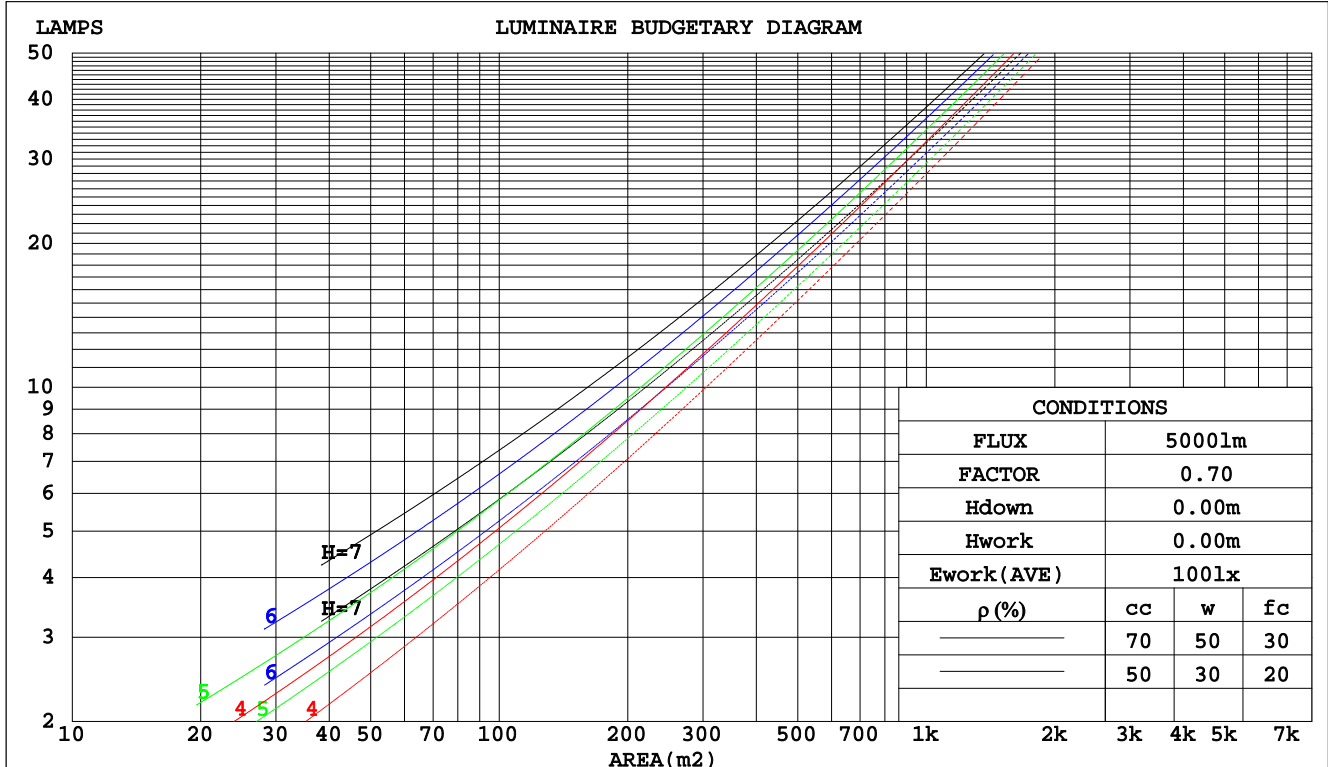
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	
pw																0
pfc																0
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	.98
1.0	1.03	.99	.95	1.01	.97	.93	.96	.93	.90	.92	.89	.87	.88	.86	.84	.82
2.0	.90	.83	.77	.88	.81	.76	.84	.78	.74	.80	.76	.72	.77	.73	.70	.68
3.0	.79	.70	.64	.77	.69	.63	.74	.67	.62	.71	.65	.60	.68	.63	.59	.57
4.0	.70	.61	.54	.68	.60	.53	.65	.58	.52	.63	.57	.52	.60	.55	.51	.48
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.56	.50	.45	.54	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.44	.39	.49	.43	.39	.36
7.0	.51	.42	.36	.50	.41	.35	.48	.40	.35	.46	.40	.35	.45	.39	.34	.32
8.0	.46	.38	.32	.45	.37	.32	.44	.36	.31	.42	.36	.31	.41	.35	.31	.29
9.0	.42	.34	.28	.42	.34	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.38	.31	.26	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

WEC AND CCEC

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	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	.316	.180	.057	.308	.176	.056	.294	.169	.054	.281	.162	.052	.269	.156	.050	
2.0	.295	.162	.050	.288	.159	.049	.276	.153	.048	.264	.148	.046	.253	.143	.045	
3.0	.272	.145	.043	.266	.143	.043	.255	.138	.042	.245	.134	.041	.235	.130	.040	
4.0	.251	.130	.038	.245	.128	.038	.235	.125	.037	.226	.121	.037	.218	.118	.036	
5.0	.231	.118	.034	.227	.116	.034	.218	.113	.033	.210	.111	.033	.202	.108	.032	
6.0	.214	.107	.031	.210	.106	.031	.202	.104	.030	.195	.101	.030	.188	.099	.029	
7.0	.199	.099	.028	.196	.097	.028	.188	.095	.027	.182	.093	.027	.176	.091	.027	
8.0	.186	.091	.026	.183	.090	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.174	.084	.024	.171	.083	.023	.165	.082	.023	.160	.080	.023	.155	.079	.023	
10.0	.164	.079	.022	.161	.078	.022	.156	.076	.022	.151	.075	.021	.146	.074	.021	

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	.203	.203	.203	.174	.174	.174	.119	.119	.119	.068	.068	.068	.022	.022	.022	
1.0	.194	.169	.147	.166	.145	.126	.113	.100	.087	.065	.058	.051	.021	.019	.016	
2.0	.186	.145	.111	.159	.125	.096	.109	.086	.067	.063	.050	.039	.020	.016	.013	
3.0	.178	.127	.087	.153	.110	.075	.105	.076	.053	.060	.045	.031	.019	.014	.010	
4.0	.170	.114	.071	.146	.099	.062	.101	.069	.044	.058	.040	.026	.019	.013	.008	
5.0	.163	.104	.060	.140	.090	.052	.096	.063	.037	.056	.037	.022	.018	.012	.007	
6.0	.156	.095	.052	.134	.083	.045	.092	.058	.032	.054	.034	.019	.017	.011	.006	
7.0	.149	.089	.046	.128	.077	.040	.088	.054	.029	.051	.032	.017	.017	.010	.006	
8.0	.142	.083	.042	.123	.072	.037	.085	.050	.026	.049	.030	.015	.016	.010	.005	
9.0	.136	.078	.038	.117	.068	.034	.081	.048	.024	.047	.028	.014	.015	.009	.005	
10.0	.131	.074	.036	.113	.064	.031	.078	.045	.022	.046	.027	.013	.015	.009	.004	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

Uncorrected UGR Table

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm										
NAME: FT-F9011-4000K					TYPE:			WEIGHT:		
DIM.:					SPEC.:			SERIAL No.:		
MFR.:					SUR.:0.25*0.25			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	21.2	22.7	21.4	22.9	23.1	20.7	22.2	21.0	22.5	22.7
3H	22.7	24.0	23.0	24.3	24.6	22.1	23.5	22.4	23.7	24.0
4H	23.2	24.6	23.6	24.8	25.1	22.5	23.9	22.9	24.2	24.4
6H	23.6	24.9	24.0	25.2	25.5	22.8	24.1	23.2	24.4	24.7
8H	23.8	25.0	24.1	25.3	25.6	22.9	24.1	23.3	24.4	24.7
12H	23.8	25.0	24.2	25.3	25.6	22.9	24.1	23.3	24.4	24.7
4H 2H	21.7	23.0	22.0	23.3	23.6	21.3	22.7	21.7	22.9	23.2
3H	23.3	24.5	23.7	24.8	25.2	22.8	24.0	23.2	24.3	24.7
4H	24.0	25.1	24.4	25.4	25.8	23.4	24.5	23.8	24.8	25.2
6H	24.5	25.5	25.0	25.9	26.3	23.8	24.8	24.2	25.1	25.5
8H	24.7	25.6	25.1	26.0	26.4	23.9	24.8	24.4	25.2	25.6
12H	24.8	25.6	25.2	26.0	26.4	23.9	24.7	24.4	25.2	25.6
8H 4H	24.2	25.1	24.6	25.5	25.9	23.7	24.5	24.1	24.9	25.4
6H	24.8	25.6	25.3	26.0	26.5	24.2	24.9	24.6	25.3	25.8
8H	25.1	25.7	25.6	26.2	26.7	24.3	25.0	24.8	25.4	25.9
12H	25.2	25.8	25.7	26.2	26.7	24.4	24.9	24.9	25.4	25.9
12H 4H	24.2	25.0	24.6	25.4	25.9	23.7	24.5	24.1	24.9	25.3
6H	24.9	25.5	25.4	26.0	26.5	24.2	24.9	24.7	25.3	25.8
8H	25.1	25.7	25.6	26.1	26.7	24.4	24.9	24.9	25.4	25.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 1936 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.3)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	PROTECTION ANGLE:

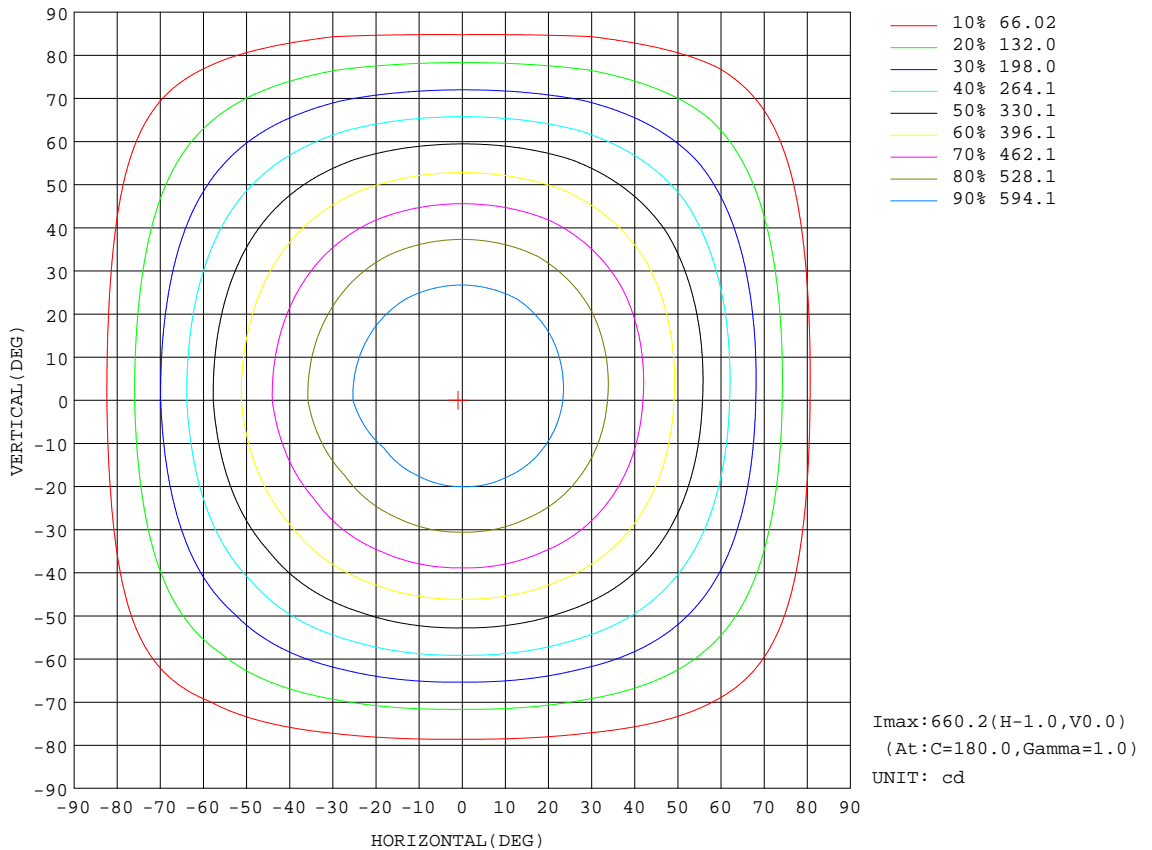
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	47	66	54	47	64	54	47	40
1.00	75	64	56	74	63	56	71	64	55	48
1.25	82	71	64	81	71	64	78	69	63	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	79	92	84	78	88	82	76	68
2.50	98	90	84	96	89	83	92	86	81	72
3.00	101	94	89	99	93	87	95	89	85	76
4.00	105	100	95	103	98	93	98	94	90	81
5.00	108	103	99	105	101	97	100	97	94	84
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	PROTECTION ANGLE:

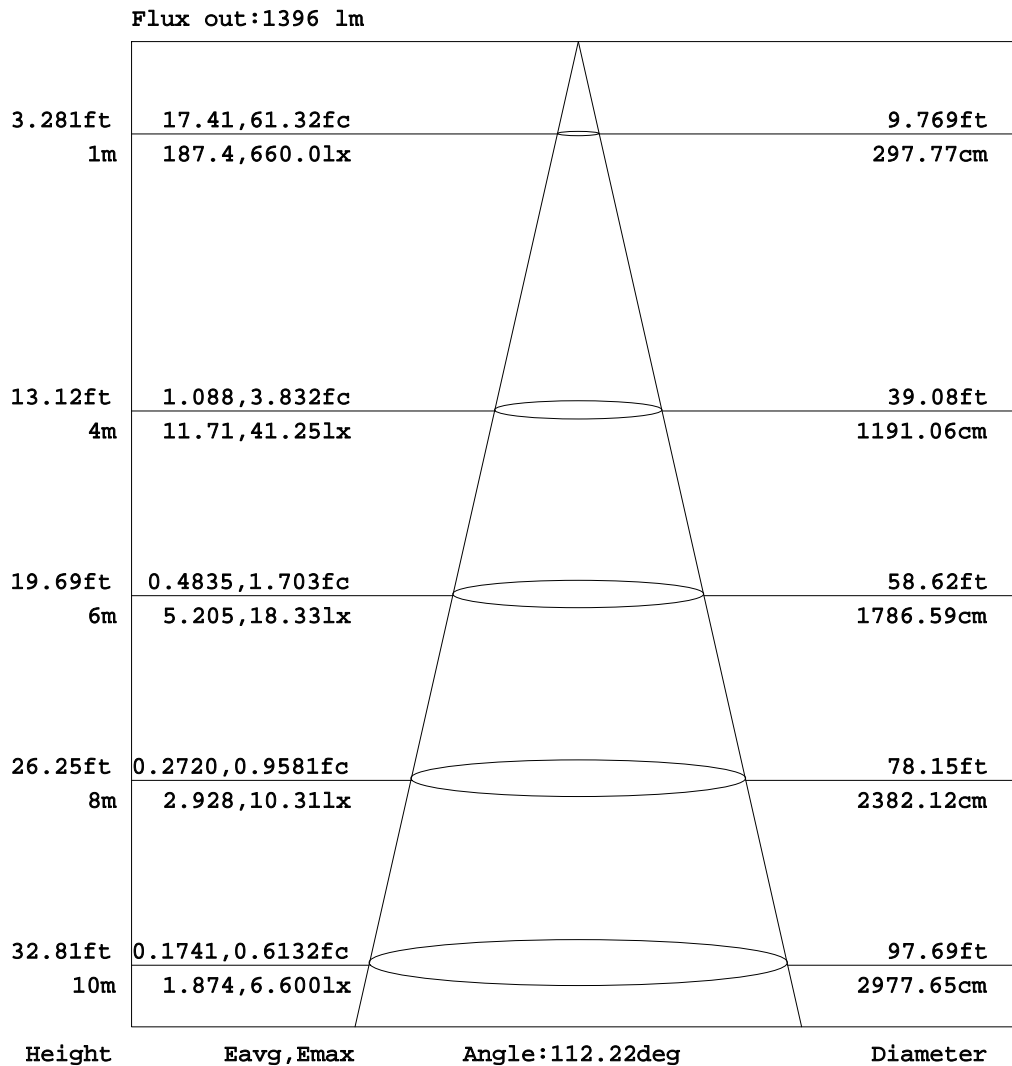


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

AAI Figure

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	PROTECTION ANGLE:



