

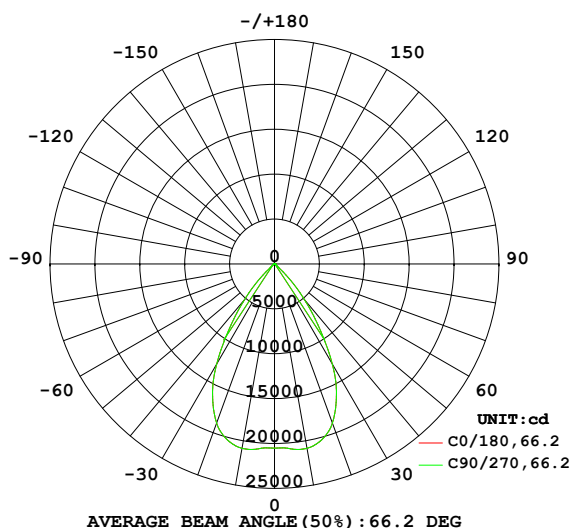
# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

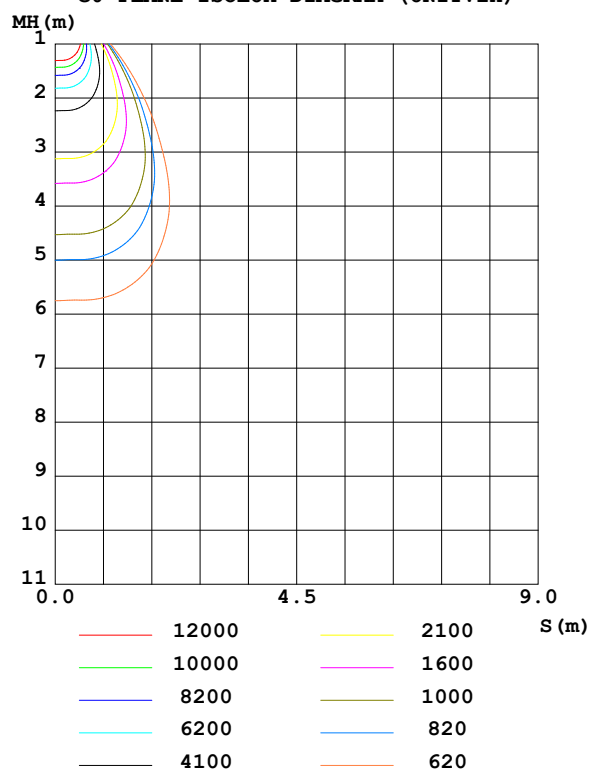
Test:U:230.1V I:0.6816A P:151.29W PF:0.9645 Freq:50.00Hz Lamp Flux:22630.8x1 lm		
NAME: HB01-150-5070-H00C10+H00B20	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 149.58 lm/W			
MODEL	3030	Imax (cd)	20862	S/MH (C0/180)	0.97
NOMINAL POWER (W)	150	LOR (%)	100.0	S/MH (C90/270)	0.97
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	22631	$\eta$ UP,DN (C0-180)	0.0,50.0
NOMINAL FLUX (lm)	22630.8	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.0,50.0
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	230	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.470m [K=1.0000]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	2085	2085	2085	2085	2085	2085	2085	2085	0- 10	1981	1981	8.75,8.75
20	1886	1886	1886	1886	1886	1886	1886	1886	10- 20	5682	7663	33.9,33.9
30	1290	1290	1290	1290	1290	1290	1290	1290	20- 30	7408	15071	66.6,66.6
40	519.5	519.5	519.5	519.5	519.5	519.5	519.5	519.5	30- 40	5460	20530	90.7,90.7
50	52.32	52.32	52.32	52.32	52.32	52.32	52.32	52.32	40- 50	1853	22383	98.9,98.9
60	5.811	5.811	5.811	5.811	5.811	5.811	5.811	5.811	50- 60	196.3	22579	99.8,99.8
70	2.277	2.277	2.277	2.277	2.277	2.277	2.277	2.277	60- 70	33.87	22613	99.9,99.9
80	0.7003	0.7003	0.7003	0.7003	0.7003	0.7003	0.7003	0.7003	70- 80	14.10	22627	100,100
90	0.1262	0.1262	0.1262	0.1262	0.1262	0.1262	0.1262	0.1262	80- 90	3.487	22631	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:X10cd									UNIT:lm		

Conical surface Flux(90deg): 21901 lm

%lum = 96.8%

%lamp = 96.8%

Conical surface Flux(120deg): 22580 lm

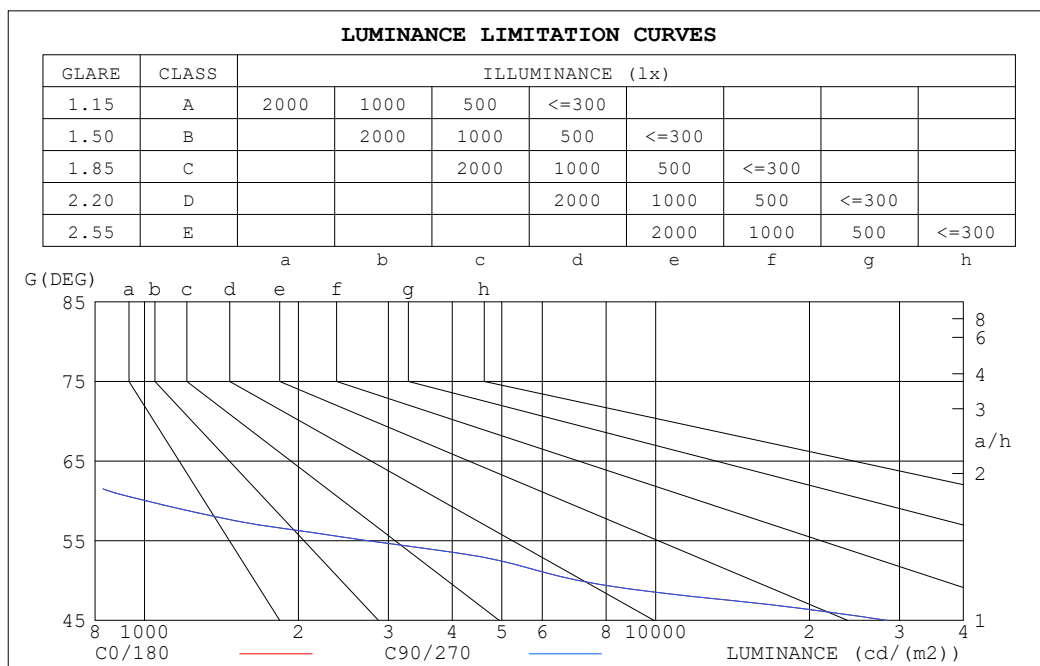
%lum = 99.8%

%lamp = 99.8%

C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.470m [K=1.0000]  
Remarks:

## LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	278	278
80	350	350
75	417	417
70	578	578
65	641	641
60	1009	1009
55	2735	2735
50	7066	7066
45	28319	28319

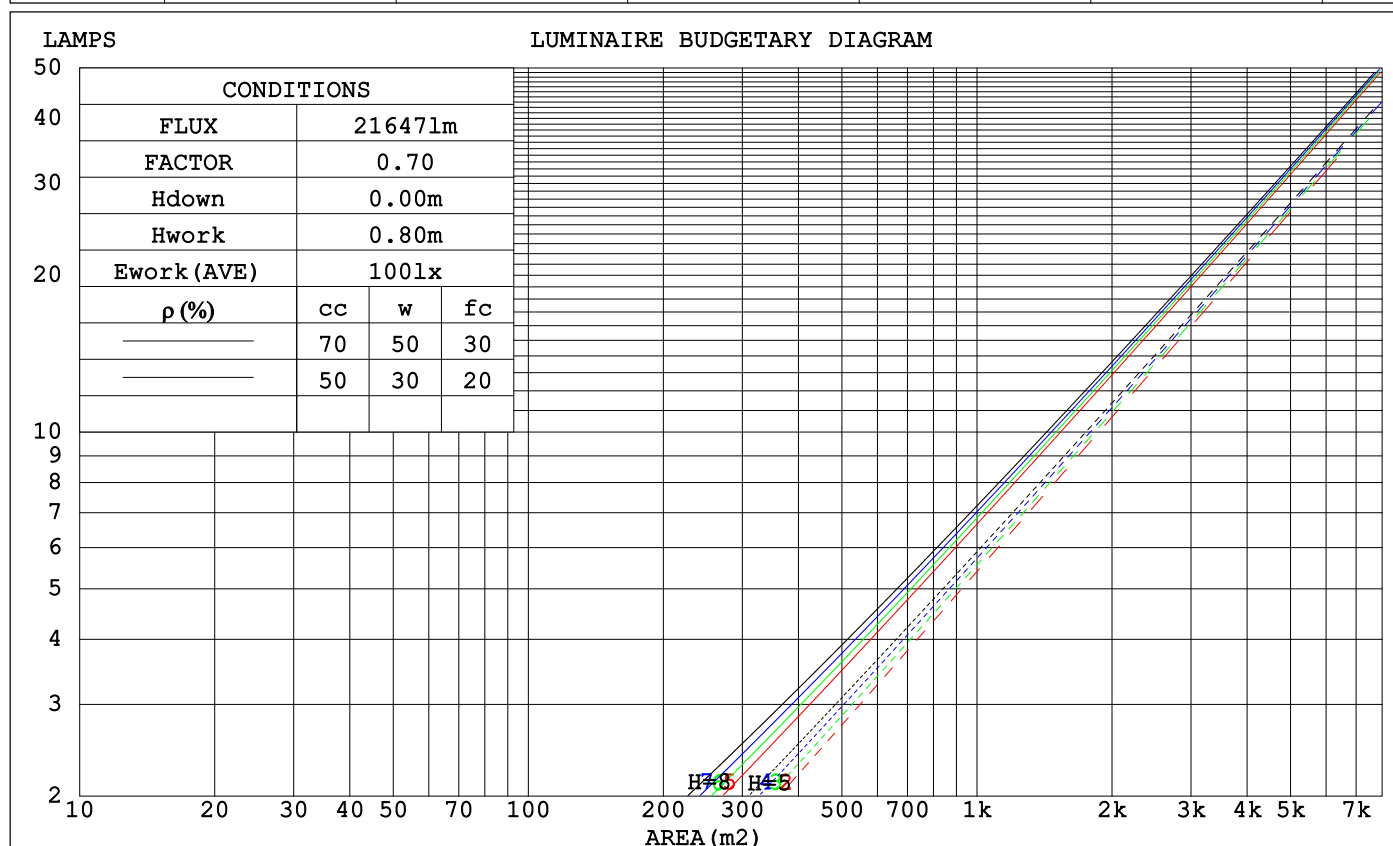
C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:2019-01-11

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.470m [K=1.0000]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

$\rho_{cc}$	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			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	1.11	1.08	1.06	1.08	1.06	1.04	1.04	1.03	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.03	.98	.95	1.01	.97	.94	.98	.95	.92	.95	.92	.90	.92	.90	.88	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.89	.86	.83	.87	.84	.81	.80
4.0	.89	.83	.79	.88	.82	.78	.85	.81	.77	.83	.79	.76	.82	.78	.75	.74
5.0	.83	.77	.72	.82	.76	.72	.80	.75	.71	.78	.74	.71	.77	.73	.70	.69
6.0	.77	.71	.67	.77	.71	.66	.75	.70	.66	.74	.69	.66	.72	.68	.65	.64
7.0	.72	.66	.62	.72	.66	.62	.70	.65	.61	.69	.64	.61	.68	.64	.61	.59
8.0	.68	.62	.57	.67	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.57	.55
9.0	.64	.58	.54	.63	.57	.54	.62	.57	.53	.61	.57	.53	.61	.56	.53	.52
10.0	.60	.54	.50	.60	.54	.50	.59	.54	.50	.58	.53	.50	.57	.53	.50	.48



C Range: 0 - 360DEG  
 C Interval: 2.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:9.470m [K=1.0000]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## 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	.182	.104	.033	.175	.100	.032	.163	.093	.030	.151	.087	.028	.140	.081	.026		
2.0	.175	.096	.029	.170	.093	.029	.159	.088	.027	.149	.084	.026	.140	.079	.025		
3.0	.168	.089	.027	.163	.087	.026	.154	.083	.025	.145	.080	.024	.138	.076	.024		
4.0	.160	.083	.024	.156	.082	.024	.148	.079	.023	.141	.076	.023	.134	.073	.022		
5.0	.153	.078	.023	.150	.077	.022	.143	.074	.022	.136	.072	.021	.130	.070	.021		
6.0	.147	.073	.021	.143	.072	.021	.137	.070	.020	.132	.068	.020	.126	.066	.020		
7.0	.140	.069	.020	.137	.068	.020	.132	.067	.019	.127	.065	.019	.122	.063	.019		
8.0	.134	.066	.018	.132	.065	.018	.127	.063	.018	.122	.062	.018	.118	.061	.018		
9.0	.129	.062	.017	.127	.062	.017	.122	.060	.017	.118	.059	.017	.114	.058	.017		
10.0	.124	.059	.016	.122	.059	.016	.118	.058	.016	.114	.057	.016	.110	.056	.016		

$\rho_{cc}$	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	.171	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.072	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.127	.088	.059	.109	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.120	.078	.049	.103	.068	.042	.071	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.113	.071	.041	.097	.061	.036	.067	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.108	.065	.035	.093	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.103	.060	.031	.089	.052	.027	.061	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.098	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 2.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:9.470m [K=1.0000]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## 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	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
3H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
4H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
6H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
8H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
12H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
4H 2H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
3H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
4H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
6H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
8H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
12H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
8H 4H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
6H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
8H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
12H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
12H 4H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
6H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
8H	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8
CIE190: 2010										

CIE190: 2010  
Area: 0.1152 m2

C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.470m [K=1.0000]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

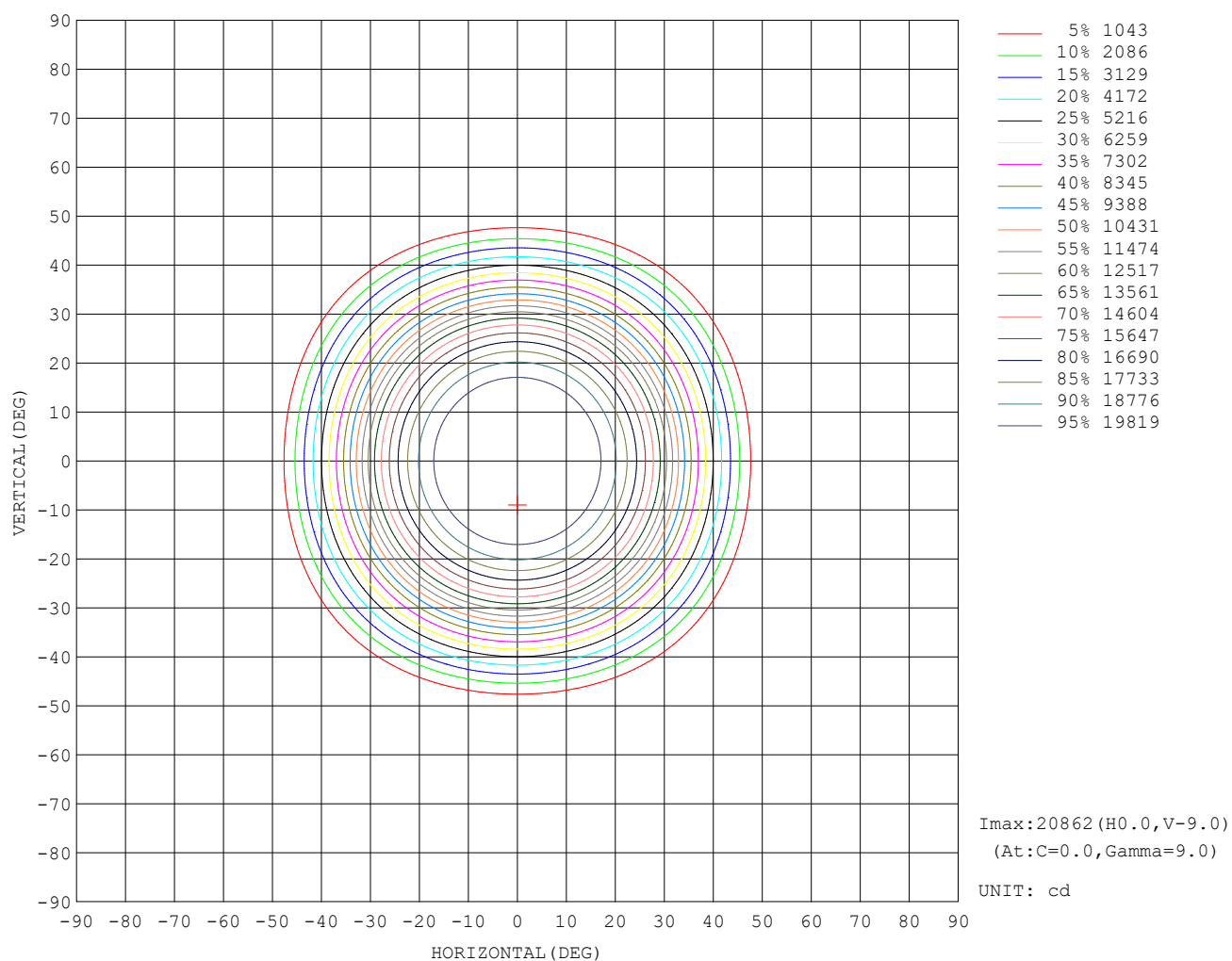
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	86	79	75	85	79	75	84	78	75	71
0.80	94	87	83	93	87	83	92	86	83	79
1.00	98	93	89	98	92	89	96	92	88	84
1.25	103	97	94	102	97	93	100	96	93	88
1.50	105	101	97	104	100	97	102	98	96	91
2.00	108	104	101	107	103	100	104	101	99	93
2.50	110	106	103	108	105	102	105	103	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	104	97
5.00	115	112	111	113	111	109	109	107	106	98
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
 C Interval: 2.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators:  
 Test Date: 2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity: 65.0%  
 Test Distance: 9.470m [K=1.0000]  
 Remarks:

# ISOCANDELA DIAGRAM

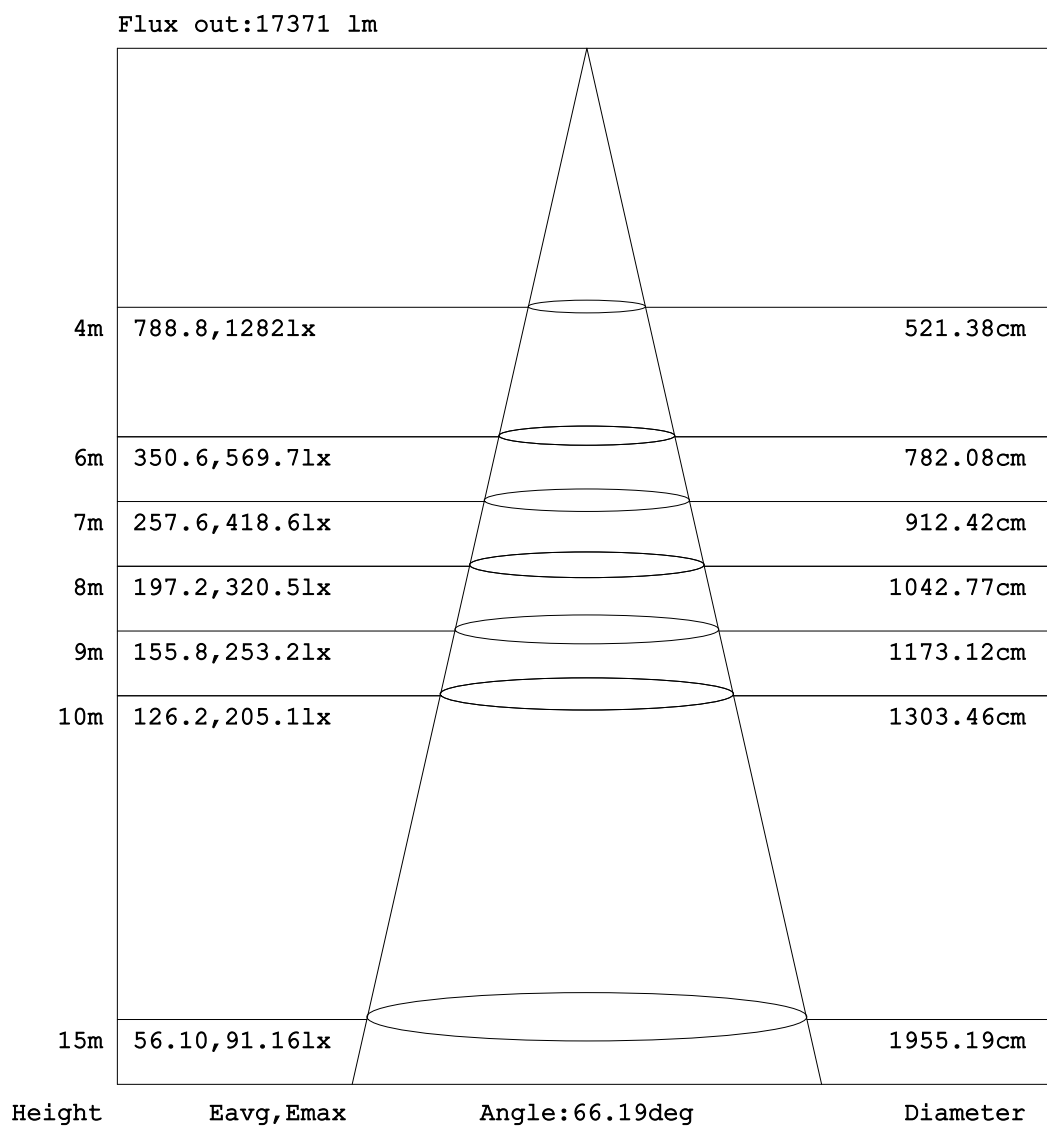


C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:  
Test Date:2019-01-11

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.470m [K=1.0000]  
Remarks:



## AAI Figure



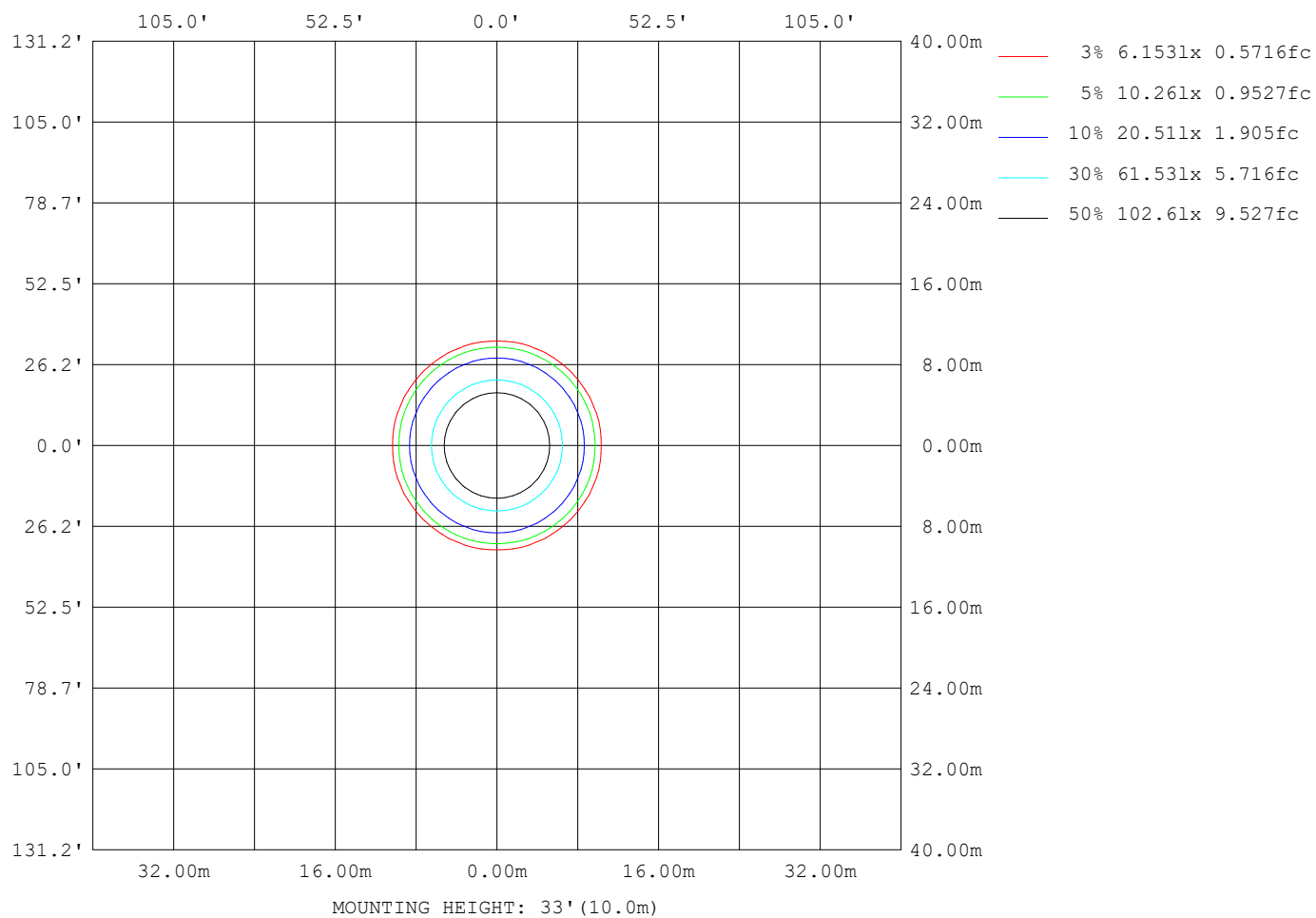
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.470m [K=1.0000]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

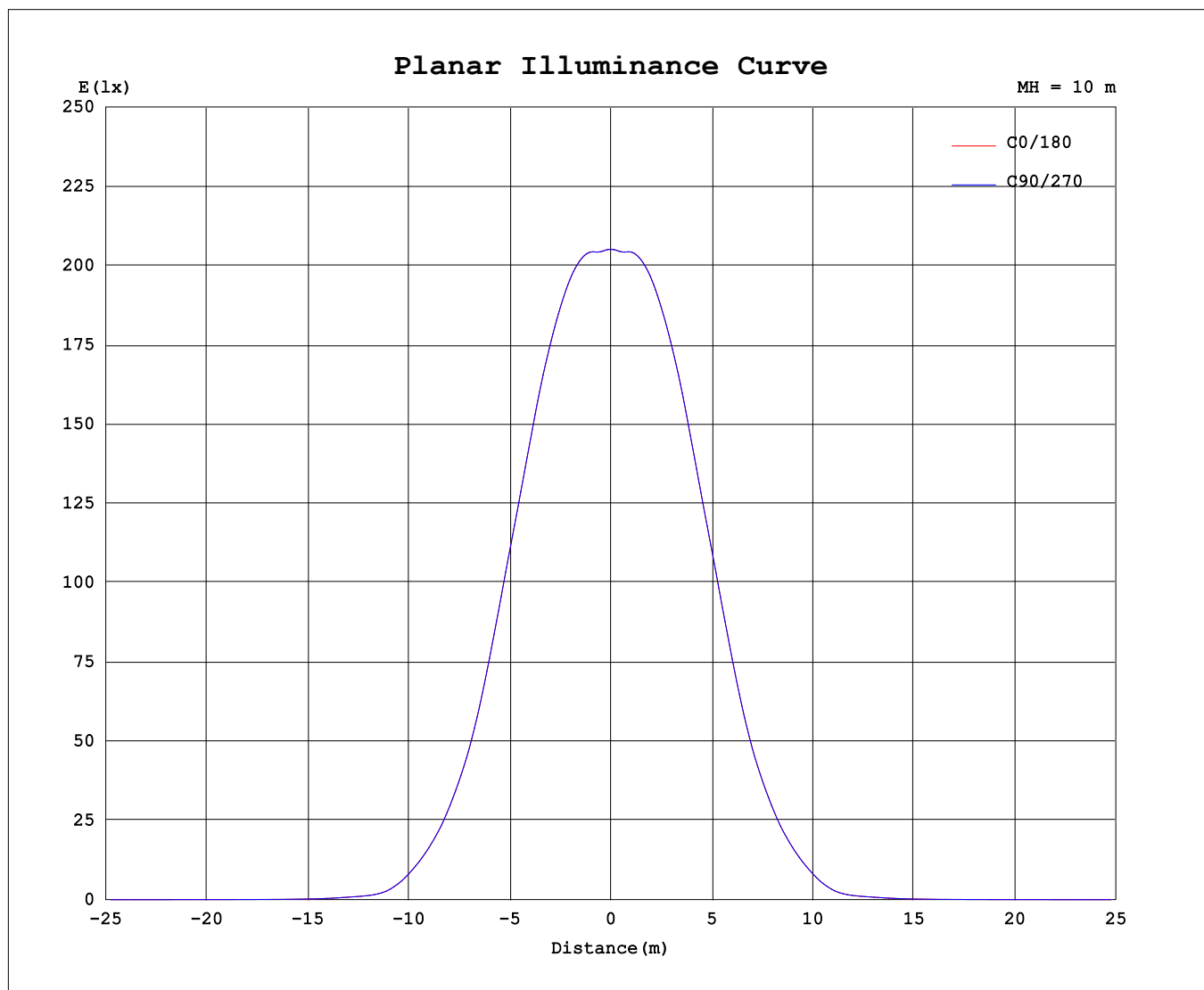
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.470m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 2.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators:  
Test Date: 2019-01-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.470m [K=1.0000]  
Remarks: