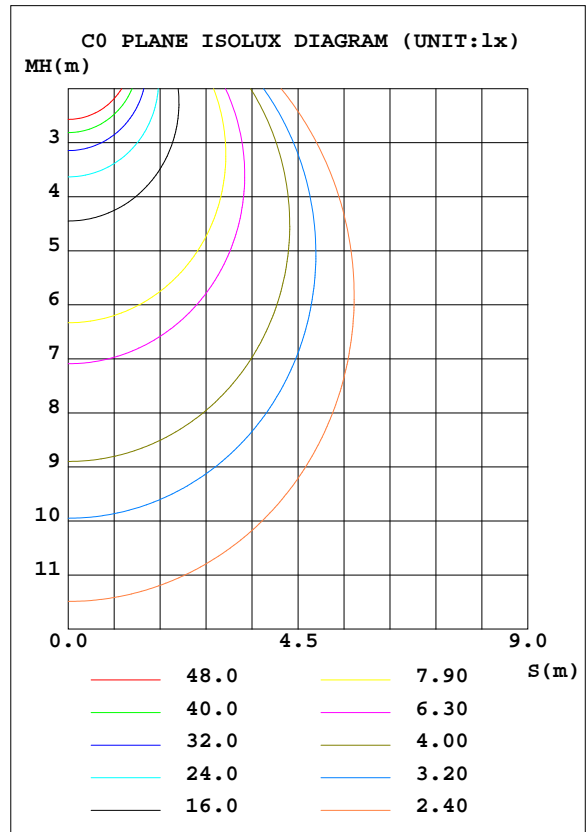
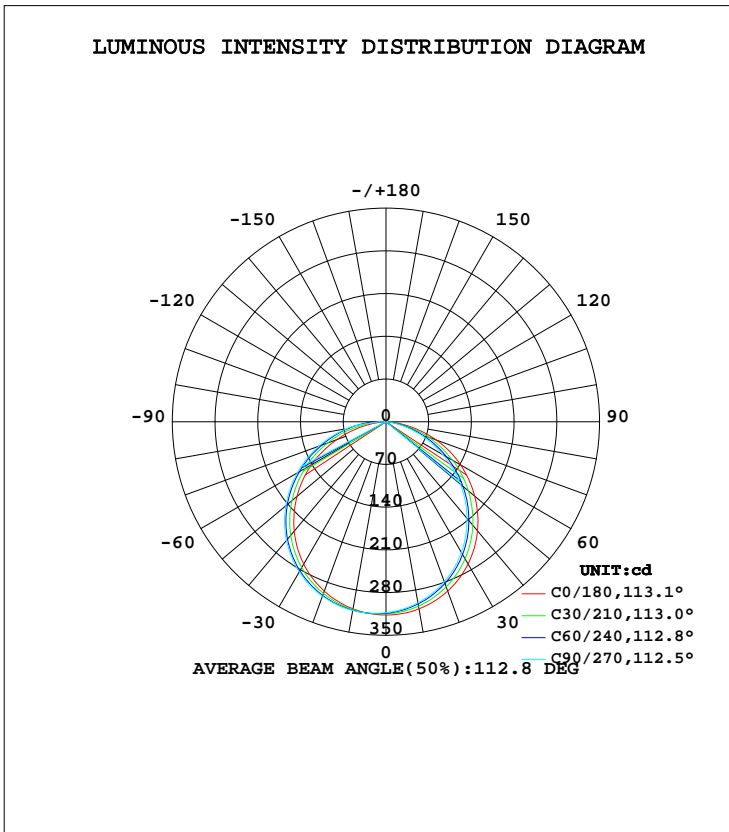


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 81.16 lm/W			
MODEL	FT-F9005-4000K	I _{max} (cd)	316.7	S/MH(C0/180)	1.26
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	1.18
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	922.59	η UP, DN(C0-180)	0.8, 43.9
NOMINAL FLUX(lm)	922.59	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.9, 54.3
LAMPS INSIDE	1	η up(%)	1.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	98.2	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	311.4	304.9	301.4	301.8	311.3	313.1	313.9	311.5	0- 10	29.69	29.69	3.22,3.22
20	295.4	285.0	279.2	281.1	295.5	301.3	304.2	300.4	10- 20	85.16	114.9	12.4,12.4
30	269.1	255.1	247.2	250.5	269.5	279.1	284.1	279.3	20- 30	129.4	244.2	26.5,26.5
40	233.4	216.4	206.7	211.1	233.9	247.0	253.8	247.9	30- 40	156.3	400.5	43.4,43.4
50	189.9	170.4	159.6	164.8	190.4	206.1	214.3	207.9	40- 50	162.1	562.6	61,61
60	140.9	120.1	107.0	113.8	141.3	158.7	167.7	161.1	50- 60	146.3	708.9	76.8,76.8
70	87.67	68.73	57.31	62.56	86.03	107.1	116.9	109.8	60- 70	111.9	820.8	89,89
80	33.66	21.73	14.74	17.72	32.32	54.80	65.26	58.02	70- 80	65.20	886.0	96,96
90	1.510	1.652	1.640	1.658	1.521	12.19	9.523	14.44	80- 90	20.20	906.2	98.2,98.2
100	1.654	1.783	1.871	1.860	1.763	1.727	1.677	1.873	90-100	2.854	909.1	98.5,98.5
110	1.942	2.054	2.159	2.135	2.059	2.041	1.929	2.100	100-110	2.031	911.1	98.8,98.8
120	2.223	2.359	2.424	2.428	2.366	2.420	2.194	2.379	110-120	2.193	913.3	99,99
130	2.528	2.654	2.724	2.728	2.670	2.697	2.515	2.650	120-130	2.251	915.6	99.2,99.2
140	2.839	2.937	3.002	3.028	2.989	2.967	2.814	2.949	130-140	2.171	917.7	99.5,99.5
150	3.168	3.247	3.312	3.321	3.283	3.189	3.127	3.224	140-150	1.936	919.7	99.7,99.7
160	3.431	3.488	3.544	3.535	3.550	3.428	3.402	3.495	150-160	1.564	921.2	99.9,99.9
170	3.638	3.622	3.684	3.673	3.711	3.613	3.642	3.677	160-170	1.009	922.2	100,100
180	3.732	3.701	3.746	3.738	3.755	3.688	3.738	3.736	170-180	0.3514	922.6	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

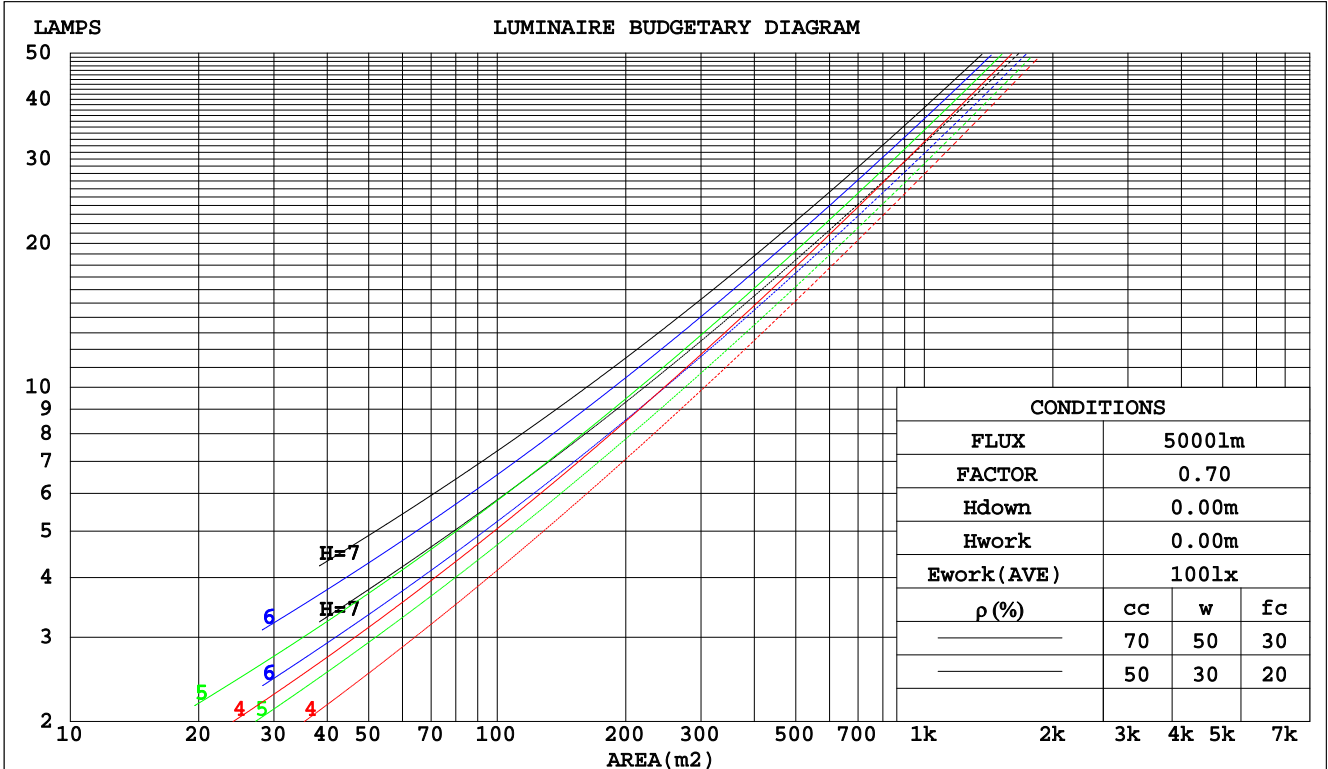
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-10-16

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:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	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	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	1.10	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	.79	.74	.80	.76	.72	.77	.73	.70	.68
3.0	.79	.71	.64	.77	.69	.63	.74	.67	.62	.71	.65	.61	.68	.63	.59	.57
4.0	.70	.61	.54	.68	.60	.54	.66	.58	.53	.63	.57	.52	.61	.55	.51	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.56	.50	.45	.54	.49	.44	.42
6.0	.56	.47	.41	.55	.46	.40	.53	.45	.40	.51	.44	.39	.49	.43	.39	.37
7.0	.51	.42	.36	.50	.41	.36	.48	.41	.35	.46	.40	.35	.45	.39	.34	.32
8.0	.46	.38	.32	.45	.37	.32	.44	.37	.31	.43	.36	.31	.41	.35	.31	.29
9.0	.42	.34	.29	.42	.34	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.37	.30	.26	.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:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	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	.313	.178	.056	.306	.174	.055	.292	.167	.053	.278	.161	.052	.266	.154	.050	
2.0	.293	.161	.049	.287	.158	.049	.274	.152	.047	.262	.147	.046	.252	.142	.045	
3.0	.271	.144	.043	.265	.142	.043	.254	.138	.042	.243	.133	.041	.234	.129	.040	
4.0	.250	.130	.038	.244	.128	.038	.234	.124	.037	.225	.121	.036	.217	.118	.036	
5.0	.231	.118	.034	.226	.116	.034	.217	.113	.033	.209	.110	.033	.201	.107	.032	
6.0	.214	.107	.031	.210	.106	.030	.202	.103	.030	.194	.101	.030	.187	.099	.029	
7.0	.199	.098	.028	.195	.097	.028	.188	.095	.027	.181	.093	.027	.175	.091	.027	
8.0	.186	.091	.026	.182	.090	.025	.176	.088	.025	.170	.086	.025	.164	.084	.025	
9.0	.174	.084	.023	.171	.083	.023	.165	.082	.023	.160	.080	.023	.155	.078	.023	
10.0	.164	.078	.022	.161	.078	.022	.156	.076	.021	.151	.075	.021	.146	.073	.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	.204	.204	.204	.174	.174	.174	.119	.119	.119	.068	.068	.068	.022	.022	.022	
1.0	.194	.170	.148	.166	.146	.127	.114	.100	.088	.065	.058	.051	.021	.019	.017	
2.0	.186	.146	.112	.159	.125	.096	.109	.087	.067	.063	.050	.039	.020	.016	.013	
3.0	.178	.128	.088	.153	.111	.076	.105	.077	.053	.061	.045	.032	.019	.015	.010	
4.0	.171	.115	.072	.147	.099	.063	.101	.069	.044	.058	.041	.026	.019	.013	.009	
5.0	.163	.104	.061	.140	.090	.053	.097	.063	.037	.056	.037	.022	.018	.012	.007	
6.0	.156	.096	.053	.134	.083	.046	.093	.058	.033	.054	.034	.019	.017	.011	.006	
7.0	.149	.089	.047	.129	.077	.041	.089	.054	.029	.052	.032	.017	.017	.010	.006	
8.0	.143	.084	.043	.123	.072	.037	.085	.051	.026	.050	.030	.016	.016	.010	.005	
9.0	.137	.079	.039	.118	.068	.034	.082	.048	.024	.048	.028	.014	.015	.009	.005	
10.0	.131	.074	.036	.113	.065	.032	.078	.045	.023	.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:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm										
NAME: FT-F9005-4000K					TYPE:			WEIGHT:		
DIM.:					SPEC.:			SERIAL No.:		
MFR.:					SUR.:0.12*0.12			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	23.8	25.3	24.1	25.5	25.8	22.8	24.3	23.1	24.6	24.8
3H	25.3	26.7	25.6	27.0	27.2	24.0	25.3	24.3	25.6	25.9
4H	25.9	27.2	26.2	27.5	27.8	24.3	25.6	24.6	25.9	26.2
6H	26.3	27.5	26.6	27.8	28.1	24.4	25.7	24.8	26.0	26.3
8H	26.4	27.6	26.7	27.9	28.2	24.4	25.6	24.8	25.9	26.2
12H	26.4	27.5	26.8	27.9	28.2	24.3	25.5	24.7	25.8	26.2
4H 2H	24.2	25.5	24.6	25.8	26.1	23.5	24.8	23.8	25.1	25.4
3H	25.9	27.0	26.3	27.4	27.7	24.7	25.9	25.1	26.2	26.6
4H	26.6	27.6	27.0	28.0	28.4	25.2	26.2	25.6	26.6	27.0
6H	27.0	28.0	27.5	28.4	28.8	25.4	26.3	25.8	26.7	27.1
8H	27.2	28.1	27.6	28.5	28.9	25.4	26.2	25.8	26.6	27.1
12H	27.2	28.0	27.7	28.5	28.9	25.3	26.1	25.8	26.6	27.0
8H 4H	26.7	27.6	27.1	28.0	28.4	25.4	26.3	25.8	26.7	27.1
6H	27.2	28.0	27.7	28.4	28.9	25.7	26.4	26.2	26.9	27.3
8H	27.4	28.1	27.9	28.5	29.0	25.7	26.4	26.2	26.8	27.3
12H	27.5	28.1	28.0	28.6	29.1	25.7	26.2	26.2	26.7	27.2
12H 4H	26.7	27.5	27.1	27.9	28.3	25.4	26.2	25.9	26.6	27.1
6H	27.2	27.9	27.7	28.3	28.8	25.7	26.4	26.2	26.8	27.3
8H	27.4	28.0	27.9	28.5	29.0	25.8	26.3	26.3	26.8	27.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.3				
1.5H	+ 0.1 / - 0.2					+ 0.2 / - 0.4				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.5				

CIE Pub.117 Corrected 922.6 lm Total Lamp Luminous Flux. (8log(F/F0) = -0.3)

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:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	PROTECTION ANGLE:

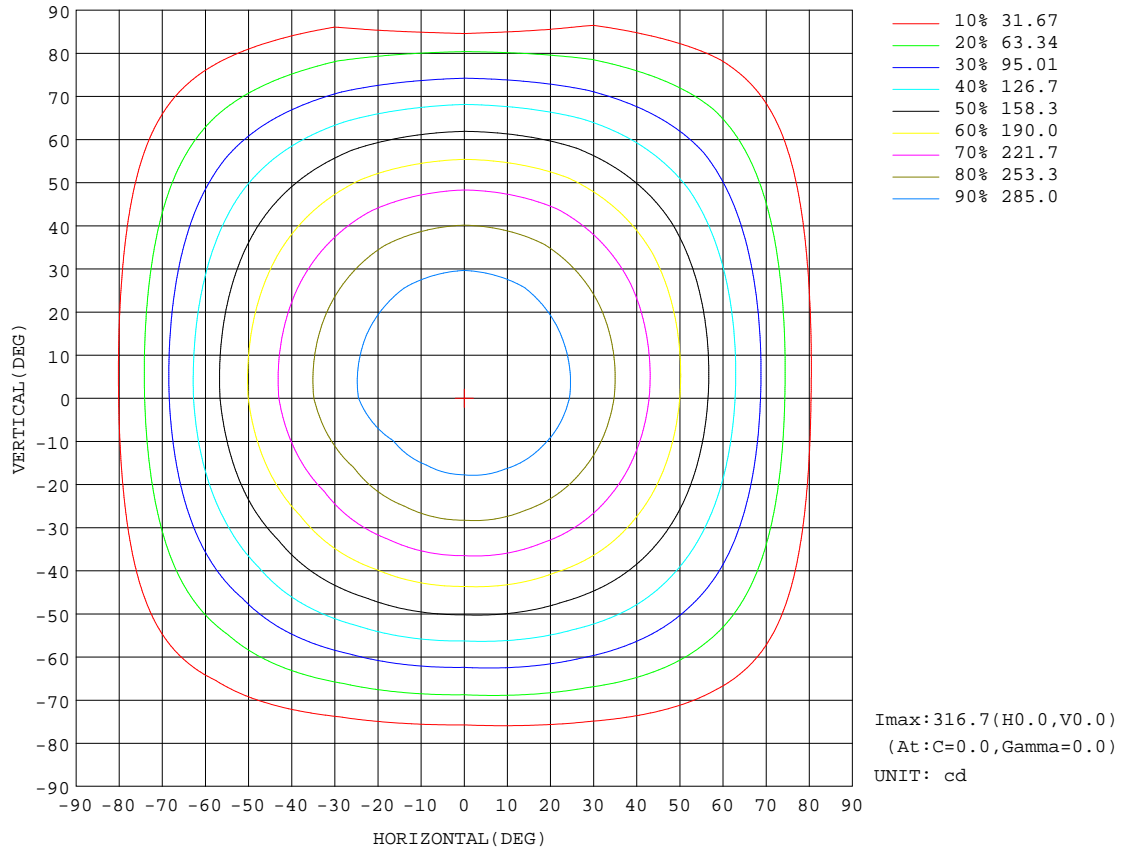
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	47	64	54	47	40
1.00	75	64	57	74	63	56	71	65	56	48
1.25	82	72	64	81	71	64	78	69	63	55
1.50	87	77	70	85	76	70	82	74	68	61
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	88	95	90	85	76
4.00	106	100	95	103	98	93	98	94	91	81
5.00	108	103	99	105	101	97	101	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:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	PROTECTION ANGLE:

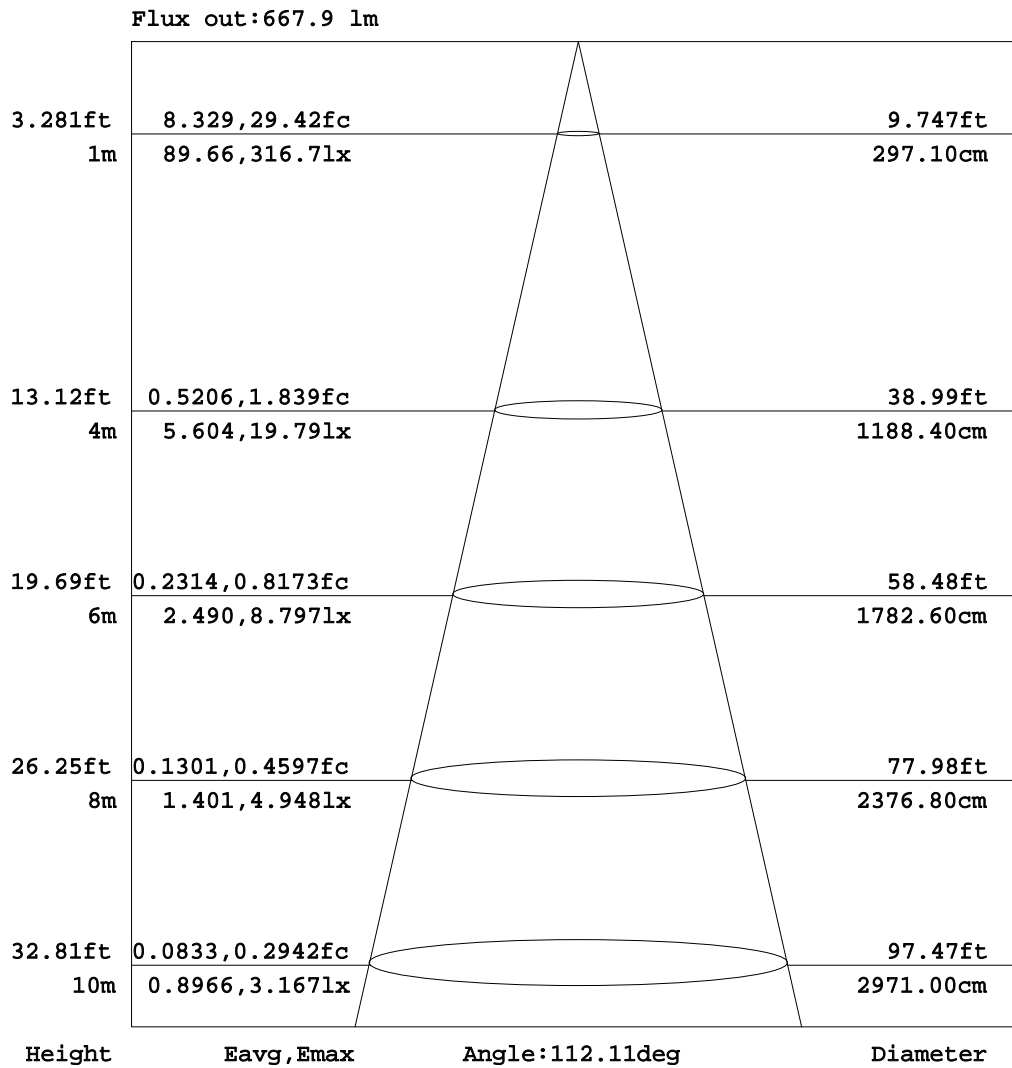


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-10-16

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:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	PROTECTION ANGLE:



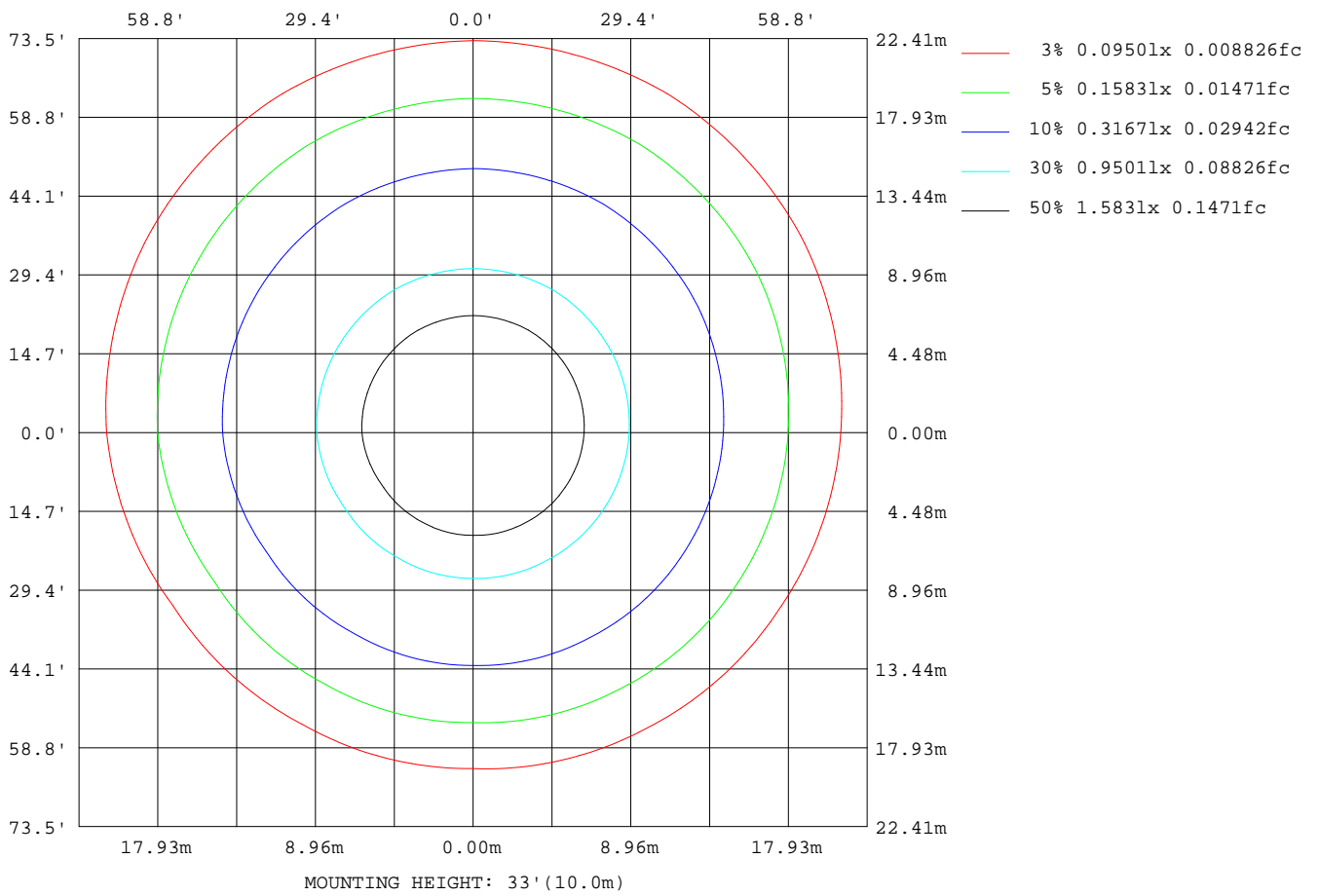
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

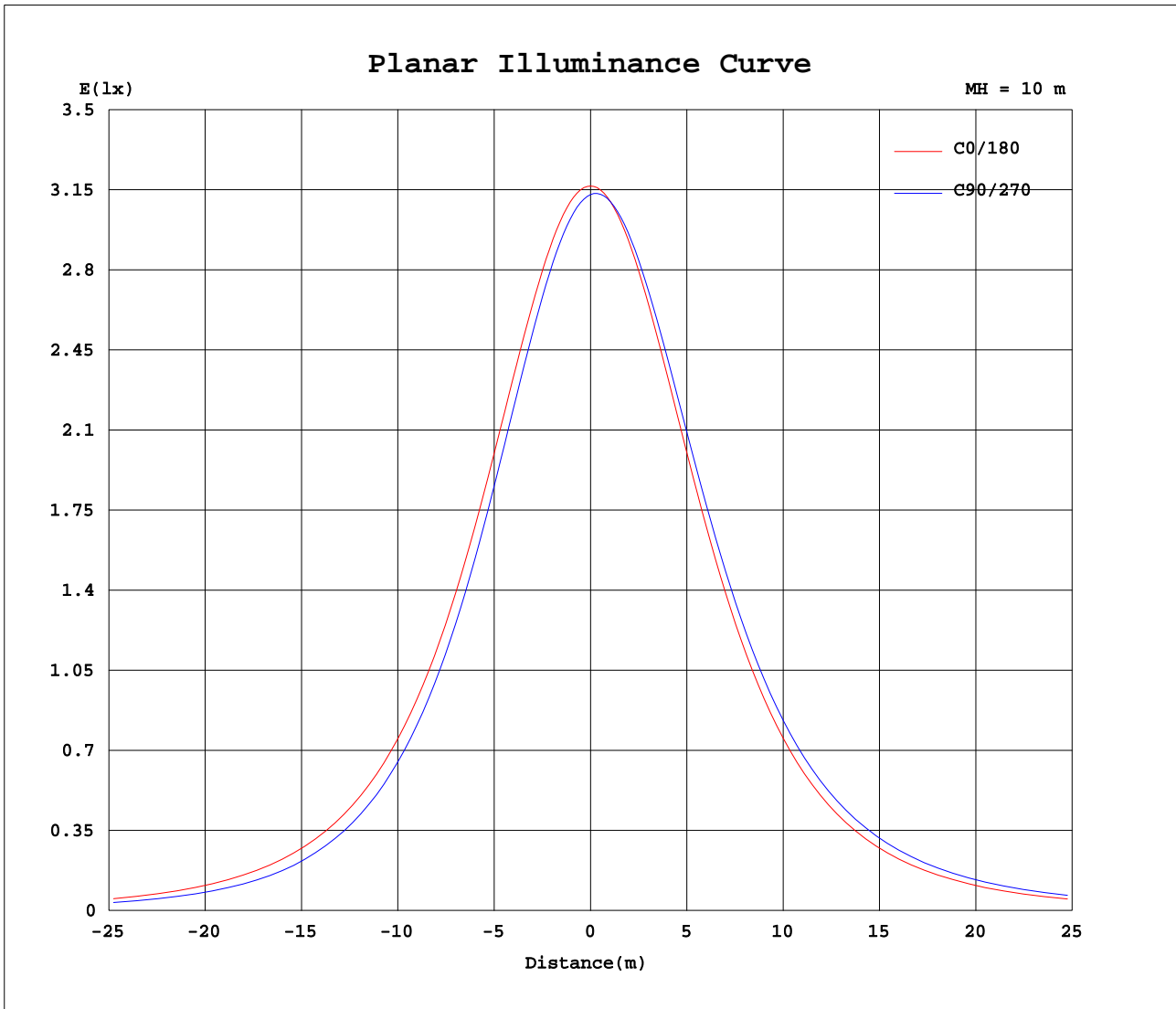
Test:U:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	PROTECTION ANGLE:



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:232.2V I:0.0899A P:11.37W PF:0.5449 Lamp Flux:922.59x1 lm		
NAME: FT-F9005-4000K	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.:	SUR.:0.12*0.12	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	317	315	314	313	312	312	317	315	314	313	312	312							
5	315	312	310	308	308	308	315	315	315	315	314	312							
10	311	307	303	301	301	303	311	312	314	314	313	310							
15	305	299	294	292	291	294	305	307	310	310	309	306							
20	295	288	282	279	279	283	295	299	303	304	303	298							
25	284	275	268	264	265	269	284	289	294	295	294	288							
30	269	259	251	247	248	253	269	276	282	284	282	276							
35	252	241	232	228	229	235	253	261	268	270	268	261							
40	233	221	211	207	207	215	234	243	251	254	252	244							
45	212	199	189	184	185	193	213	223	232	235	233	225							
50	190	176	165	160	161	169	190	201	211	214	213	203							
55	166	152	140	134	135	145	166	178	188	192	190	180							
60	141	126	114	107	110	118	141	153	164	168	166	156							
65	115	100	88.7	82.2	83.9	92.7	114	128	139	142	141	131							
70	87.7	74.2	63.2	57.3	58.7	66.5	86.0	102	112	117	114	106							
75	59.3	48.6	39.9	34.9	35.6	41.6	58.5	74.9	86.7	90.9	88.6	79.1							
80	33.7	24.6	18.8	14.7	15.4	20.1	32.3	47.6	62.0	65.3	63.7	52.3							
85	11.2	7.24	1.65	1.53	1.61	4.13	10.9	23.2	38.7	27.4	40.2	27.6							
90	1.51	1.65	1.66	1.64	1.65	1.66	1.52	7.06	17.3	9.52	19.1	9.83							
95	1.53	1.62	1.71	1.75	1.75	1.74	1.63	1.71	1.63	1.76	1.89	2.01							
100	1.65	1.74	1.83	1.87	1.86	1.85	1.76	1.69	1.77	1.68	1.85	1.89							
105	1.80	1.85	1.97	2.01	2.00	1.98	1.91	1.86	1.89	1.79	1.95	2.00							
110	1.94	2.01	2.10	2.16	2.14	2.13	2.06	2.05	2.03	1.93	2.07	2.13							
115	2.08	2.17	2.22	2.29	2.29	2.27	2.21	2.29	2.18	2.06	2.21	2.27							
120	2.22	2.32	2.40	2.42	2.44	2.42	2.37	2.52	2.32	2.19	2.35	2.41							
125	2.37	2.47	2.56	2.57	2.58	2.57	2.52	2.68	2.42	2.36	2.49	2.56							
130	2.53	2.63	2.68	2.72	2.74	2.72	2.67	2.81	2.58	2.52	2.58	2.72							
135	2.69	2.80	2.81	2.87	2.90	2.88	2.83	2.94	2.75	2.66	2.73	2.87							
140	2.84	2.93	2.94	3.00	3.04	3.01	2.99	3.02	2.92	2.81	2.87	3.02							
145	2.97	3.04	3.07	3.13	3.17	3.15	3.13	3.12	3.10	2.98	3.04	3.13							
150	3.17	3.22	3.27	3.31	3.33	3.31	3.28	3.24	3.14	3.13	3.21	3.23							
155	3.39	3.44	3.46	3.49	3.50	3.49	3.43	3.36	3.28	3.26	3.34	3.40							
160	3.43	3.49	3.49	3.54	3.53	3.54	3.55	3.44	3.41	3.40	3.45	3.54							
165	3.54	3.55	3.56	3.62	3.60	3.62	3.62	3.49	3.52	3.53	3.56	3.62							
170	3.64	3.63	3.62	3.68	3.66	3.69	3.71	3.59	3.63	3.64	3.66	3.69							
175	3.68	3.68	3.65	3.72	3.69	3.73	3.73	3.63	3.66	3.68	3.71	3.72							
180	3.73	3.71	3.69	3.75	3.73	3.75	3.75	3.68	3.69	3.74	3.73	3.74							

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: