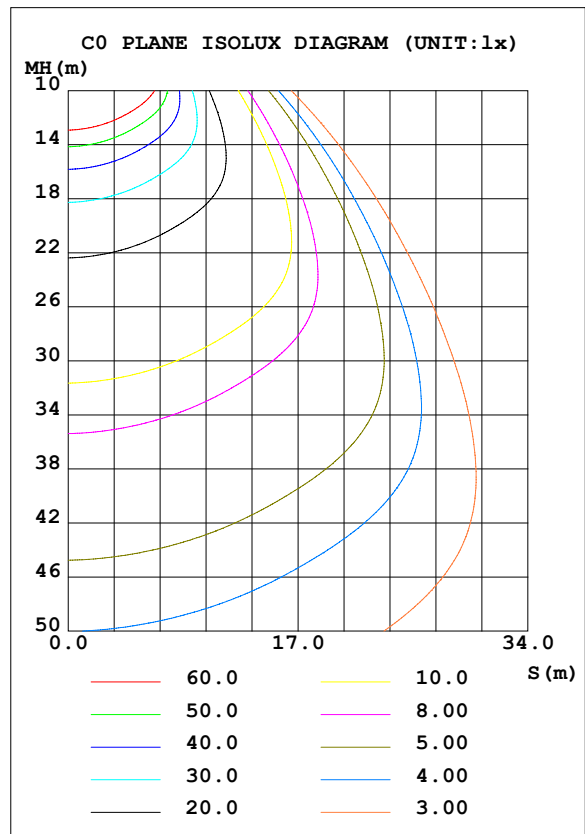
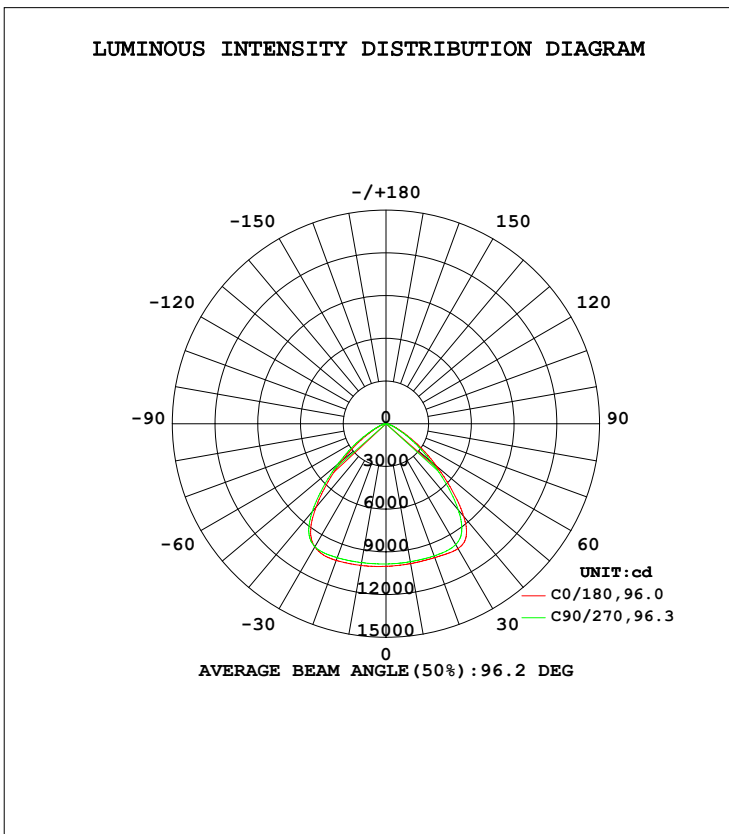


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.6V I:0.6993A P:151.8W PF:0.9885 Freq:49.99Hz Lamp Flux:22794.8x1 lm		
NAME: 150W LED HIGH BAY LIGHT 90°	TYPE:UFO	WEIGHT:
SPEC.:PHILIPS 3030	DIM.: φ305mm	SERIAL No.:
MFR.: QINHAN LIGHTING	SUR.:φ205mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 150.17 lm/W			
MODEL	QH-HBUFO-150W	I <sub>max</sub> (cd)	10235	S/MH (C0/180)	1.33
NOMINAL POWER (W)	150	LOR (%)	100.0	S/MH (C90/270)	1.37
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	22795	η UP, DN (C0-180)	0.0,49.8
NOMINAL FLUX (lm)	22794.8	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0,50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: 1  
 Test Date: 2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 9.850m [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	997.2	986.6	984.1	984.8	1010	1001	990.4	979.5	0- 10	944.0	944.0	4.14,4.14
20	1000	988.5	987.9	990.3	1022	1015	1001	984.5	10- 20	2815	3759	16.5,16.5
30	1012	994.1	979.6	973.0	999.0	996.3	997.7	992.2	20- 30	4619	8379	36.8,36.8
40	849.5	821.4	789.7	764.6	765.4	773.4	805.4	835.4	30- 40	5776	14155	62.1,62.1
50	464.1	449.7	417.6	396.8	401.6	427.8	443.7	459.9	40- 50	4701	18856	82.7,82.7
60	189.2	181.9	163.1	152.3	149.0	160.3	177.9	192.2	50- 60	2586	21442	94.1,94.1
70	55.18	52.28	49.80	46.70	45.52	47.80	52.07	56.79	60- 70	982.9	22425	98.4,98.4
80	15.14	14.12	13.27	12.67	13.32	14.18	14.83	15.48	70- 80	308.2	22733	99.7,99.7
90	0.2070	0.1360	0.1015	0.0989	0.1575	0.1966	0.2604	0.2754	80- 90	62.00	22795	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 16765 lm

%lum = 73.5%  
 %lamp = 73.5%

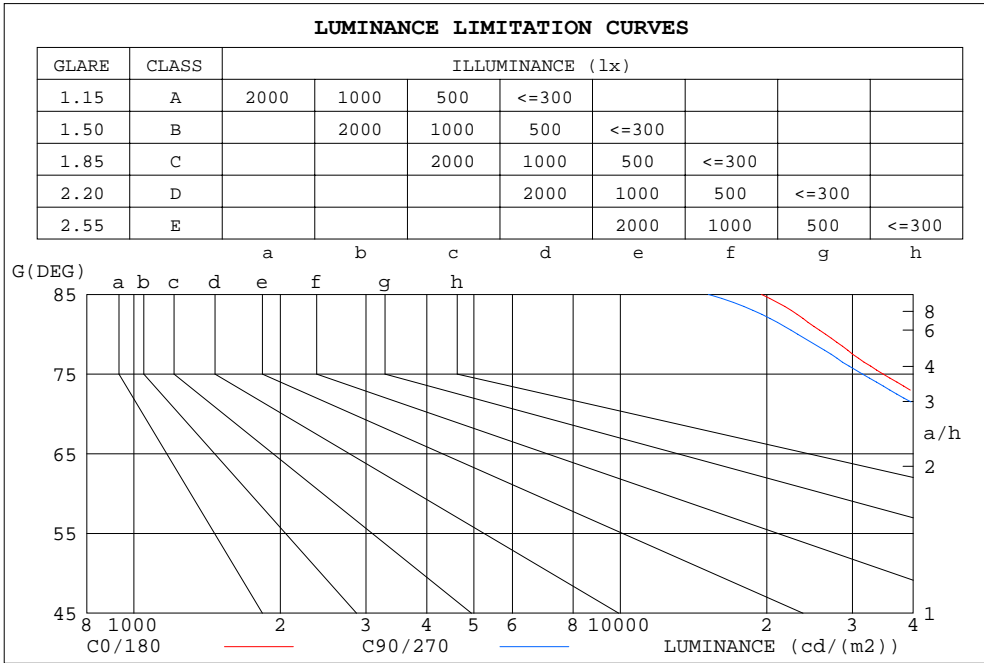
Conical surface Flux(120deg): 21442 lm

%lum = 94.1%  
 %lamp = 94.1%

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:1  
 Test Date:2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

LUMINANCE LIMITATION CURVES



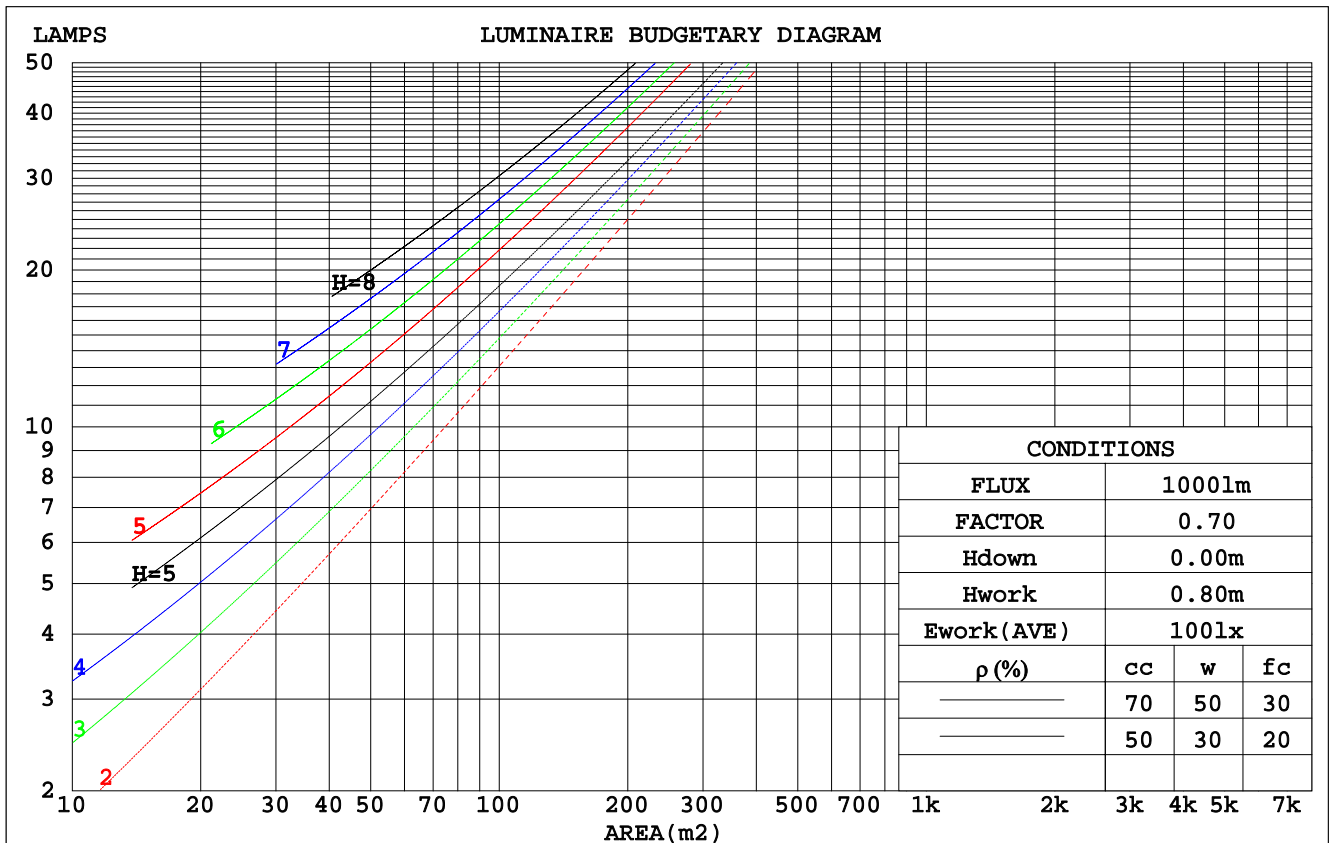
LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	19507	15169
80	26420	23158
75	34709	31481
70	48886	44119
65	74399	65334
60	114643	98864
55	164870	143795
50	218772	196881
45	279115	257076

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: 1  
 Test Date: 2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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						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	.00
1.0	1.08	1.04	1.01	1.05	1.02	.00	1.01	.99	.97	.98	.96	.94	.94	.92	.91	.89
2.0	.97	.91	.87	.95	.90	.86	.92	.87	.84	.88	.85	.82	.85	.83	.80	.78
3.0	.87	.80	.75	.85	.79	.74	.83	.77	.73	.80	.76	.72	.78	.74	.71	.69
4.0	.78	.71	.65	.77	.70	.65	.75	.69	.64	.73	.67	.63	.71	.66	.62	.61
5.0	.71	.63	.58	.70	.63	.57	.68	.62	.57	.66	.61	.56	.64	.59	.56	.54
6.0	.65	.57	.51	.64	.56	.51	.62	.55	.50	.60	.55	.50	.59	.54	.50	.48
7.0	.59	.51	.46	.58	.51	.46	.57	.50	.45	.55	.49	.45	.54	.49	.45	.43
8.0	.54	.46	.41	.53	.46	.41	.52	.46	.41	.51	.45	.41	.50	.44	.40	.39
9.0	.50	.42	.37	.49	.42	.37	.48	.42	.37	.47	.41	.37	.46	.41	.37	.35
10.0	.46	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.34	.43	.37	.33	.32



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: 1  
 Test Date: 2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks:

WEC AND CCEC

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.237	.135	.043	.230	.131	.042	.217	.125	.040	.205	.118	.038	.194	.113	.036	
2.0	.231	.127	.039	.225	.124	.038	.214	.119	.037	.204	.114	.036	.194	.110	.035	
3.0	.221	.118	.035	.216	.116	.035	.206	.112	.034	.197	.108	.033	.189	.104	.032	
4.0	.210	.109	.032	.205	.107	.032	.196	.104	.031	.188	.101	.031	.181	.098	.030	
5.0	.198	.101	.029	.194	.100	.029	.187	.097	.029	.179	.095	.028	.173	.092	.028	
6.0	.187	.094	.027	.184	.093	.027	.177	.091	.026	.171	.089	.026	.165	.087	.026	
7.0	.177	.088	.025	.174	.087	.025	.168	.085	.024	.162	.083	.024	.157	.081	.024	
8.0	.168	.082	.023	.165	.081	.023	.159	.080	.023	.154	.078	.023	.149	.077	.022	
9.0	.159	.077	.021	.156	.076	.021	.151	.075	.021	.147	.074	.021	.142	.072	.021	
10.0	.151	.072	.020	.149	.072	.020	.144	.071	.020	.140	.069	.020	.136	.068	.020	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.175	.157	.140	.150	.135	.121	.103	.093	.083	.059	.054	.049	.019	.017	.016	
2.0	.164	.132	.105	.141	.114	.091	.096	.079	.064	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.081	.133	.098	.070	.091	.068	.049	.053	.040	.029	.017	.013	.010	
4.0	.147	.100	.064	.126	.086	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008	
5.0	.140	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.133	.081	.043	.115	.070	.037	.079	.049	.026	.046	.029	.016	.015	.009	.005	
7.0	.127	.074	.036	.109	.064	.032	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.072	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.116	.063	.027	.100	.055	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.066	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:1  
 Test Date:2019-01-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) 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	19.4	20.8	19.7	20.9	21.1	19.0	20.3	19.3	20.5	20.7
3H	19.5	20.7	19.8	20.9	21.2	19.1	20.3	19.4	20.5	20.7
4H	19.5	20.6	19.8	20.9	21.1	19.1	20.2	19.4	20.4	20.7
6H	19.4	20.5	19.8	20.7	21.0	19.0	20.1	19.3	20.3	20.6
8H	19.4	20.4	19.7	20.7	21.0	19.0	20.0	19.3	20.3	20.5
12H	19.4	20.3	19.7	20.6	20.9	18.9	19.9	19.3	20.2	20.5
4H 2H	19.4	20.6	19.7	20.8	21.0	19.1	20.2	19.4	20.4	20.7
3H	19.6	20.5	19.9	20.8	21.1	19.2	20.2	19.5	20.4	20.7
4H	19.6	20.5	19.9	20.8	21.1	19.2	20.1	19.6	20.4	20.7
6H	19.6	20.3	19.9	20.7	21.0	19.2	19.9	19.6	20.3	20.6
8H	19.5	20.2	19.9	20.6	21.0	19.1	19.9	19.5	20.2	20.6
12H	19.5	20.2	19.9	20.5	20.9	19.1	19.8	19.5	20.1	20.5
8H 4H	19.5	20.2	19.9	20.6	20.9	19.1	19.8	19.5	20.2	20.6
6H	19.5	20.1	19.9	20.5	20.9	19.1	19.7	19.5	20.1	20.5
8H	19.5	20.0	19.9	20.4	20.9	19.1	19.6	19.6	20.0	20.5
12H	19.5	19.9	19.9	20.4	20.8	19.1	19.5	19.6	20.0	20.4
12H 4H	19.5	20.1	19.9	20.5	20.9	19.1	19.7	19.5	20.1	20.5
6H	19.5	20.0	19.9	20.4	20.8	19.1	19.6	19.5	20.0	20.5
8H	19.5	19.9	19.9	20.3	20.8	19.1	19.5	19.5	20.0	20.4
Variations with the observer position at spacings:										
S = 1.0H	+ 1.1 / - 1.7					+ 1.3 / - 1.9				
1.5H	+ 0.7 / - 0.9					+ 0.8 / - 0.9				
2.0H	+ 2.5 / - 3.1					+ 2.5 / - 3.0				

CIE Pub.117, 22795 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 10.9)

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:1  
 Test Date:2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

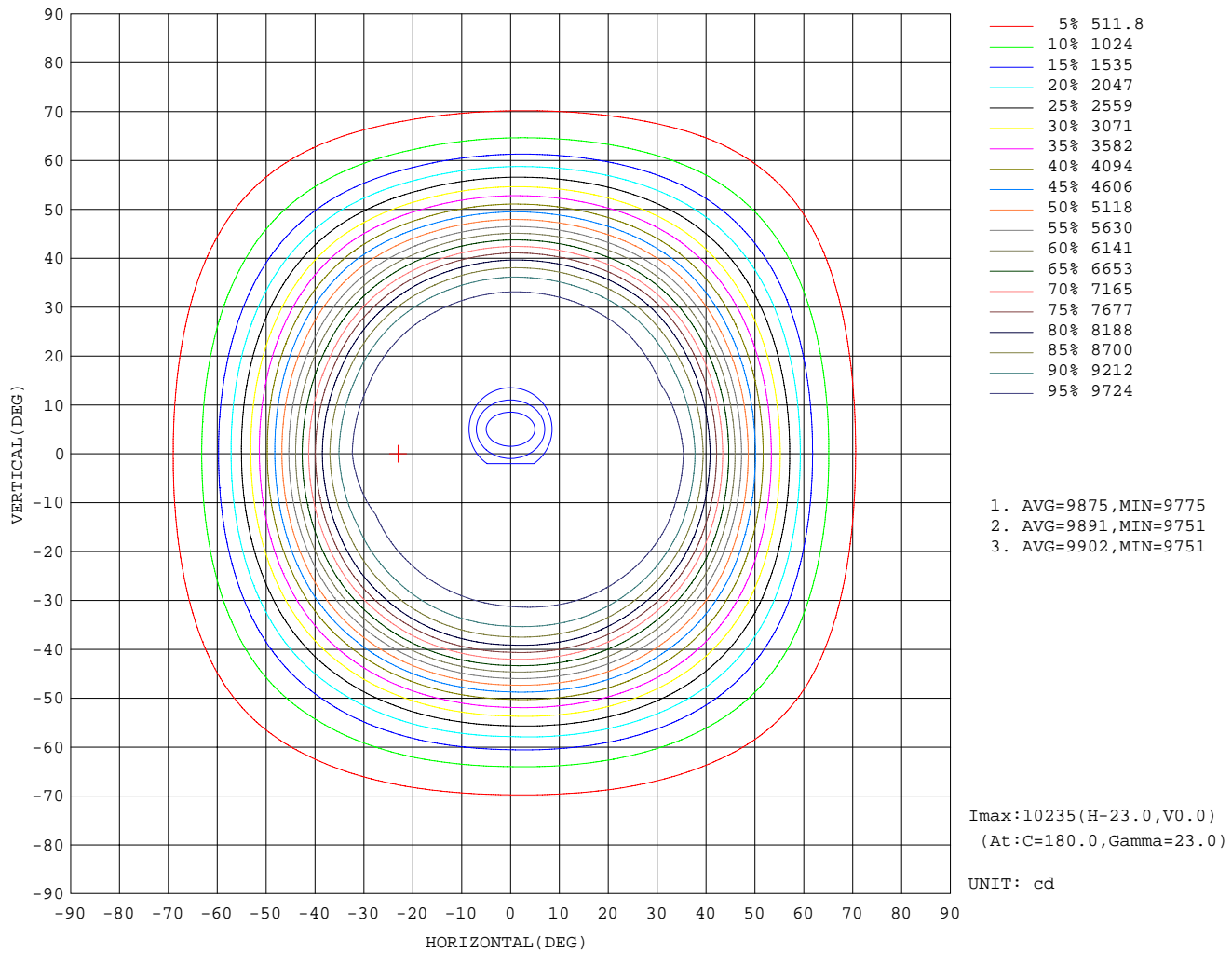
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
k = 0.60	67	57	51	67	57	51	66	57	51	46
0.80	78	68	62	77	68	62	75	67	61	56
1.00	86	77	71	85	76	71	83	77	70	65
1.25	92	84	79	91	83	78	89	82	77	71
1.50	96	89	84	95	88	83	92	86	82	76
2.00	102	95	91	100	94	90	97	92	88	82
2.50	105	99	94	103	97	93	99	95	91	84
3.00	107	102	98	105	101	97	101	98	95	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	103	105	103	100	92
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: 1  
 Test Date: 2019-01-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

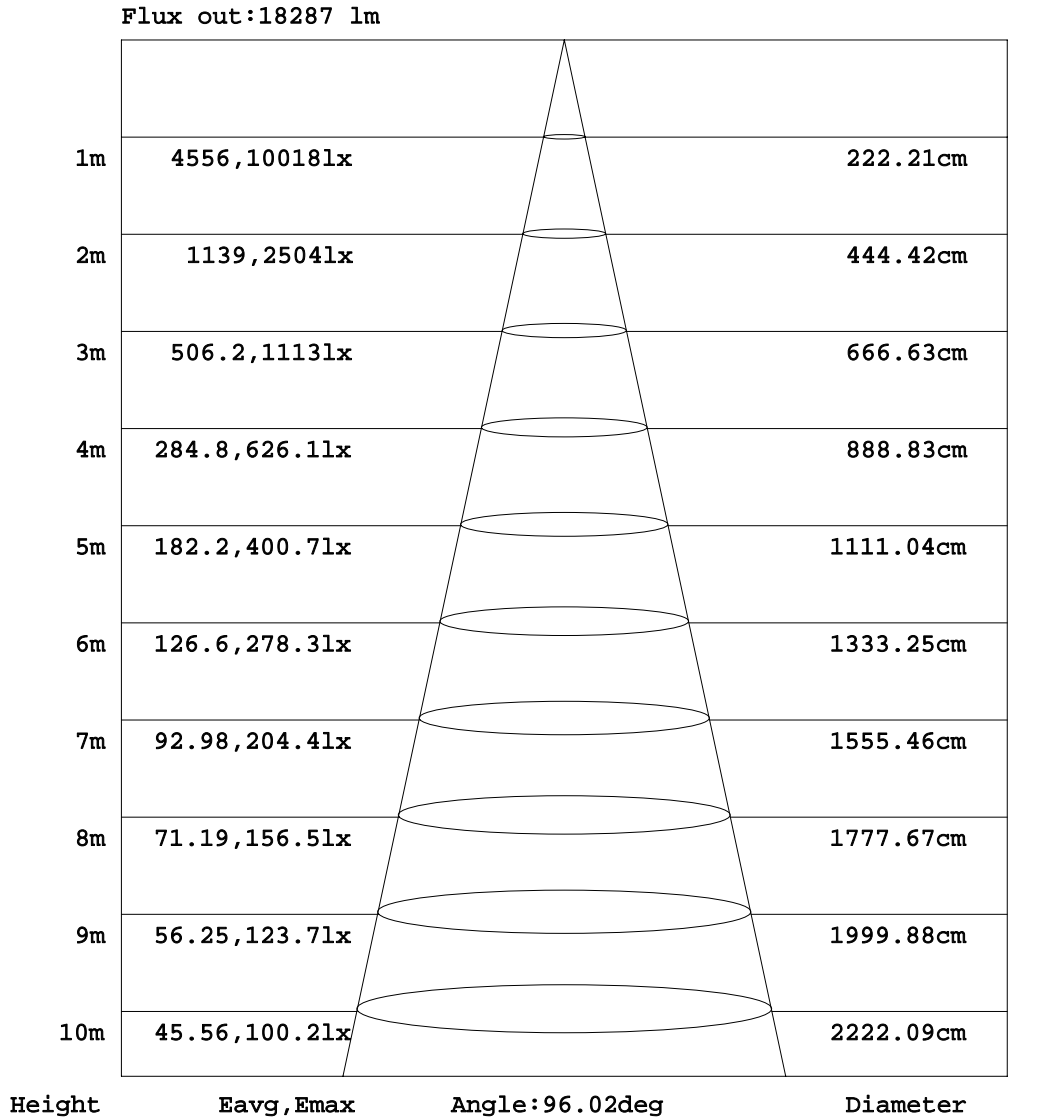


C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:1  
 Test Date:2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:



AAI Figure

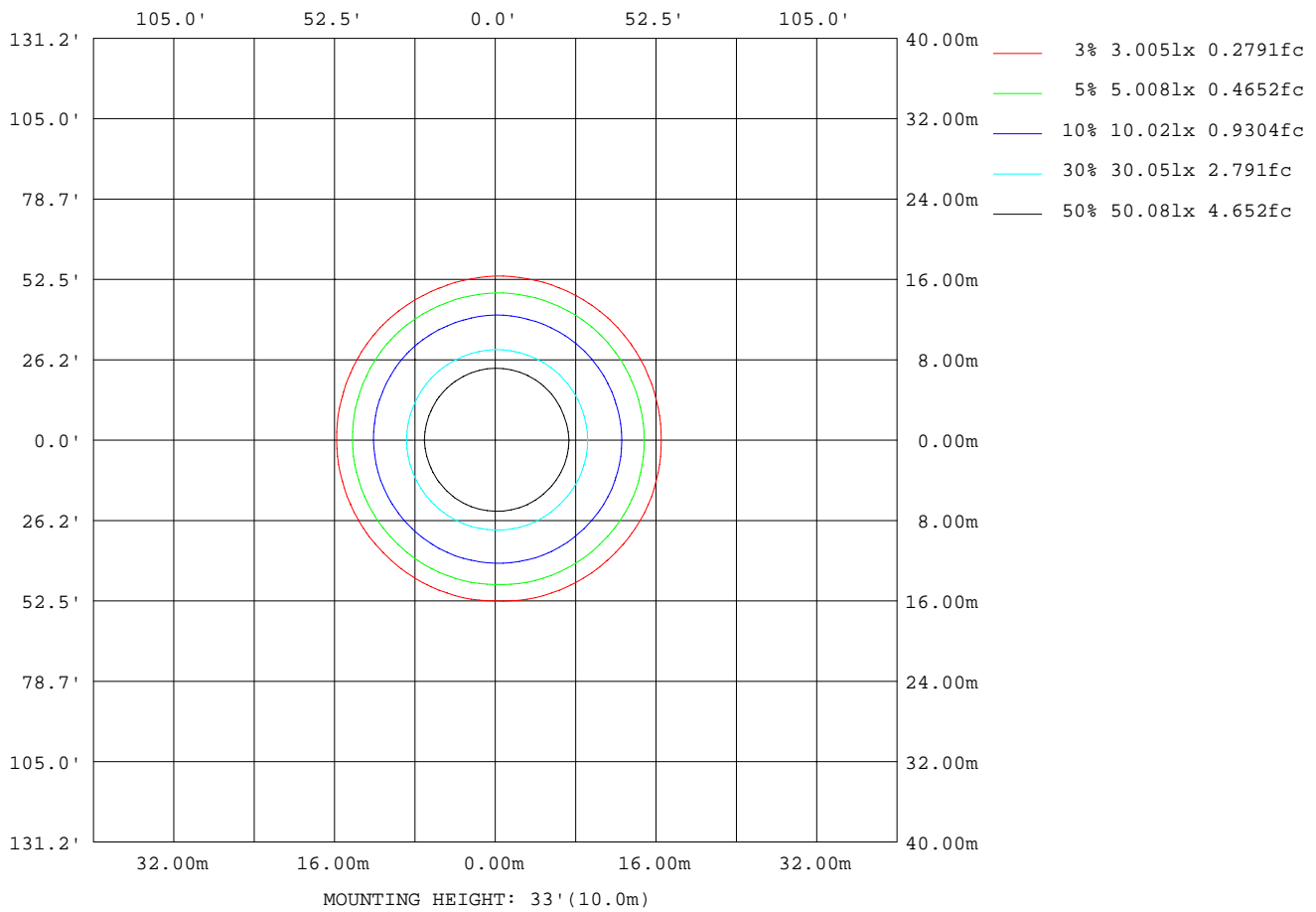


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:1  
 Test Date:2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

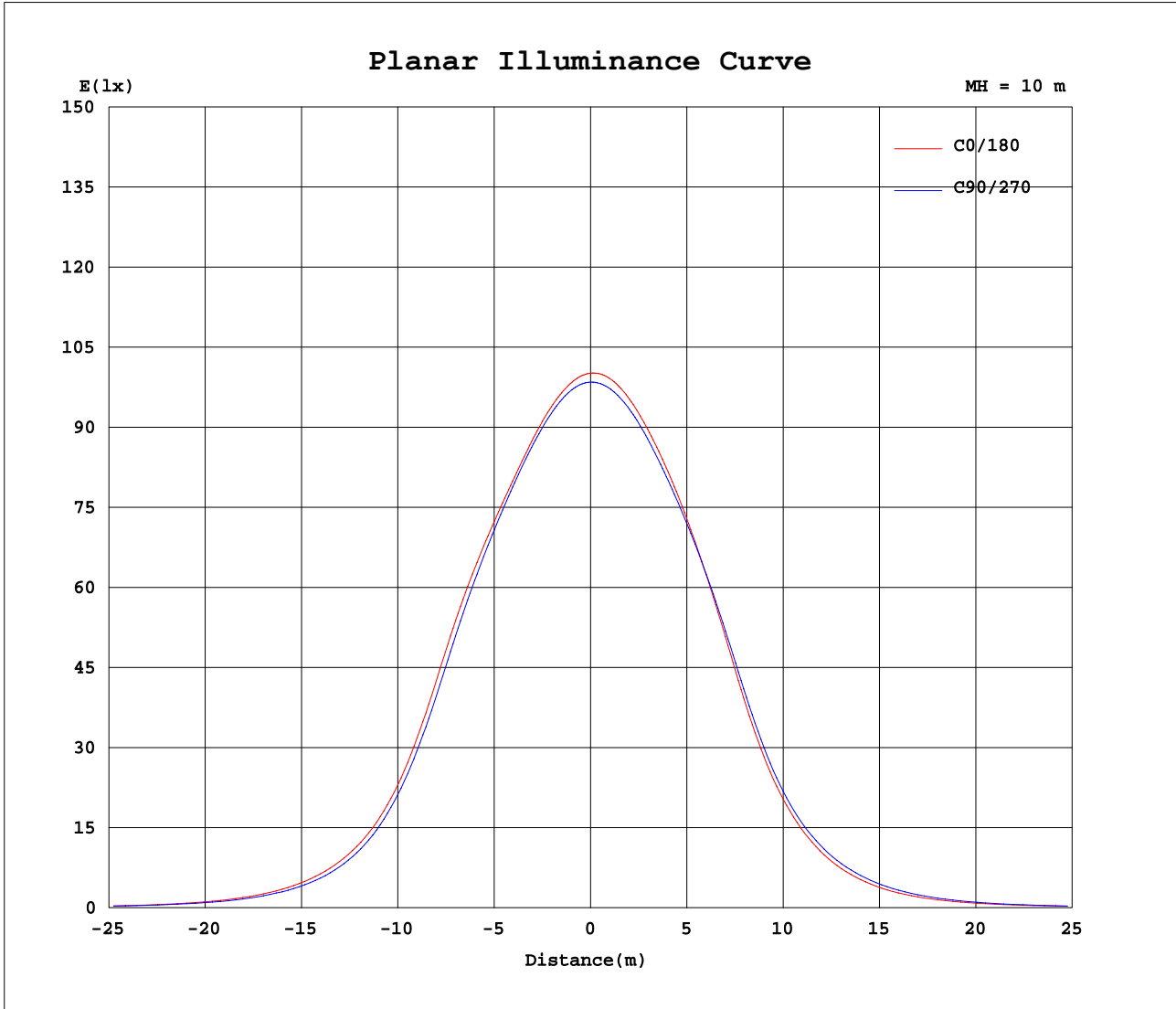
ISOLUX DIAGRAM



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: 1  
 Test Date: 2019-01-21

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: 1  
 Test Date: 2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: ×10cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	1002	997	992	988	985	982	979	977	1002	997	992	988	985	982	979	977			
5	999	993	989	986	984	983	982	981	1006	1001	996	992	987	982	979	975			
10	997	991	987	985	984	985	985	985	1010	1006	1001	996	990	984	979	975			
15	998	990	986	985	985	986	987	988	1016	1011	1008	1002	995	987	981	975			
20	1000	993	988	988	988	988	990	993	1022	1018	1015	1008	1001	992	985	977			
25	1008	1000	995	992	989	988	990	992	1022	1018	1016	1011	1006	998	991	984			
30	1012	1003	994	986	980	976	973	973	999	995	996	997	998	996	992	987			
35	979	970	954	943	927	919	909	906	924	918	926	934	944	950	958	957			
40	849	843	821	812	790	781	765	760	765	760	773	787	805	817	835	839			
45	651	647	629	621	600	587	574	571	576	579	593	599	617	625	642	647			
50	464	463	450	439	418	406	397	396	402	413	428	430	444	448	460	460			
55	312	313	302	289	272	265	257	254	257	266	278	283	297	304	312	311			
60	189	191	182	174	163	159	152	150	149	153	160	166	178	186	192	194			
65	104	104	98.7	95.7	91.1	89.5	85.1	84.3	82.1	83.1	87.0	90.4	97.3	102	107	106			
70	55.2	55.0	52.3	51.8	49.8	48.9	46.7	46.7	45.5	45.9	47.8	49.4	52.1	54.3	56.8	56.7			
75	29.6	29.3	28.0	27.8	26.9	26.3	25.4	25.5	25.6	25.7	26.9	27.1	28.3	29.0	30.5	30.2			
80	15.1	14.9	14.1	13.9	13.3	13.1	12.7	12.8	13.3	13.7	14.2	14.2	14.8	14.9	15.5	15.4			
85	5.61	5.33	4.79	4.66	4.36	4.35	4.19	4.37	4.81	4.92	5.32	5.22	5.71	5.78	6.03	5.69			
90	0.21	0.17	0.14	0.11	0.10	0.10	0.10	0.11	0.16	0.18	0.20	0.23	0.26	0.29	0.28	0.24			

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: 1  
 Test Date: 2019-01-21

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.354  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks: