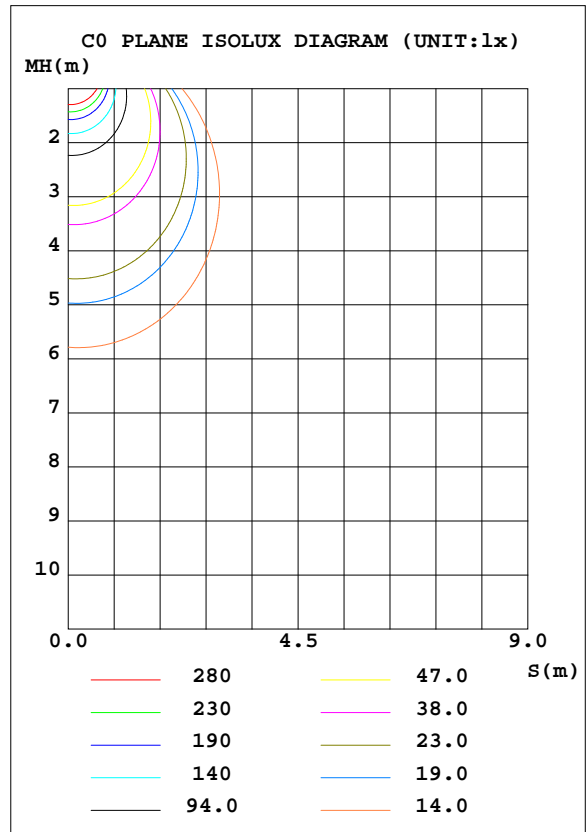
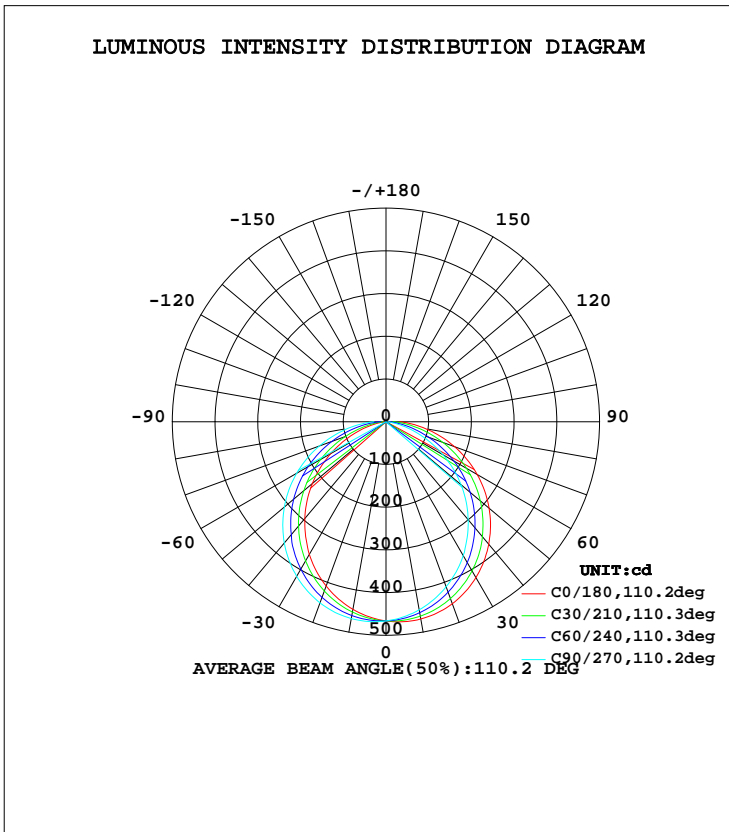


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 92.31 lm/W			
MODEL	136-043_3000K	Imax(cd)	473.0	S/MH(C0/180)	1.34
NOMINAL POWER(W)	15	LOR(%)	100.0	S/MH(C90/270)	1.16
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1320.1	η UP, DN(C0-180)	0.0, 46.4
NOMINAL FLUX(lm)	1320.08	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 53.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.1	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [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
10	468.8	458.1	447.1	442.4	445.9	456.5	467.8	472.4	0- 10	44.08	44.08	3.34,3.34
20	453.4	432.6	411.3	402.6	409.3	429.8	451.3	460.3	10- 20	125.9	170.0	12.9,12.9
30	421.1	391.8	361.8	349.0	358.9	387.4	418.1	430.9	20- 30	190.0	360.0	27.3,27.3
40	374.2	337.7	299.4	284.3	295.7	331.8	370.3	386.5	30- 40	227.6	587.6	44.5,44.5
50	315.1	272.9	229.4	212.0	225.1	266.7	310.7	328.7	40- 50	234.1	821.7	62.2,62.2
60	246.5	200.5	153.7	135.1	149.4	194.0	241.6	261.3	50- 60	209.6	1031	78.1,78.1
70	171.0	124.2	78.99	62.79	75.90	118.1	166.0	186.7	60- 70	158.5	1190	90.1,90.1
80	94.96	54.74	20.86	12.21	18.91	49.32	90.52	109.9	70- 80	93.03	1283	97.2,97.2
90	32.55	11.23	4.710	4.093	4.752	9.522	28.11	41.59	80- 90	37.22	1320	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

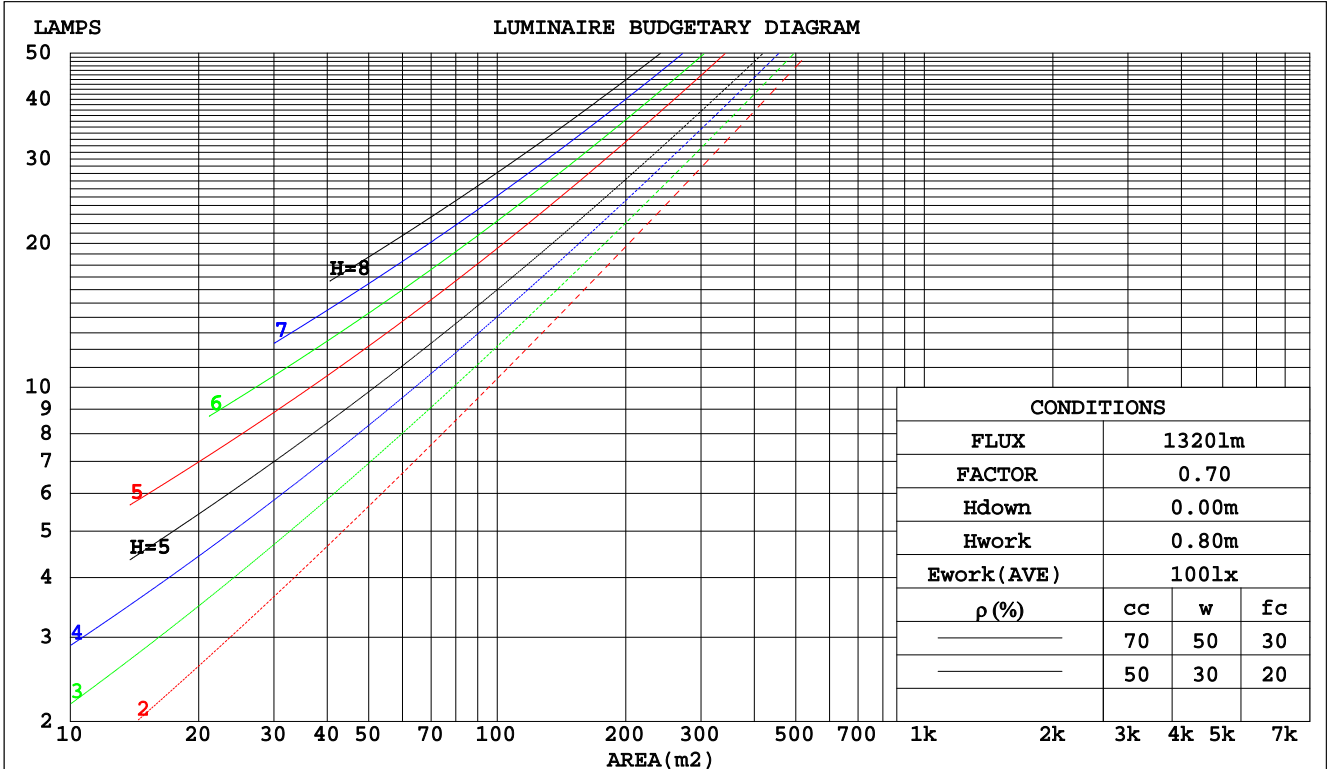
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	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	1.03	.99	.95	1.01	.97	.93	.97	.94	.90	.93	.90	.88	.89	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.85	.79	.74	.81	.77	.73	.78	.74	.71	.69
3.0	.79	.71	.64	.77	.70	.64	.74	.68	.62	.72	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.58	.52	.62	.56	.52	.50
5.0	.63	.53	.47	.61	.53	.46	.59	.52	.46	.57	.51	.45	.55	.50	.45	.43
6.0	.56	.47	.41	.55	.47	.41	.54	.46	.40	.52	.45	.40	.50	.44	.40	.37
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.36	.47	.40	.35	.46	.40	.35	.33
8.0	.47	.38	.32	.46	.38	.32	.45	.37	.32	.43	.37	.32	.42	.36	.31	.30
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.28	.27
10.0	.39	.32	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.443m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	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	.319	.181	.057	.311	.178	.056	.298	.171	.055	.286	.165	.053	.275	.159	.051	
2.0	.296	.162	.050	.289	.159	.049	.278	.154	.048	.267	.150	.047	.257	.145	.046	
3.0	.272	.145	.043	.267	.143	.043	.256	.139	.042	.247	.135	.041	.238	.132	.041	
4.0	.250	.130	.038	.246	.129	.038	.236	.125	.037	.228	.122	.037	.220	.119	.036	
5.0	.231	.118	.034	.227	.116	.034	.219	.114	.034	.211	.111	.033	.204	.109	.033	
6.0	.214	.107	.031	.210	.106	.031	.203	.104	.030	.196	.102	.030	.190	.100	.030	
7.0	.199	.098	.028	.196	.098	.028	.189	.096	.028	.183	.094	.027	.178	.092	.027	
8.0	.186	.091	.026	.183	.090	.025	.177	.088	.025	.172	.087	.025	.167	.085	.025	
9.0	.174	.084	.024	.171	.084	.023	.166	.082	.023	.161	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.161	.078	.022	.157	.077	.022	.152	.076	.021	.148	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.181	.156	.134	.155	.134	.115	.106	.092	.080	.061	.053	.046	.020	.017	.015	
2.0	.173	.132	.098	.148	.114	.084	.101	.079	.059	.058	.046	.034	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.050	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm										
NAME: 136-043_3000K					TYPE:15W			WEIGHT:		
DIM.:					SPEC.:3000K			SERIAL No.:1		
MFR.:					SUR.:0.125			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	21.1	22.6	21.3	22.8	23.0	19.4	20.9	19.7	21.1	21.3
3H	22.9	24.3	23.2	24.6	24.8	20.5	21.9	20.8	22.1	22.3
4H	23.8	25.1	24.1	25.4	25.6	20.8	22.1	21.1	22.4	22.6
6H	24.5	25.8	24.9	26.1	26.4	20.9	22.2	21.2	22.4	22.7
8H	24.9	26.1	25.2	26.4	26.7	20.9	22.1	21.2	22.4	22.7
12H	25.2	26.4	25.6	26.7	27.0	20.9	22.0	21.2	22.3	22.6
4H 2H	21.5	22.9	21.8	23.1	23.4	20.2	21.5	20.5	21.8	22.1
3H	23.6	24.7	23.9	25.0	25.3	21.5	22.7	21.8	23.0	23.3
4H	24.5	25.6	24.9	25.9	26.3	21.9	23.0	22.3	23.3	23.6
6H	25.5	26.4	25.9	26.8	27.2	22.1	23.1	22.5	23.4	23.8
8H	25.9	26.8	26.3	27.2	27.6	22.2	23.1	22.6	23.4	23.8
12H	26.4	27.2	26.8	27.6	28.0	22.2	23.0	22.6	23.4	23.8
8H 4H	24.7	25.6	25.1	26.0	26.3	22.4	23.3	22.8	23.6	24.0
6H	25.8	26.5	26.2	27.0	27.4	22.7	23.5	23.2	23.9	24.3
8H	26.4	27.0	26.8	27.5	27.9	22.8	23.5	23.3	23.9	24.4
12H	27.0	27.5	27.4	28.0	28.5	22.9	23.5	23.4	23.9	24.4
12H 4H	24.7	25.5	25.1	25.9	26.3	22.4	23.3	22.9	23.7	24.1
6H	25.8	26.5	26.3	26.9	27.4	22.9	23.6	23.4	24.0	24.4
8H	26.4	27.0	26.9	27.5	27.9	23.1	23.6	23.5	24.1	24.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.2 / - 0.3				
1.5H	+ 0.1 / - 0.2					+ 0.3 / - 0.5				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.6				

CIE Pub.117 Corrected 1320 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.0)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	PROTECTION ANGLE:

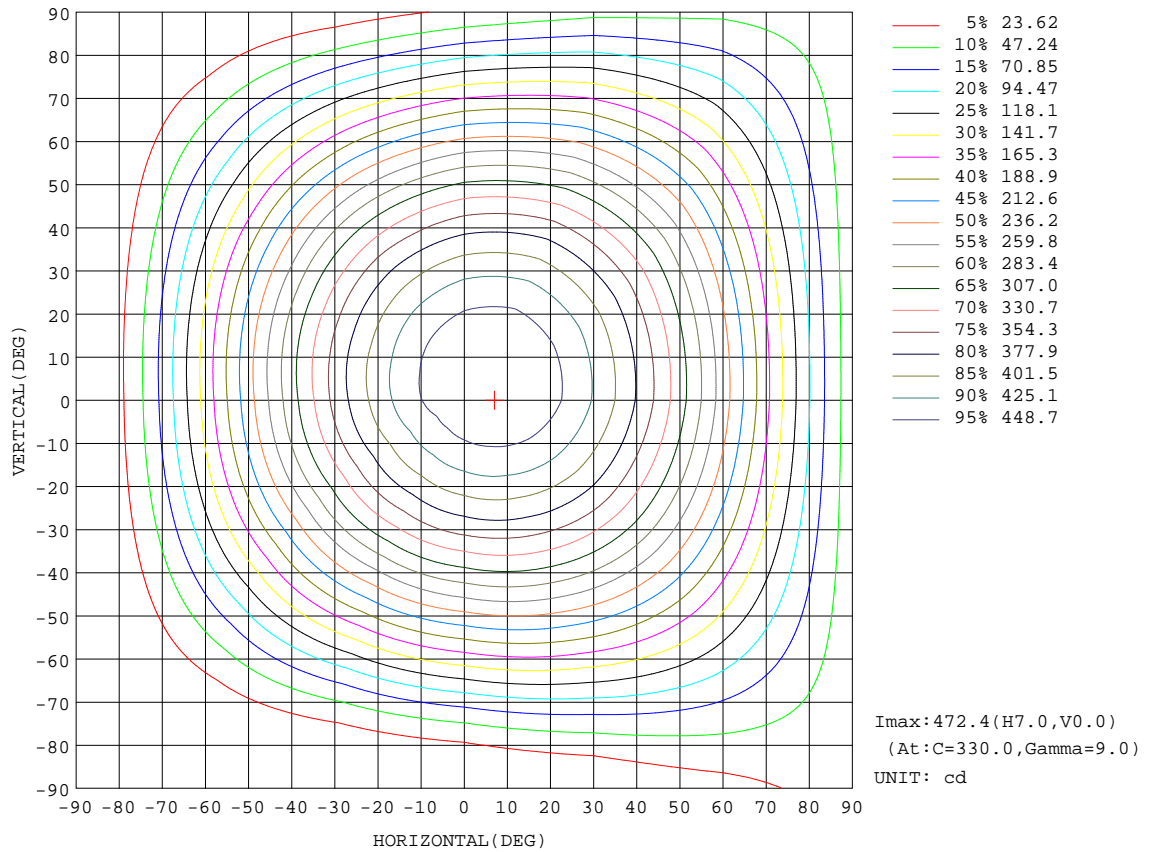
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	57	46	39	56	45	39	32
0.80	67	56	48	66	55	48	65	55	48	41
1.00	76	65	57	75	64	57	72	65	56	49
1.25	83	72	65	81	72	65	79	70	64	57
1.50	88	78	71	86	77	70	83	75	69	62
2.00	95	86	79	93	85	79	89	83	77	69
2.50	99	91	84	96	89	84	93	87	82	73
3.00	102	95	89	100	93	88	96	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	98	101	98	95	85
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:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	PROTECTION ANGLE:

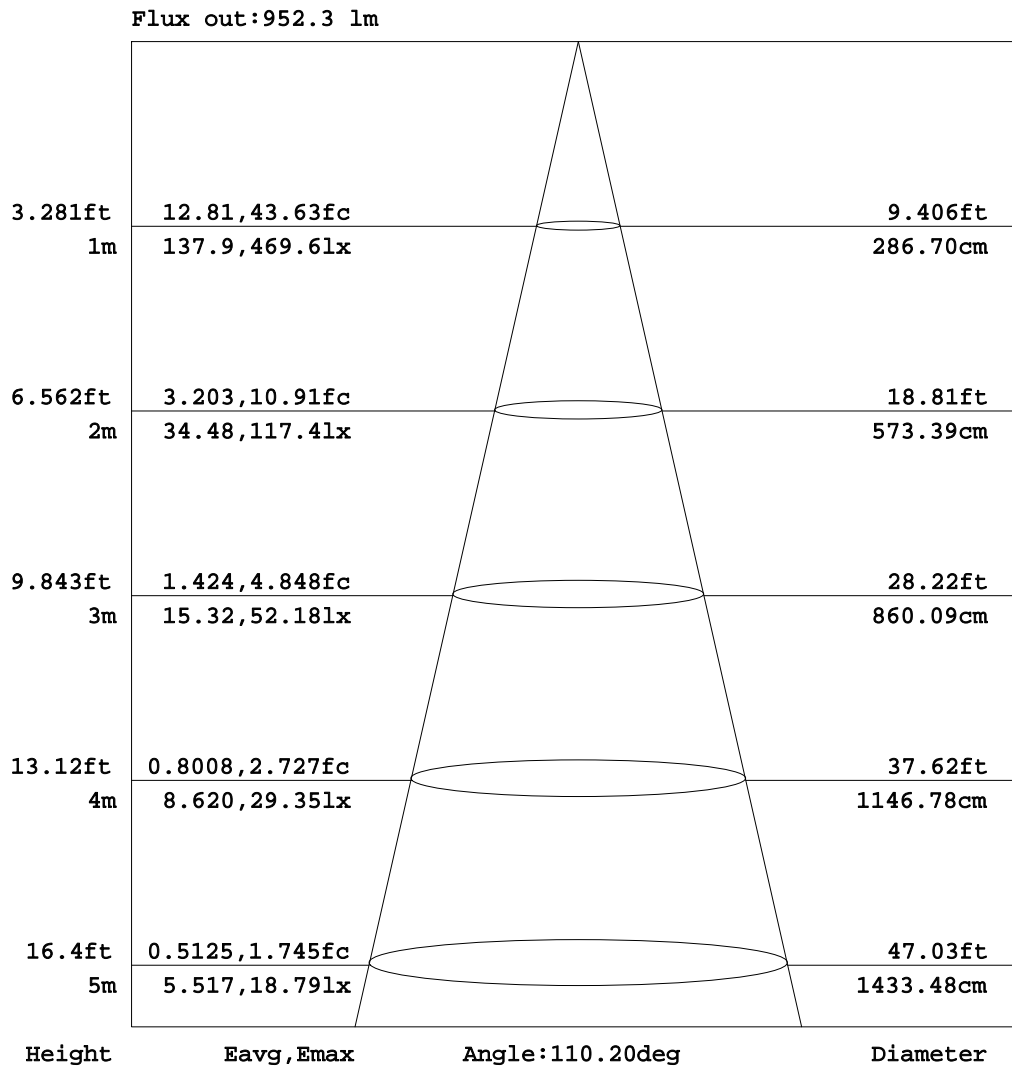


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

AAI Figure

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	PROTECTION ANGLE:



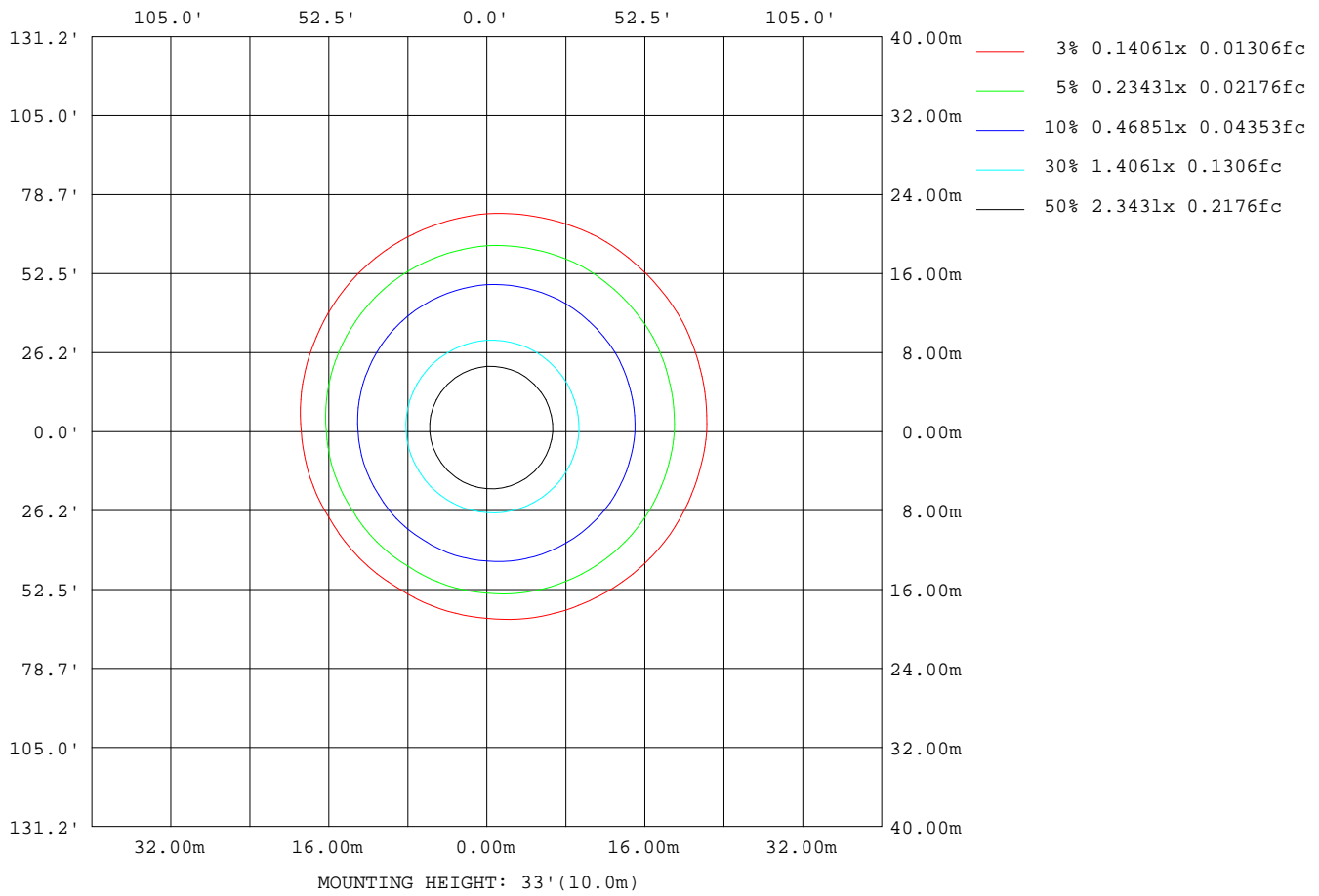
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

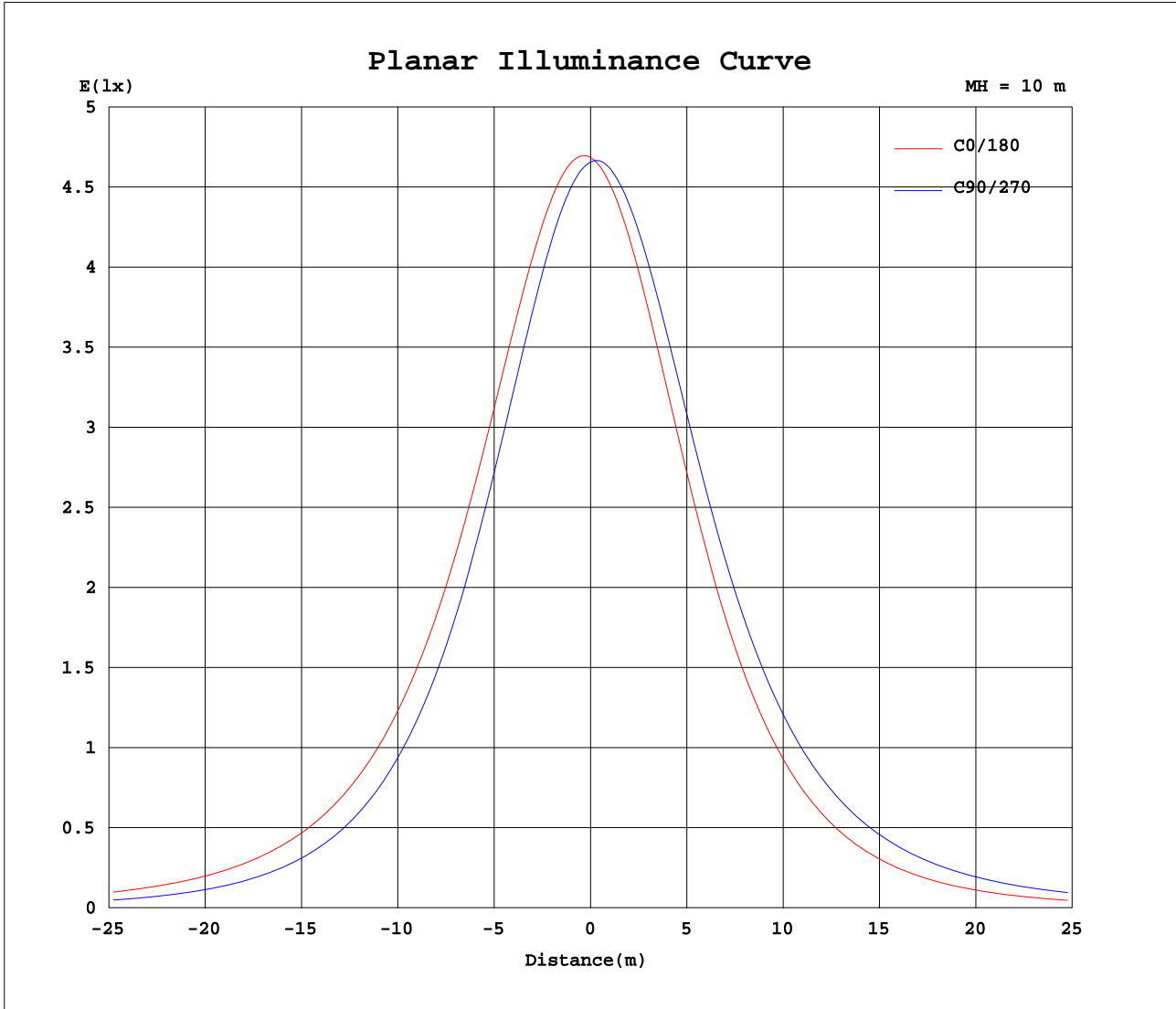
Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.443m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.1V I:0.0630A P:14.30W PF:0.9440 Lamp Flux:1320.08x1 lm		
NAME: 136-043_3000K	TYPE:15W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.125	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330								
0	466	466	466	466	466	466	466	466	466	466	466	466								
5	470	466	462	459	456	456	458	461	466	469	472	472								
10	469	462	454	447	443	442	446	453	461	468	472	472								
15	463	453	441	431	424	424	430	439	451	462	469	469								
20	453	441	425	411	403	402	409	422	438	451	460	461								
25	439	423	404	388	378	377	386	401	420	437	448	448								
30	421	403	381	362	350	348	359	376	399	418	431	431								
35	399	379	354	331	319	317	328	349	374	396	410	411								
40	374	351	324	299	285	283	296	319	345	370	386	387								
45	346	321	292	265	250	248	261	286	315	342	359	360								
50	315	288	257	229	213	211	225	251	282	311	328	330								
55	282	254	221	192	175	173	188	215	247	277	295	297								
60	246	217	184	154	135	135	149	177	211	242	260	262								
65	209	180	145	116	97.9	97.4	112	138	173	204	224	225								
70	171	142	107	79.0	62.9	62.7	75.9	101	135	166	186	188								
75	132	104	71.2	46.2	32.6	32.4	43.8	66.1	97.8	127	147	148								
80	95.0	69.1	40.3	20.9	12.1	12.3	18.9	35.6	63.1	90.5	109	110								
85	61.0	39.6	17.4	7.60	4.82	4.88	7.40	14.3	33.3	56.4	73.1	74.5								
90	32.5	16.0	6.48	4.71	4.19	4.00	4.75	7.03	12.0	28.1	40.6	42.6								

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2019-07-20

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.443m [K=1.0000]
 Remarks: