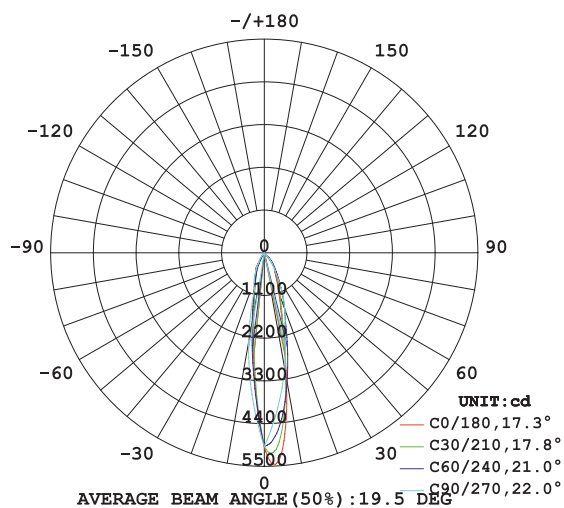




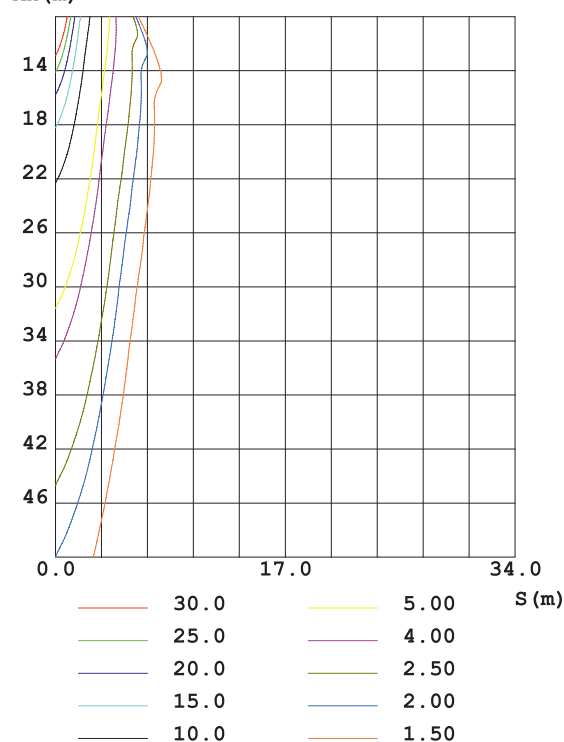
LUMINAIRE PHOTOMETRIC TEST REPORT

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 77.71 lm/W
MODEL	02.49.0020.03	Imax (cd)	5456	S/MH (C0/180)	0.23	
NOMINAL POWER (W)	16	LOR (%)	102.0	S/MH (C90/270)	0.32	
RATED VOLTAGE (V)	216	TOTAL FLUX (lm)	1220.0	η UP, DN (C0-180)	0.0, 41.8	
NOMINAL FLUX (lm)	1196.37	CIE CLASS	DIRECT	UP, DN (C180-360)	0.0, 60.2	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE (V)	215.6	η down (%)	102.0	CIBSE SHR MAX	1.00	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2016-10-07

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity: 65.0%
 Test Distance: 6.970m [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	3032	2990	3661	4373	5172	4634	4004	3180	0- 5	102.5	102.5	8.4,8.57
10	1655	1634	2331	2835	3278	3300	3016	1907	5- 10	219.6	322.1	26.4,26.9
15	1041	965.0	1000	1530	1761	2062	2029	1244	10- 15	223.5	545.6	44.7,45.6
20	718.1	634.0	764.8	862.6	1105	1365	1544	897.3	15- 20	192.5	738.2	60.5,61.7
25	505.0	406.8	529.3	577.0	759.3	957.2	1059	652.1	20- 25	170.3	908.4	74.5,75.9
30	376.5	253.7	293.8	321.3	523.0	686.6	574.3	412.8	25- 30	138.6	1047	85.8,87.5
35	10.04	101.8	196.8	132.2	408.3	469.6	384.2	166.8	30- 35	94.95	1142	93.6,95.5
40	2.796	2.971	99.85	3.246	44.55	214.8	194.2	6.886	35- 40	50.40	1192	97.7,99.7
45	2.644	2.844	2.869	2.976	3.033	43.39	4.099	3.042	40- 45	17.40	1210	99.2,101
50	2.792	2.734	2.818	2.858	2.821	5.557	3.798	2.893	45- 50	3.023	1213	99.4,101
55	2.839	2.593	2.768	2.824	2.898	3.201	3.498	2.937	50- 55	1.320	1214	99.5,101
60	2.522	2.381	2.717	2.640	2.954	3.049	3.197	2.774	55- 60	1.324	1215	99.6,102
65	2.062	2.174	2.426	2.403	2.712	2.924	2.965	2.537	60- 65	1.295	1217	99.7,102
70	1.477	1.907	2.135	2.078	2.317	2.713	2.734	2.146	65- 70	1.190	1218	99.8,102
75	1.109	1.625	1.843	1.711	1.769	2.394	2.502	1.701	70- 75	1.040	1219	99.9,102
80	1.004	1.117	0	1.131	1.395	1.689	0	1.085	75- 80	0.7494	1220	100,102
85	0.1074	0	0	0	1.243	0	0	0	80- 85	0.2660	1220	100,102
90	0	0	0	0	0.0010	0	0	0	85- 90	0.0434	1220	100,102
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:DAMIN
 Test Date:2016-10-07

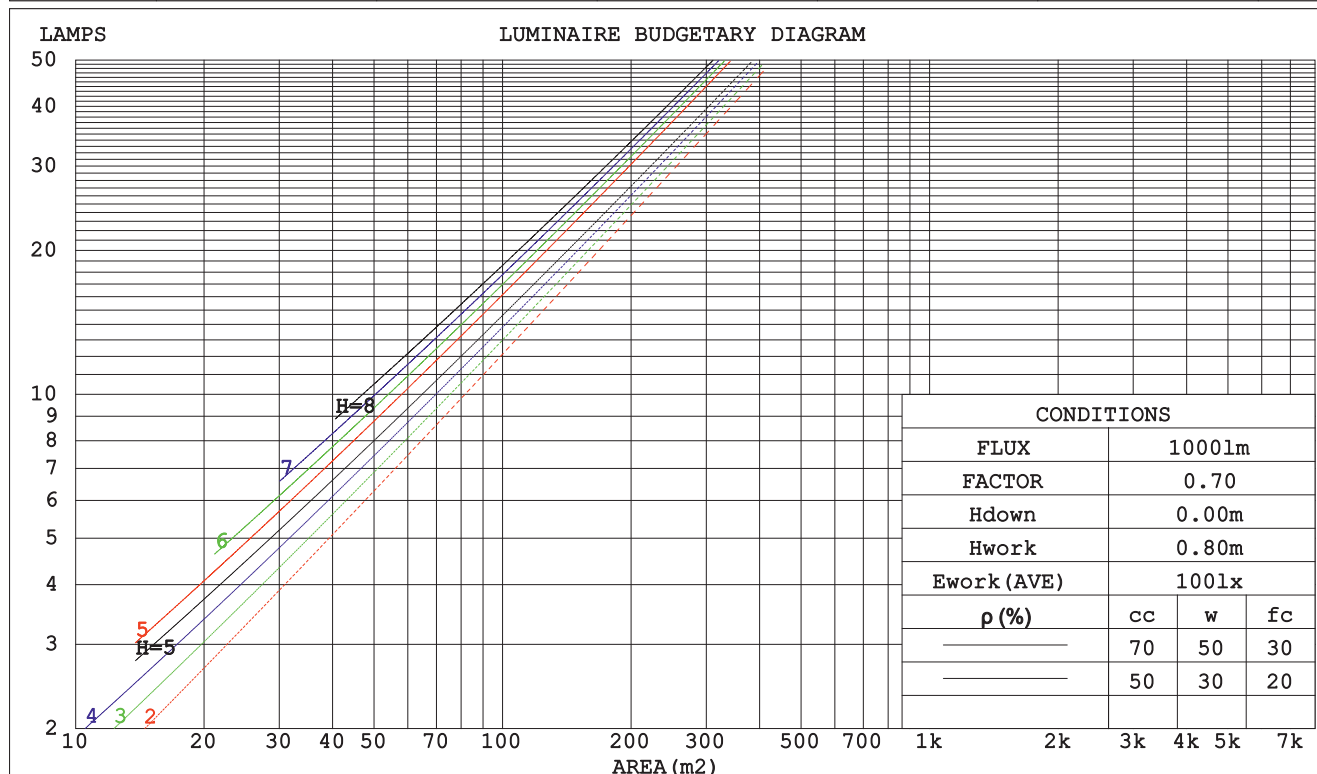
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity:65.0%
 Test Distance:6.970m [K=1.0000]
 Remarks:



CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

NAME: XD2022A	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	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	1.21	1.21	1.21	1.19	1.19	1.19	1.13	1.13	1.13	1.08	1.08	1.08	1.04	1.04	1.04	1.02
1.0	1.14	1.12	1.10	1.12	1.10	1.08	1.08	1.06	1.05	1.04	1.03	1.02	1.01	.00	.99	.97
2.0	1.08	1.04	1.02	1.06	1.03	1.00	1.03	1.00	.98	1.00	.98	.96	.97	.96	.94	.93
3.0	1.02	.98	.95	1.01	.97	.94	.98	.95	.93	.96	.93	.91	.94	.92	.90	.88
4.0	.97	.93	.89	.96	.92	.89	.94	.90	.88	.92	.89	.87	.90	.88	.86	.84
5.0	.93	.88	.84	.92	.87	.84	.90	.86	.83	.89	.85	.82	.87	.84	.82	.81
6.0	.89	.84	.80	.88	.83	.80	.86	.82	.79	.85	.82	.79	.84	.81	.78	.77
7.0	.85	.80	.76	.84	.80	.76	.83	.79	.76	.82	.78	.75	.81	.78	.75	.74
8.0	.81	.76	.73	.81	.76	.73	.80	.76	.73	.79	.75	.72	.78	.75	.72	.71
9.0	.78	.73	.70	.78	.73	.70	.77	.73	.70	.76	.72	.70	.75	.72	.69	.68
10.0	.75	.71	.67	.75	.70	.67	.74	.70	.67	.74	.70	.67	.73	.69	.67	.66



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-10-07

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.970m [K=1.0000]
Remarks:



WEC AND CCEC

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	.156	.089	.028	.149	.085	.027	.137	.078	.025	.125	.072	.023	.114	.066	.021		
2.0	.147	.080	.025	.141	.078	.024	.131	.073	.023	.121	.068	.021	.112	.063	.020		
3.0	.138	.074	.022	.134	.072	.022	.125	.068	.021	.117	.064	.020	.109	.060	.019		
4.0	.131	.068	.020	.127	.066	.020	.119	.063	.019	.112	.060	.018	.106	.057	.017		
5.0	.124	.063	.018	.121	.062	.018	.114	.059	.017	.108	.057	.017	.102	.055	.016		
6.0	.118	.059	.017	.115	.058	.017	.109	.056	.016	.104	.054	.016	.099	.052	.015		
7.0	.112	.056	.016	.110	.055	.016	.105	.053	.015	.100	.051	.015	.096	.050	.015		
8.0	.107	.053	.015	.105	.052	.015	.101	.050	.014	.097	.049	.014	.093	.048	.014		
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.093	.047	.013	.090	.046	.013		
10.0	.099	.047	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.013		

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	.194	.194	.194	.166	.166	.166	.113	.113	.113	.065	.065	.065	.021	.021	.021		
1.0	.173	.161	.150	.148	.138	.129	.101	.095	.089	.058	.055	.052	.019	.018	.017		
2.0	.156	.135	.118	.133	.116	.102	.091	.081	.071	.053	.047	.042	.017	.015	.014		
3.0	.141	.116	.095	.121	.100	.082	.083	.069	.058	.048	.040	.034	.015	.013	.011		
4.0	.130	.100	.078	.111	.087	.068	.076	.060	.048	.044	.035	.028	.014	.012	.009		
5.0	.120	.088	.065	.103	.076	.056	.071	.053	.040	.041	.031	.024	.013	.010	.008		
6.0	.111	.078	.054	.096	.068	.047	.066	.047	.033	.038	.028	.020	.012	.009	.007		
7.0	.104	.070	.046	.089	.061	.040	.062	.043	.029	.036	.025	.017	.012	.008	.006		
8.0	.098	.063	.040	.084	.055	.035	.058	.039	.025	.034	.023	.015	.011	.007	.005		
9.0	.092	.058	.034	.079	.050	.030	.055	.035	.021	.032	.021	.013	.010	.007	.004		
10.0	.087	.053	.030	.075	.046	.026	.052	.032	.019	.031	.019	.011	.010	.006	.004		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2016-10-07

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity:65.0%
 Test Distance:6.970m [K=1.0000]
 Remarks:



Uncorrected UGR Table

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	4.7	5.5	4.9	5.7	5.8	8.3	9.1	8.5	9.3	9.4
3H	4.8	5.5	5.0	5.7	5.8	8.3	9.0	8.5	9.2	9.4
4H	4.8	5.5	5.0	5.7	5.9	8.3	9.0	8.6	9.2	9.4
6H	4.9	5.5	5.1	5.7	6.0	8.2	8.9	8.5	9.1	9.4
8H	4.9	5.5	5.2	5.8	6.0	8.2	8.8	8.5	9.1	9.3
12H	4.9	5.5	5.2	5.8	6.0	8.2	8.7	8.5	9.0	9.3
4H 2H	4.6	5.3	4.9	5.5	5.7	8.1	8.8	8.4	9.0	9.2
3H	4.7	5.3	5.0	5.5	5.8	8.1	8.7	8.4	9.0	9.2
4H	4.8	5.3	5.1	5.6	5.9	8.2	8.7	8.5	9.0	9.3
6H	5.0	5.4	5.3	5.8	6.1	8.1	8.6	8.5	8.9	9.3
8H	5.1	5.5	5.5	5.9	6.2	8.1	8.5	8.5	8.9	9.2
12H	5.1	5.5	5.5	5.9	6.3	8.0	8.4	8.4	8.8	9.2
8H 4H	4.8	5.3	5.2	5.6	6.0	8.1	8.5	8.5	8.9	9.2
6H	5.1	5.5	5.5	5.9	6.3	8.0	8.4	8.5	8.8	9.2
8H	5.3	5.6	5.7	6.0	6.4	8.0	8.3	8.4	8.7	9.2
12H	5.3	5.6	5.7	6.0	6.5	7.9	8.2	8.4	8.6	9.1
12H 4H	4.8	5.2	5.2	5.6	6.0	8.1	8.5	8.5	8.8	9.2
6H	5.1	5.4	5.5	5.8	6.3	8.0	8.3	8.5	8.7	9.2
8H	5.2	5.5	5.7	6.0	6.4	7.9	8.2	8.4	8.7	9.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 6.3 / - 7.2				
1.5H	+ 0.2 / - 0.2					+ 9.1 / - 7.4				
2.0H	+ 0.2 / - 0.5					+ 0.5 / - 0.8				

CIE Pub.117 Corrected 1196 lm Total Lamp Luminous Flux. (8log(F/F0) = 0.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-10-07

Y Range: 0 - 90DEG
Y Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity: 65.0%
Test Distance: 6.970m [K=1.0000]
Remarks:



UTILIZATION FACTORS TABLE

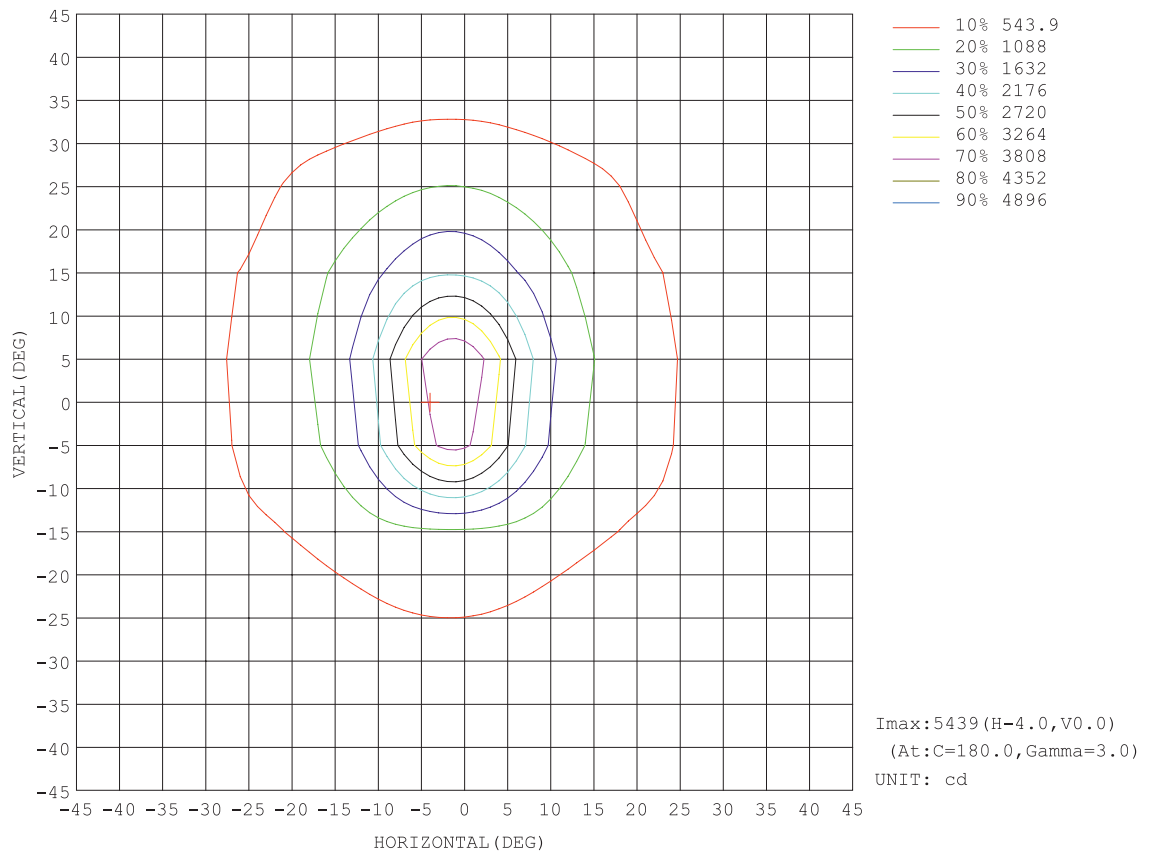
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) k(RI) x RCR = 5									
k = 0.60	92	86	82	91	86	82	91	85	82	79
0.80	99	94	90	98	93	90	97	93	90	86
1.00	103	98	95	102	97	94	101	97	94	90
1.25	107	102	99	106	101	98	104	100	98	94
1.50	109	105	102	108	104	101	106	103	100	96
2.00	112	108	105	110	107	104	108	105	102	97
2.50	113	110	107	112	108	106	109	106	104	98
3.00	115	111	109	113	110	108	109	107	106	99
4.00	117	114	112	115	112	111	111	109	108	101
5.00	118	116	114	116	114	112	112	110	109	102
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNM = 1.25										

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2016-10-07

Y Range: 0 - 90DEG
 Y Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity: 65.0%
 Test Distance: 6.970m [K=1.0000]
 Remarks:



ISOCANDELA DIAGRAM

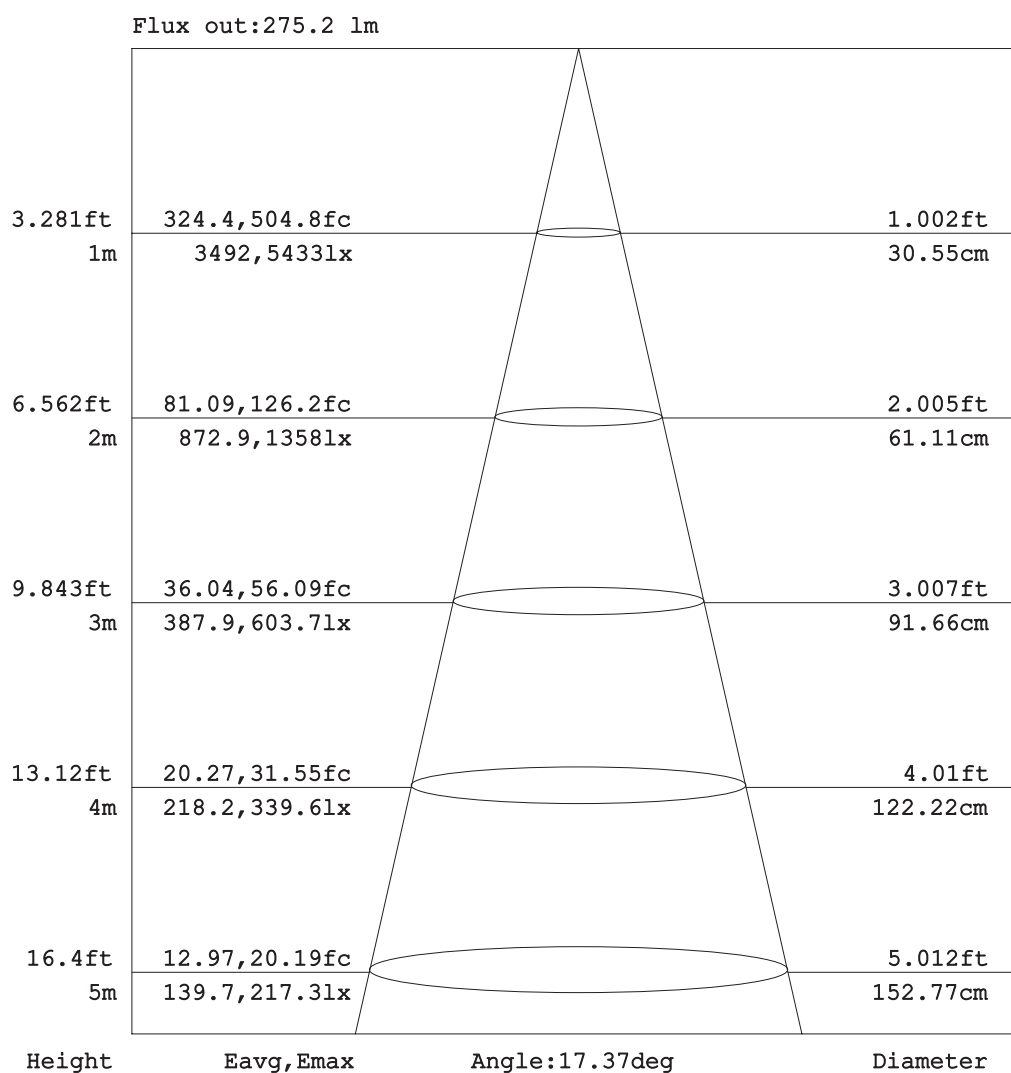


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-10-07

Y Range: 0 - 90DEG
Y Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity: 65.0%
Test Distance: 6.970m [K=1.0000]
Remarks:



AAI Figure



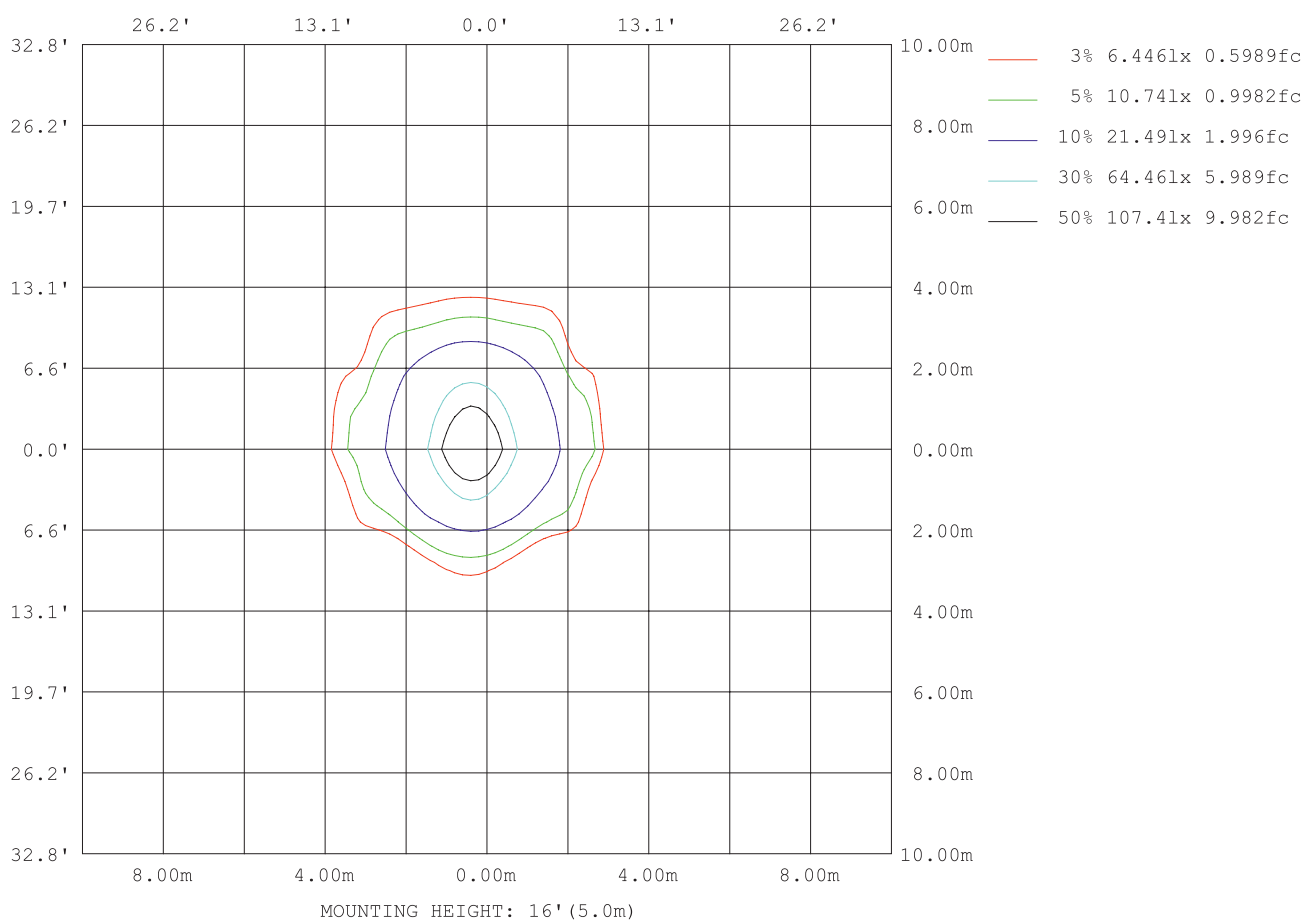
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-10-07

Y Range: 0 - 90DEG
Y Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity: 65.0%
Test Distance: 6.970m [K=1.0000]
Remarks:



ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2016-10-07

Y Range: 0 - 90DEG
 Y Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity: 65.0%
 Test Distance: 6.970m [K=1.0000]
 Remarks:



Average Luminance Table (CIBSE)

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	1196.37	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.009	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	550	535	511	512	501	512	523	531	535	536	537	534	533	539	547	545	564	568	561
60	560	546	538	543	538	544	564	589	600	604	604	598	593	584	597	607	634	645	657
65	542	528	538	557	565	587	615	634	639	638	639	642	654	638	627	642	658	683	713
70	480	482	515	562	591	631	660	685	695	693	690	685	689	678	657	657	674	710	753
75	476	506	558	602	670	709	738	775	794	791	778	760	750	739	717	684	687	705	759
80	642	679	608	735	857	552	308	140	36	0	35	137	309	558	875	864	835	828	893
85	137	111	58	0	0	0	0	0	0	0	0	0	0	0	0	0	1297	1492	1585

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	1585	200	---	500
Category 2	65 to 90	1585	200	---	500
Category 3	75 to 90	1585	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: DAMIN
 Test Date: 2016-10-07

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity: 65.0%
 Test Distance: 6.970m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-10-07

```
Y Range: 0 - 90DEG
Y Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.970m [K=1.0000]
Remarks:
```

UNIT: cd

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-10-07

```
Y Range: 0 - 90DEG
Y Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.970m [K=1.0000]
Remarks:
```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--3

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-10-07

```
Y Range: 0 - 90DEG
Y Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.970m [K=1.0000]
Remarks:
```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--4

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-10-07

```
Y Range: 0 - 90DEG
Y Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.970m [K=1.0000]
Remarks:
```