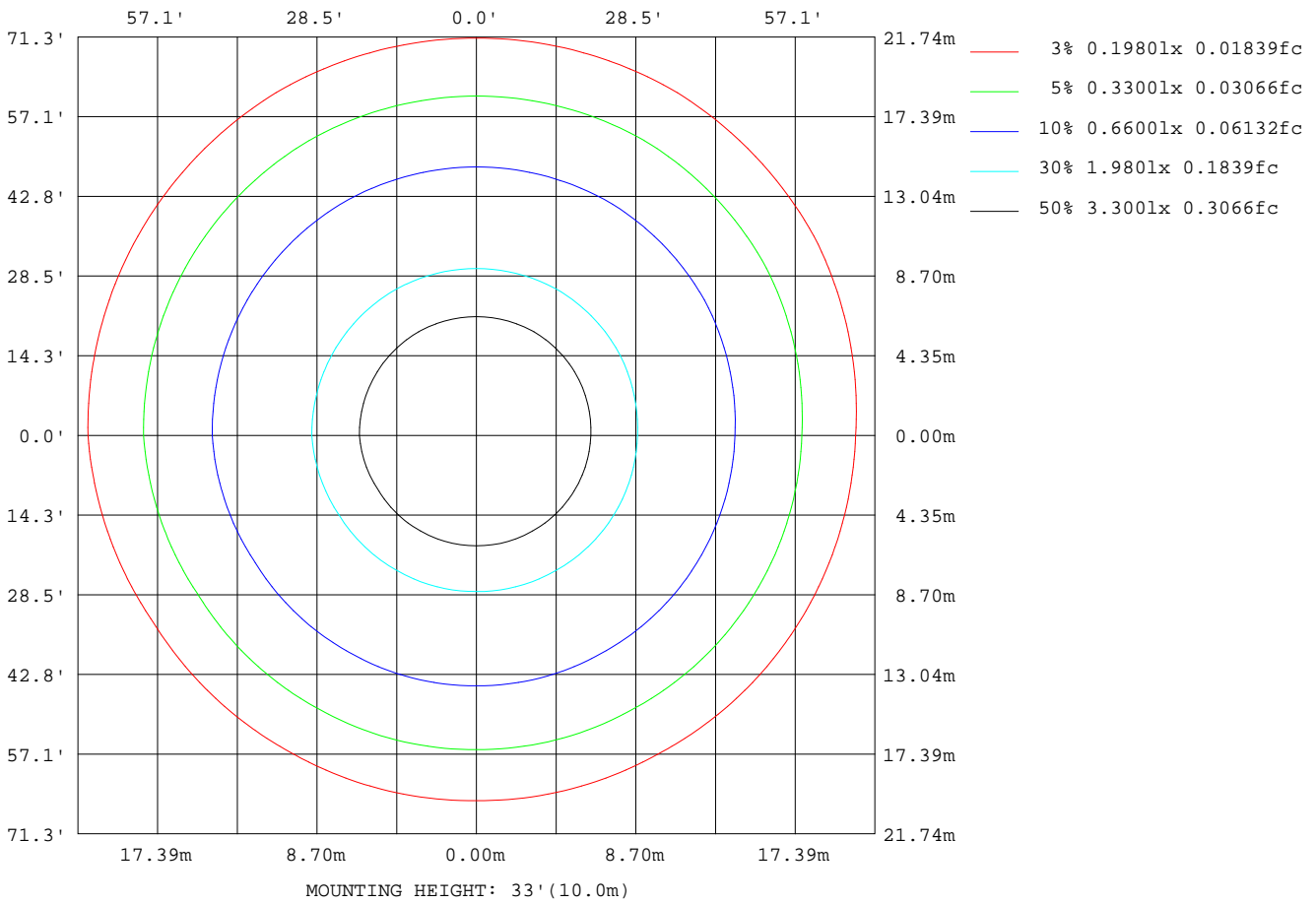
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

ISOLUX DIAGRAM

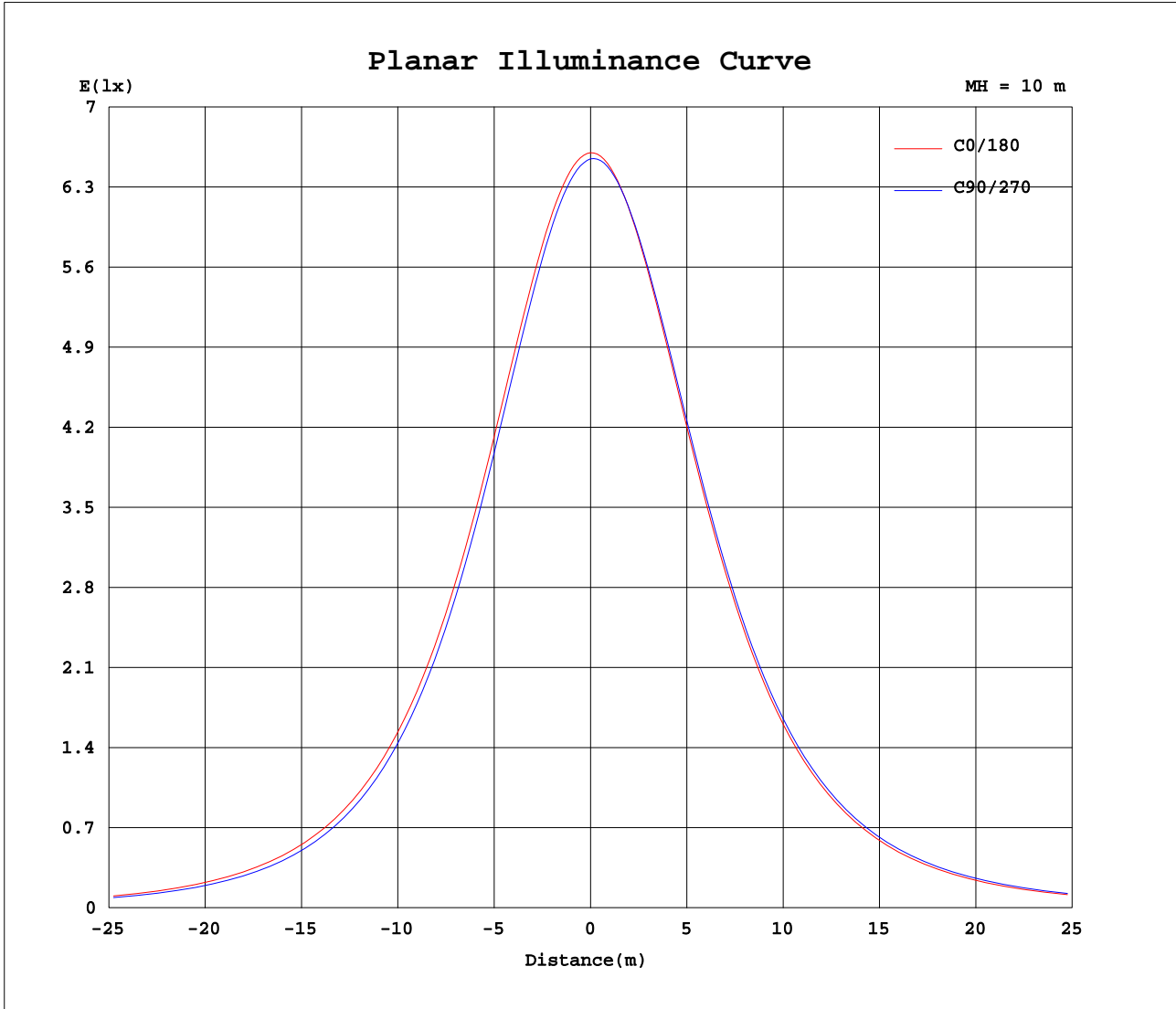
Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7312]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:232.1V I:0.2000A P:22.73W PF:0.4897 Lamp Flux:1936.26x1 lm		
NAME: FT-F9011-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.25*0.25	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	660	657	656	655	654	653	660	657	656	655	654	653							
5	656	652	649	648	648	648	658	657	656	656	654	652							
10	646	641	637	636	635	637	651	651	651	651	649	646							
15	631	625	620	618	618	621	638	639	641	640	639	634							
20	611	603	597	594	595	600	619	622	624	624	623	616							
25	585	576	568	566	567	574	596	599	603	603	602	594							
30	554	543	535	532	534	542	567	571	576	576	575	566							
35	518	507	497	495	497	506	534	538	544	544	543	533							
40	478	466	456	453	455	466	496	501	507	508	507	496							
45	435	422	410	407	410	422	454	459	466	467	467	455							
50	387	374	361	358	362	375	408	414	422	422	422	410							
55	338	323	311	308	312	325	358	366	374	375	374	362							
60	285	271	258	255	259	272	306	315	323	324	324	312							
65	231	218	205	202	207	219	252	262	271	272	272	259							
70	177	163	153	150	154	164	197	207	218	219	219	206							
75	123	110	102	99.0	103	111	143	153	165	166	166	152							
80	72.3	62.0	55.3	53.9	56.5	62.6	89.8	101	113	115	114	100							
85	25.8	20.3	14.9	13.9	15.4	23.3	41.6	51.5	66.5	63.4	66.7	50.9							
90	3.19	3.56	3.53	3.42	3.39	3.36	7.96	14.3	24.1	19.3	23.6	12.6							
95	3.31	3.41	3.58	3.66	3.62	3.53	3.45	3.39	3.42	3.42	3.73	3.81							
100	3.56	3.68	3.78	3.92	3.90	3.79	3.71	3.63	3.61	3.65	3.77	3.73							
105	3.86	3.94	4.06	4.10	4.19	4.05	3.98	3.89	3.87	3.90	3.90	3.99							
110	4.16	4.24	4.34	4.39	4.47	4.37	4.29	4.18	4.14	4.18	4.18	4.26							
115	4.44	4.53	4.61	4.67	4.73	4.67	4.57	4.46	4.42	4.46	4.46	4.55							
120	4.73	4.83	4.92	4.94	5.02	4.96	4.86	4.74	4.71	4.74	4.75	4.82							
125	5.03	5.13	5.24	5.24	5.34	5.27	5.17	5.04	5.02	5.04	5.05	5.11							
130	5.33	5.45	5.62	5.55	5.65	5.58	5.48	5.33	5.32	5.33	5.35	5.41							
135	5.63	5.77	5.91	5.86	5.96	5.89	5.78	5.63	5.63	5.61	5.66	5.72							
140	5.93	6.08	6.20	6.14	6.24	6.22	6.09	5.95	5.94	5.93	5.97	6.04							
145	6.24	6.39	6.45	6.42	6.48	6.47	6.40	6.25	6.25	6.24	6.28	6.36							
150	6.57	6.69	6.74	6.71	6.73	6.67	6.70	6.53	6.55	6.54	6.57	6.66							
155	6.85	6.95	6.96	6.98	6.98	6.91	6.99	6.81	6.84	6.83	6.85	6.94							
160	7.14	7.23	7.19	7.24	7.22	7.16	7.25	7.07	7.10	7.10	7.11	7.17							
165	7.38	7.42	7.39	7.47	7.42	7.38	7.49	7.30	7.33	7.35	7.33	7.40							
170	7.58	7.58	7.54	7.63	7.57	7.55	7.65	7.48	7.51	7.54	7.49	7.55							
175	7.71	7.68	7.63	7.72	7.66	7.66	7.70	7.55	7.56	7.62	7.56	7.60							
180	7.76	7.67	7.67	7.74	7.67	7.69	7.78	7.64	7.66	7.73	7.67	7.69							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7312]
 Remarks: