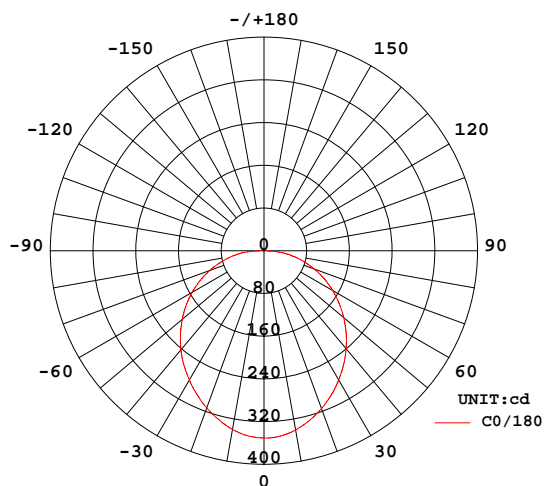


LUMINAIRE PHOTOMETRIC TEST REPORT

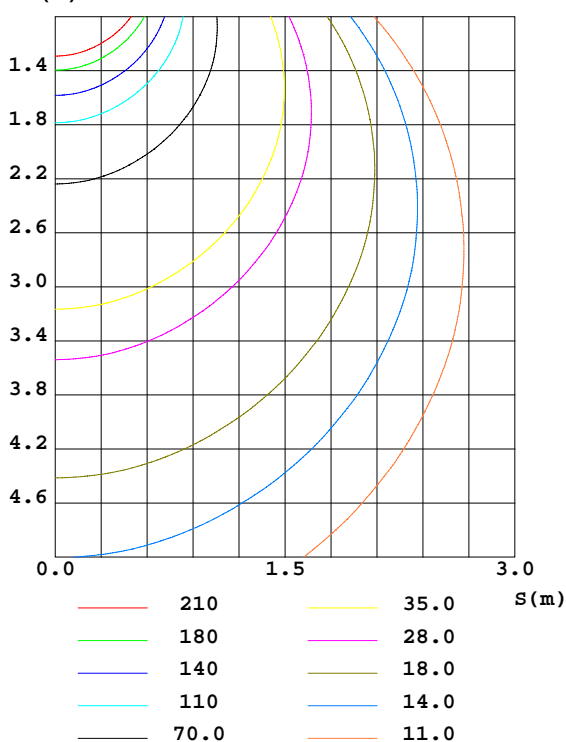
NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 85.10 lm/W			
MODEL	5050	Imax(cd)	352.0	S/MH(C0/180)	1.20
NOMINAL POWER(W)	12	LOR(%)	1.7	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	919.07	η UP,DN(C0-180)	0.0,0.9
NOMINAL FLUX(lm)	900	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,0.8
LAMPS INSIDE	60	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	1.7	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [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	347.9	349.5	351.3	350.1	348.5	343.8	342.1	343.0	0- 5	8.330	8.330	0.91,0.02
10	339.7	345.9	351.9	346.5	340.9	334.2	333.5	333.0	5- 10	24.58	32.91	3.58,0.06
15	327.5	338.5	344.4	339.5	329.0	321.4	316.9	319.6	10- 15	39.71	72.62	7.9,0.13
20	313.3	324.7	336.9	326.5	314.7	302.9	300.2	300.6	15- 20	53.03	125.7	13.7,0.23
25	297.0	310.2	320.9	312.2	298.1	284.0	276.6	281.5	20- 25	64.20	189.9	20.7,0.35
30	279.6	292.4	305.0	294.5	279.8	262.6	252.9	260.4	25- 30	72.77	262.6	28.6,0.49
35	261.6	272.5	281.3	274.2	260.0	239.4	224.2	237.9	30- 35	78.69	341.3	37.1,0.63
40	242.1	252.5	257.6	253.3	239.3	216.4	195.5	215.7	35- 40	81.76	423.1	46.0,0.78
45	221.3	229.3	227.5	229.7	217.6	192.0	164.1	191.7	40- 45	82.11	505.2	55.0,0.94
50	199.9	207.0	197.3	206.7	194.9	168.3	132.7	169.0	45- 50	79.71	584.9	63.6,1.08
55	177.8	182.4	165.3	181.0	171.7	143.9	104.4	145.3	50- 55	74.94	659.8	71.8,1.22
60	155.0	158.4	133.2	156.0	148.5	120.0	76.17	122.1	55- 60	68.01	727.8	79.2,1.35
65	132.0	133.1	103.6	130.3	124.6	95.73	55.94	98.63	60- 65	59.41	787.2	85.7,1.46
70	108.1	108.0	73.95	104.7	100.1	72.17	35.72	75.78	65- 70	49.25	836.5	91.1,1.55
75	84.35	82.77	51.31	78.60	76.12	49.25	22.42	53.65	70- 75	37.85	874.4	95.1,1.62
80	61.22	58.52	28.68	53.59	51.85	29.32	9.116	33.90	75- 80	26.65	901.0	98.1,1.67
85	38.12	18.34	0	16.15	26.87	7.427	0	9.148	80- 85	15.02	916.0	99.7,1.7
90	6.673	0	0	0	5.633	0	0	0	85- 90	3.041	919.1	100,1.7
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		

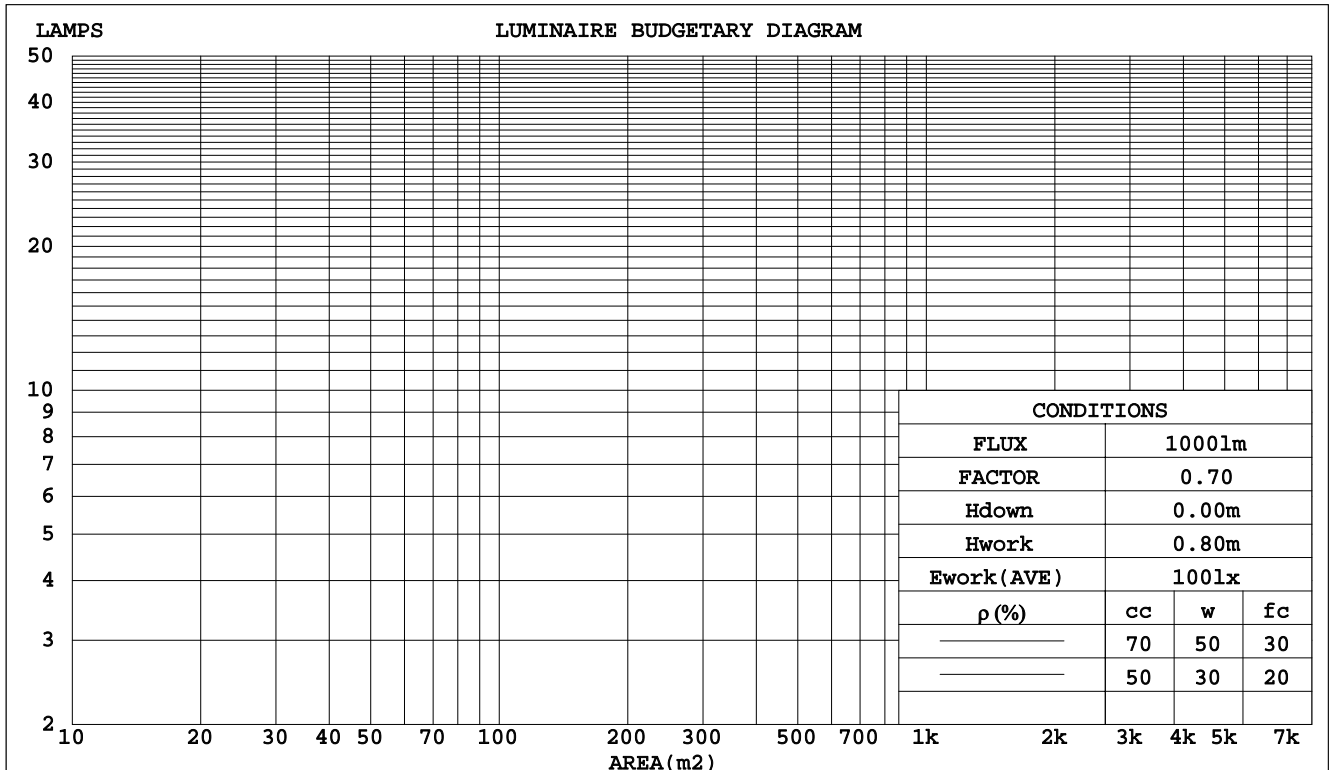
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02
1.0	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.02	.01	.01	.01
2.0	.02	.01	.01	.02	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
3.0	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
4.0	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
5.0	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
6.0	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
7.0	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
8.0	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
9.0	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.00	.00
10.0	.01	.01	.00	.01	.01	.00	.01	.01	.00	.01	.01	.00	.01	.01	.00	.00



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

WEC AND CCEC

NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.005	.003	.001	.005	.003	.001	.005	.003	.001	.005	.003	.001	.004	.003	.001		
2.0	.005	.003	.001	.005	.003	.001	.005	.003	.001	.004	.002	.001	.004	.002	.001		
3.0	.005	.002	.001	.004	.002	.001	.004	.002	.001	.004	.002	.001	.004	.002	.001		
4.0	.004	.002	.001	.004	.002	.001	.004	.002	.001	.004	.002	.001	.004	.002	.001		
5.0	.004	.002	.001	.004	.002	.001	.004	.002	.001	.004	.002	.001	.003	.002	.001		
6.0	.004	.002	.001	.004	.002	.001	.003	.002	.001	.003	.002	.001	.003	.002	.000		
7.0	.003	.002	.000	.003	.002	.000	.003	.002	.000	.003	.002	.000	.003	.002	.000		
8.0	.003	.002	.000	.003	.002	.000	.003	.001	.000	.003	.001	.000	.003	.001	.000		
9.0	.003	.001	.000	.003	.001	.000	.003	.001	.000	.003	.001	.000	.003	.001	.000		
10.0	.003	.001	.000	.003	.001	.000	.003	.001	.000	.003	.001	.000	.002	.001	.000		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.003	.003	.003	.003	.003	.003	.002	.002	.002	.001	.001	.001	.000	.000	.000	
1.0	.003	.003	.002	.003	.002	.002	.002	.002	.001	.001	.001	.001	.000	.000	.000	
2.0	.003	.002	.002	.003	.002	.001	.002	.001	.001	.001	.001	.001	.000	.000	.000	
3.0	.003	.002	.001	.002	.002	.001	.002	.001	.001	.001	.001	.000	.000	.000	.000	
4.0	.003	.002	.001	.002	.001	.001	.002	.001	.001	.001	.001	.000	.000	.000	.000	
5.0	.003	.002	.001	.002	.001	.001	.001	.001	.000	.001	.001	.000	.000	.000	.000	
6.0	.002	.001	.001	.002	.001	.001	.001	.001	.000	.001	.000	.000	.000	.000	.000	
7.0	.002	.001	.001	.002	.001	.000	.001	.001	.000	.001	.000	.000	.000	.000	.000	
8.0	.002	.001	.000	.002	.001	.000	.001	.001	.000	.001	.000	.000	.000	.000	.000	
9.0	.002	.001	.000	.002	.001	.000	.001	.001	.000	.001	.000	.000	.000	.000	.000	
10.0	.002	.001	.000	.002	.001	.000	.001	.001	.000	.001	.000	.000	.000	.000	.000	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

Uncorrected UGR Table

NAME: C-FR-F17A-D24V-60-W6500-1M					TYPE:FPC					WEIGHT:0.102kg/m				
DIM.: 13.5*6mm					SPEC.:					SERIAL No.:L201402052				
MFR.: CLEAR					SUR.:13.5*1000mm					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					24.2	25.7	24.5	25.9	26.1	23.8	25.3	24.1	25.5	25.7
3H					26.1	27.4	26.4	27.7	27.9	25.1	26.5	25.4	26.7	27.0
4H					26.9	28.2	27.2	28.5	28.7	25.6	26.9	25.9	27.1	27.4
6H					27.7	28.9	28.0	29.2	29.5	25.8	27.1	26.2	27.4	27.6
8H					28.0	29.2	28.4	29.5	29.8	25.9	27.1	26.2	27.4	27.7
12H					28.3	29.5	28.7	29.8	30.1	25.8	27.0	26.2	27.3	27.6
4H 2H					24.9	26.2	25.2	26.5	26.7	24.6	25.9	24.9	26.2	26.4
3H					27.0	28.1	27.3	28.4	28.7	26.2	27.3	26.5	27.6	27.9
4H					28.0	29.0	28.4	29.4	29.7	26.8	27.9	27.2	28.2	28.5
6H					28.9	29.9	29.3	30.2	30.6	27.3	28.2	27.7	28.5	28.9
8H					29.4	30.2	29.8	30.6	31.0	27.3	28.2	27.7	28.6	29.0
12H					29.8	30.6	30.2	31.0	31.4	27.3	28.1	27.7	28.5	28.9
8H 4H					28.3	29.2	28.7	29.6	30.0	27.3	28.2	27.8	28.6	29.0
6H					29.5	30.2	30.0	30.7	31.1	28.0	28.8	28.5	29.2	29.6
8H					30.1	30.8	30.6	31.2	31.6	28.2	28.8	28.6	29.3	29.7
12H					30.7	31.2	31.2	31.7	32.2	28.2	28.7	28.7	29.2	29.7
12H 4H					28.4	29.2	28.8	29.6	30.0	27.4	28.2	27.9	28.6	29.0
6H					29.6	30.3	30.1	30.7	31.1	28.2	28.9	28.7	29.3	29.8
8H					30.3	30.8	30.8	31.3	31.8	28.4	29.0	28.9	29.4	29.9
Variations with the observer position at spacings:														
S = 1.0H					+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H					+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H					+ 0.2 / - 0.4					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 54000 lm Total Lamp Luminous Flux.(8log(F/F0) = 13.9)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	PROTECTION ANGLE:

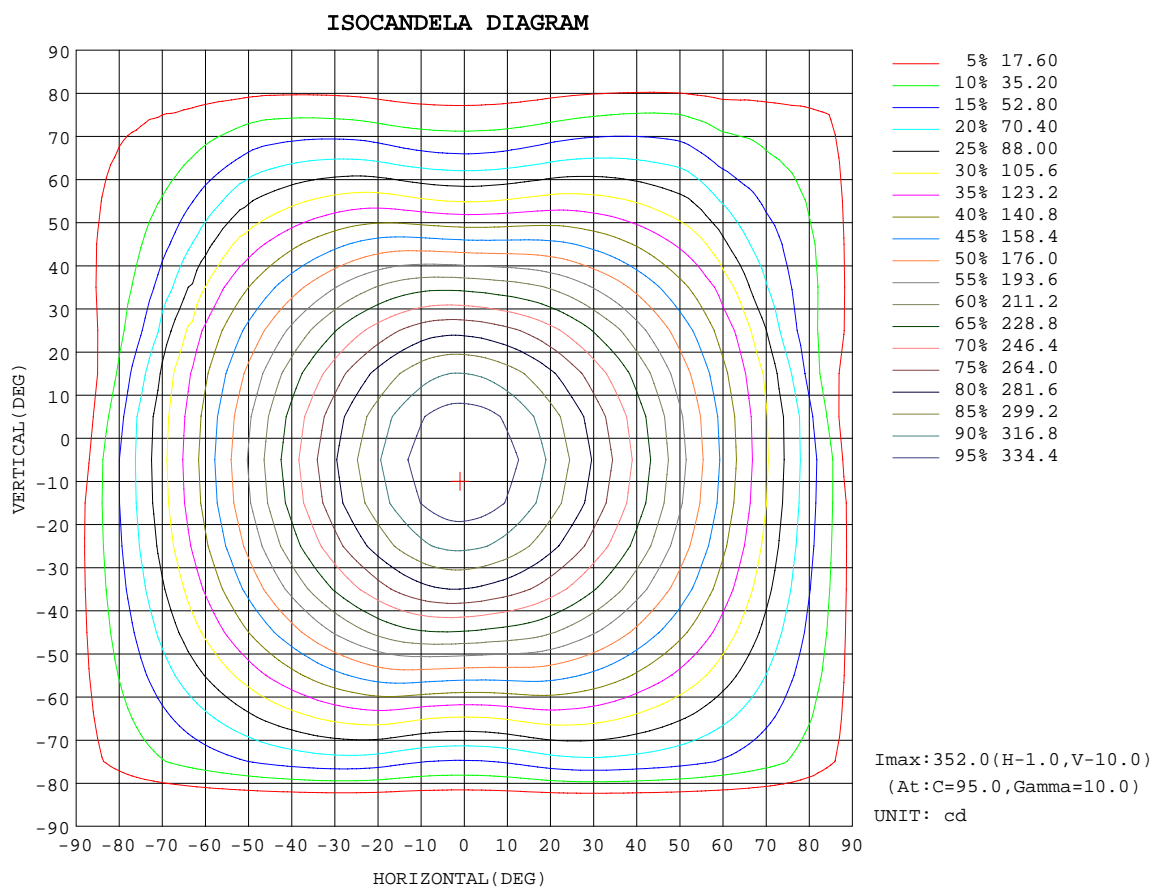
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	1	1	1	1	1	1	1	1	1	1
0.80	1	1	1	1	1	1	1	1	1	1
1.00	1	1	1	1	1	1	1	1	1	1
1.25	1	1	1	1	1	1	1	1	1	1
1.50	2	1	1	1	1	1	1	1	1	1
2.00	2	1	1	2	1	1	2	1	1	1
2.50	2	2	1	2	2	1	2	1	1	1
3.00	2	2	2	2	2	2	2	2	1	1
4.00	2	2	2	2	2	2	2	2	2	1
5.00	2	2	2	2	2	2	2	2	2	1
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:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	PROTECTION ANGLE:

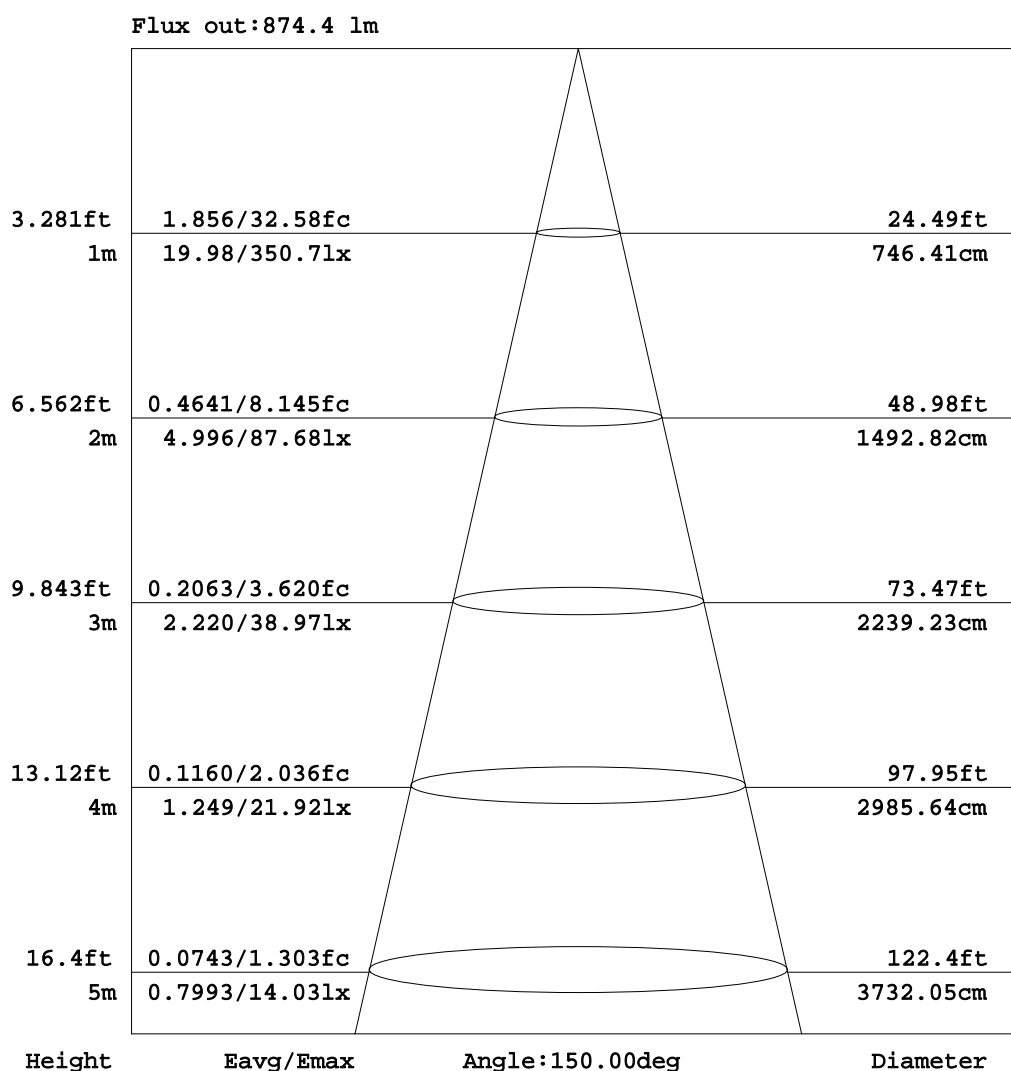


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

AAI Figure

NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	PROTECTION ANGLE:



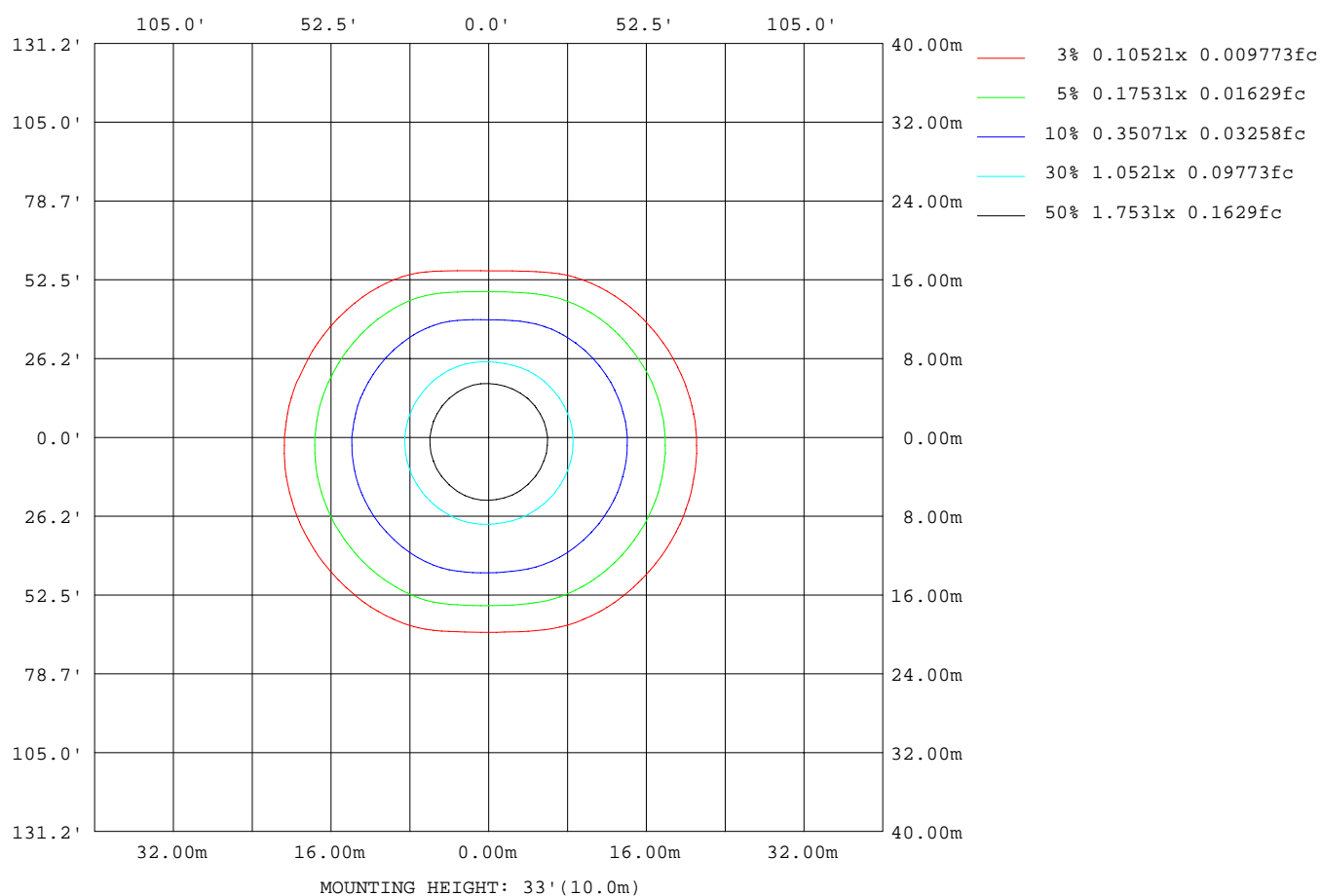
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

Average Luminance Table(CIBSE)

NAME: C-FR-F17A-D24V-60-W6500-1M	TYPE:FPC	WEIGHT:0.102kg/m
DIM.: 13.5*6mm	SPEC.:	SERIAL No.:L201402052
MFR.: CLEAR	SUR.:13.5*1000mm	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	60	
Output of each lamp(initial lumens as specified)	F	900	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0135	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	C plane(deg)																		
deg	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	22967	23317	23571	23612	23613	23506	23234	22627	21662	21342	21963	22988	23375	23405	23359	23193	22979	22595	22180
60	22956	23372	23722	23707	23516	23287	22755	21865	20386	19730	20510	22155	22804	23071	23087	23094	22857	22504	22001
65	23130	23628	23878	23833	23519	23159	22382	21011	18977	18151	18983	21137	22279	22764	22917	22914	22760	22536	21846
70	23421	23973	24281	24268	23817	23027	21964	19943	17111	16015	16939	19833	21630	22409	22917	22849	22826	22474	21688
75	24141	24757	25179	25048	24214	23087	21683	19040	15834	14685	15560	18623	21012	22130	22778	22997	23093	22697	21787
80	26114	26949	27389	26843	25805	24006	21611	17653	13589	12232	13116	16652	20329	22209	23311	23790	24054	23649	22118
85	32398	34196	34773	33587	20459	11617	5768	2091	407	0	392	1958	5350	10423	17595	27922	28868	28123	22840

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	34773	200	---	500
Category 2	65 to 90	34773	200	---	500
Category 3	75 to 90	34773	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:26DEG
Operators:Jeff
Test Date:2014-02-20

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V1.0.257
Humidity:62%
Test Distance:6.810m [K=1.0000]
Remarks:

