

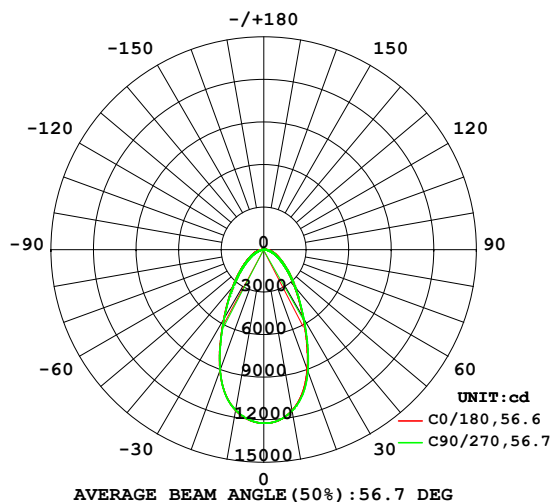
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

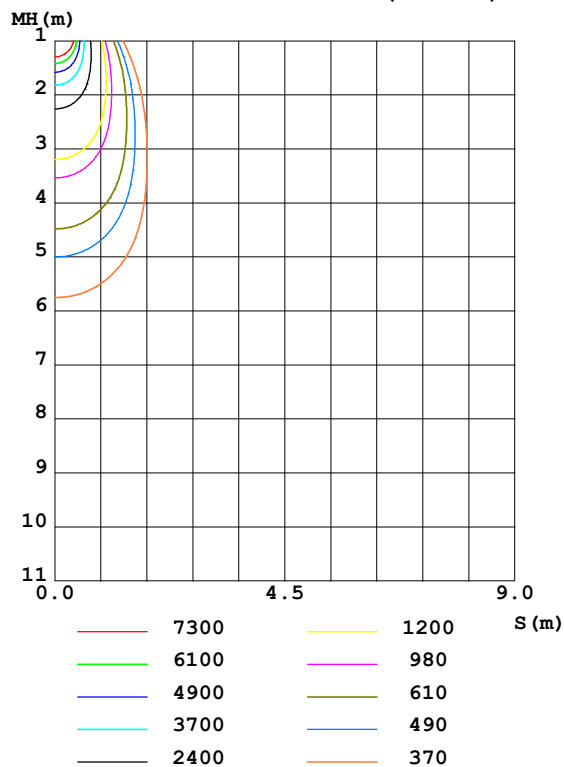
Test:U:229.8V I:0.4470A P:100.3W PF:0.9766 Freq:50.01Hz Lamp Flux:15224.4x1 lm		
NAME: LHB09-100-5070-L04501	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 151.81 lm/W			
MODEL	/	I <sub>max</sub> (cd)	12245	S/MH (C0/180)	0.86
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH (C90/270)	0.86
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	15224	η UP,DN (C0-180)	0.0,50.3
NOMINAL FLUX(lm)	15224.4	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,49.7
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 26.6DEG  
Operators: LI  
Test Date: 2020-03-26

γ Range: 0 - 90DEG  
γ Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 44.4%  
Test Distance: 26.000m [K=0.4589]  
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	1152	1155	1154	1152	1149	1146	1149	1147	0- 10	1134	1134	7.45,7.45
20	897.9	908.5	910.2	908.1	904.3	896.0	901.8	891.1	10- 20	2919	4053	26.6,26.6
30	558.9	576.8	566.8	578.8	564.6	567.7	559.7	564.4	20- 30	3327	7380	48.5,48.5
40	340.8	357.1	339.4	358.9	341.1	352.0	336.4	349.6	30- 40	2783	10162	66.8,66.8
50	202.1	214.9	201.5	216.0	204.1	212.1	199.0	210.7	40- 50	2093	12255	80.5,80.5
60	120.5	124.6	117.0	125.3	121.7	123.3	115.6	122.6	50- 60	1432	13687	89.9,89.9
70	71.41	70.20	62.21	70.58	72.21	68.84	60.56	68.50	60- 70	917.8	14605	95.9,95.9
80	33.91	28.00	22.86	28.06	34.44	26.96	21.11	26.62	70- 80	498.3	15103	99.2,99.2
90	0.1051	0.1040	0.1475	0.1038	0.1074	0.1169	0.1027	0.1050	80- 90	120.9	15224	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): 11297 lm

%lum = 74.2%

%lamp = 74.2%

Conical surface Flux(120deg): 13687 lm

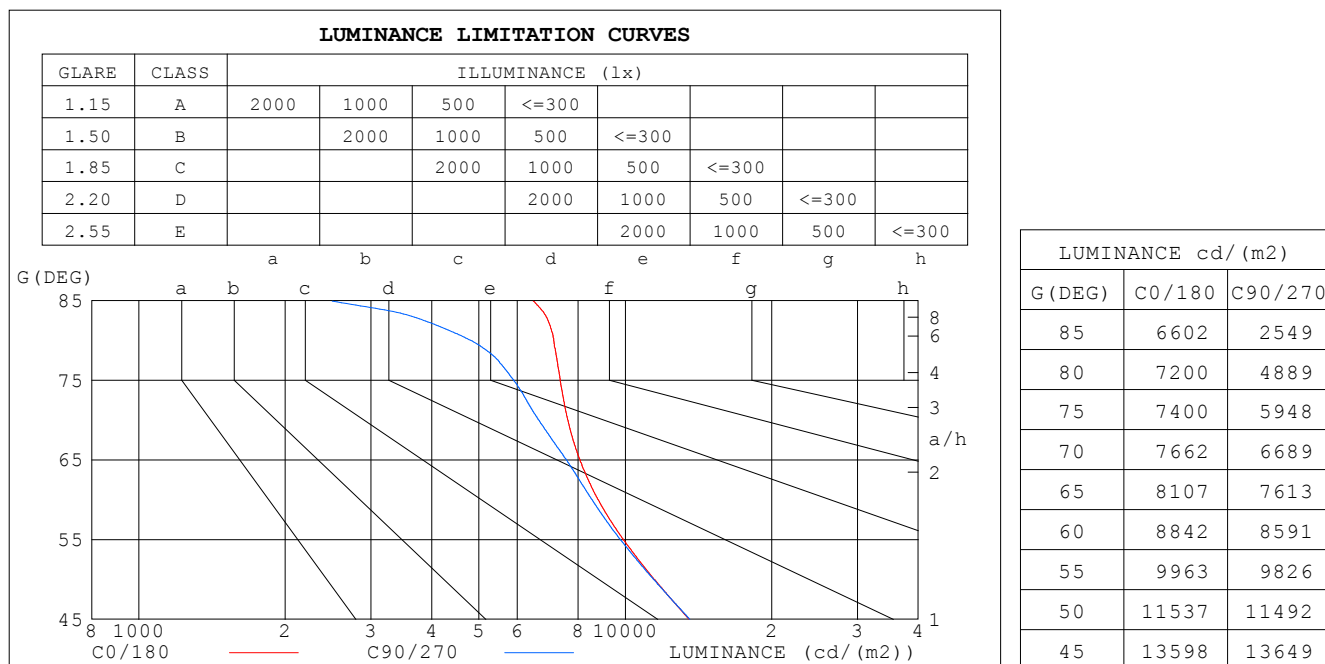
%lum = 89.9%

%lamp = 89.9%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:26.6DEG  
Operators:LI  
Test Date:2020-03-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:44.4%  
Test Distance:26.000m [K=0.4589]  
Remarks:

## LUMINANCE LIMITATION CURVES



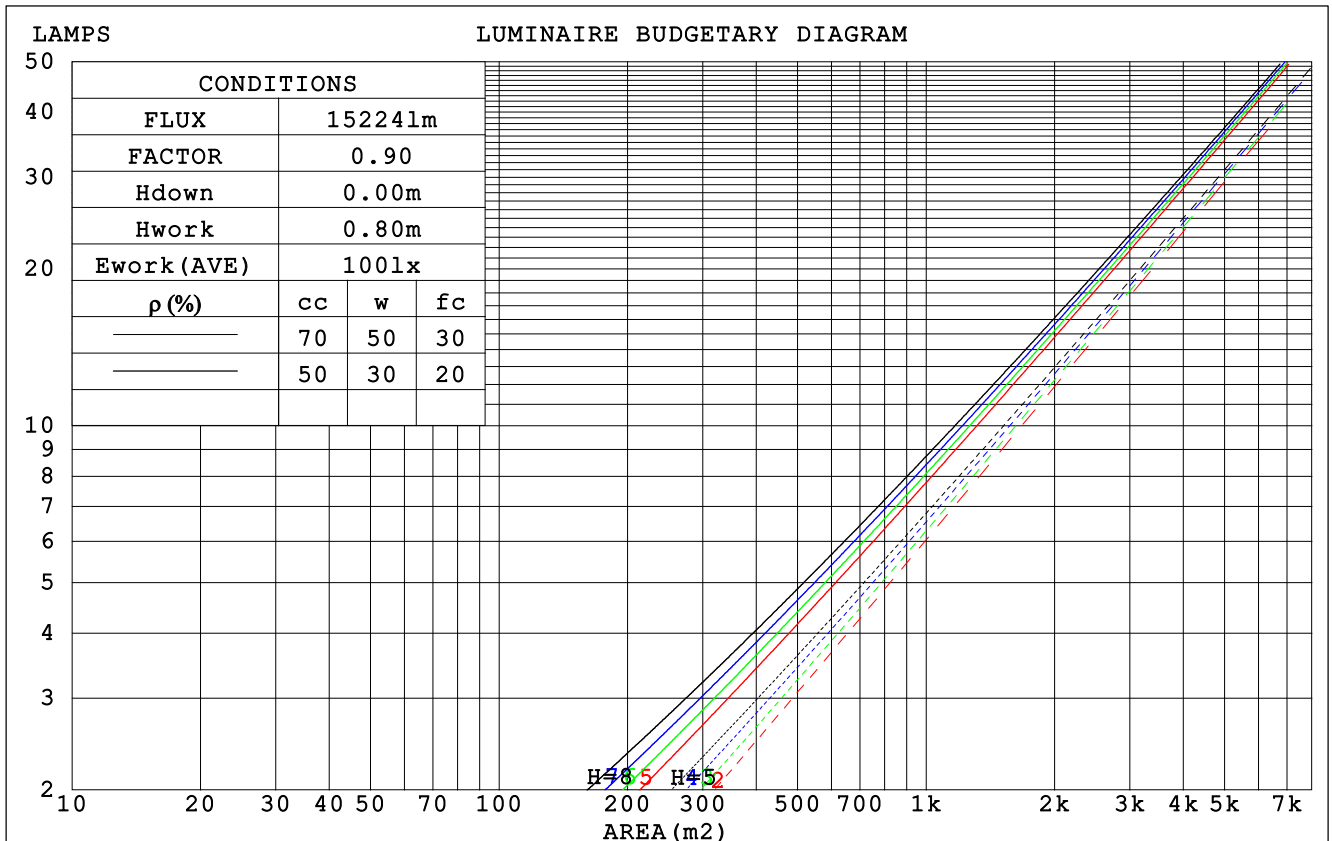
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 26.6DEG  
Operators: LI  
Test Date: 2020-03-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 44.4%  
Test Distance: 26.000m [K=0.4589]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	1.19	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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.99	.96	.97	.95	.93	.94	.92	.91	.89
2.0	.97	.91	.87	.95	.90	.86	.92	.88	.84	.89	.85	.82	.86	.83	.80	.78
3.0	.88	.81	.76	.86	.80	.75	.84	.78	.74	.81	.77	.73	.79	.75	.72	.70
4.0	.80	.73	.67	.79	.72	.67	.77	.71	.66	.74	.69	.65	.72	.68	.65	.63
5.0	.73	.66	.61	.72	.65	.60	.70	.64	.60	.69	.63	.59	.67	.62	.58	.57
6.0	.68	.60	.55	.67	.60	.55	.65	.59	.54	.64	.58	.54	.62	.57	.53	.52
7.0	.63	.55	.50	.62	.55	.50	.60	.54	.50	.59	.54	.49	.58	.53	.49	.47
8.0	.58	.51	.46	.58	.51	.46	.56	.50	.46	.55	.50	.45	.54	.49	.45	.44
9.0	.54	.47	.43	.54	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
10.0	.51	.44	.40	.50	.44	.39	.50	.44	.39	.49	.43	.39	.48	.43	.39	.38



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 26.6DEG  
Operators: LI  
Test Date: 2020-03-26

γ Range: 0 - 90DEG  
γ Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 44.4%  
Test Distance: 26.000m [K=0.4589]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## 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	.241	.137	.043	.234	.134	.042	.221	.127	.041	.210	.121	.039	.199	.115	.037		
2.0	.230	.126	.039	.224	.123	.038	.213	.118	.037	.202	.114	.036	.193	.109	.034		
3.0	.216	.115	.034	.211	.113	.034	.201	.109	.033	.192	.105	.032	.184	.102	.031		
4.0	.202	.105	.031	.197	.103	.031	.189	.100	.030	.181	.097	.029	.174	.094	.029		
5.0	.189	.096	.028	.185	.095	.028	.178	.093	.027	.171	.090	.027	.164	.088	.026		
6.0	.178	.089	.025	.174	.088	.025	.167	.086	.025	.161	.084	.025	.155	.082	.024		
7.0	.167	.083	.023	.164	.082	.023	.158	.080	.023	.153	.078	.023	.147	.077	.023		
8.0	.158	.077	.022	.155	.076	.022	.150	.075	.021	.145	.073	.021	.140	.072	.021		
9.0	.149	.072	.020	.147	.071	.020	.142	.070	.020	.137	.069	.020	.133	.068	.020		
10.0	.141	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.018		

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.176	.157	.140	.150	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.164	.132	.106	.140	.114	.091	.096	.079	.064	.055	.046	.037	.018	.015	.012	
3.0	.154	.114	.082	.132	.098	.071	.091	.068	.050	.052	.040	.029	.017	.013	.010	
4.0	.145	.100	.065	.125	.086	.057	.086	.060	.040	.050	.035	.024	.016	.011	.008	
5.0	.137	.089	.053	.118	.077	.046	.081	.054	.033	.047	.032	.019	.015	.010	.006	
6.0	.130	.080	.044	.112	.069	.039	.077	.049	.027	.045	.029	.016	.014	.009	.005	
7.0	.123	.073	.038	.106	.063	.033	.073	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.117	.067	.032	.101	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.112	.062	.028	.096	.054	.025	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.107	.058	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:26.6DEG  
 Operators:LI  
 Test Date:2020-03-26

γ Range: 0 - 90DEG  
 γ Interval: 0.1DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity:44.4%  
 Test Distance:26.000m [K=0.4589]  
 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	18.3	19.6	18.6	19.9	20.3	18.1	19.5	18.5	19.8	20.1
3H	19.8	21.0	20.2	21.3	21.7	19.4	20.6	19.8	21.0	21.3
4H	20.4	21.5	20.8	21.9	22.3	19.9	21.0	20.3	21.4	21.7
6H	20.9	22.0	21.3	22.3	22.7	20.2	21.2	20.6	21.6	22.0
8H	21.1	22.1	21.5	22.5	22.9	20.2	21.2	20.7	21.6	22.0
12H	21.2	22.2	21.7	22.6	23.0	20.2	21.2	20.7	21.6	22.0
4H 2H	18.7	19.9	19.1	20.2	20.6	18.7	19.8	19.1	20.1	20.5
3H	20.5	21.4	20.9	21.8	22.2	20.2	21.1	20.6	21.5	21.9
4H	21.2	22.1	21.7	22.5	22.9	20.7	21.6	21.2	22.0	22.4
6H	21.9	22.6	22.4	23.1	23.5	21.1	21.9	21.6	22.3	22.8
8H	22.1	22.8	22.6	23.3	23.7	21.2	21.9	21.7	22.3	22.8
12H	22.3	22.9	22.8	23.4	23.9	21.2	21.8	21.7	22.3	22.8
8H 4H	21.4	22.1	21.9	22.6	23.0	21.0	21.7	21.5	22.1	22.6
6H	22.2	22.8	22.7	23.3	23.7	21.5	22.0	22.0	22.5	23.0
8H	22.5	23.0	23.1	23.6	24.0	21.6	22.1	22.1	22.6	23.1
12H	22.8	23.2	23.3	23.7	24.3	21.7	22.1	22.2	22.6	23.2
12H 4H	21.4	22.0	21.9	22.5	23.0	21.0	21.6	21.5	22.1	22.6
6H	22.2	22.7	22.8	23.2	23.7	21.5	22.0	22.1	22.5	23.0
8H	22.6	23.0	23.1	23.5	24.1	21.7	22.1	22.2	22.6	23.2
CIE190: 2010										

CIE190: 2010  
Area: 0.1105 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:26.6DEG  
Operators:LI  
Test Date:2020-03-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:44.4%  
Test Distance:26.000m [K=0.4589]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

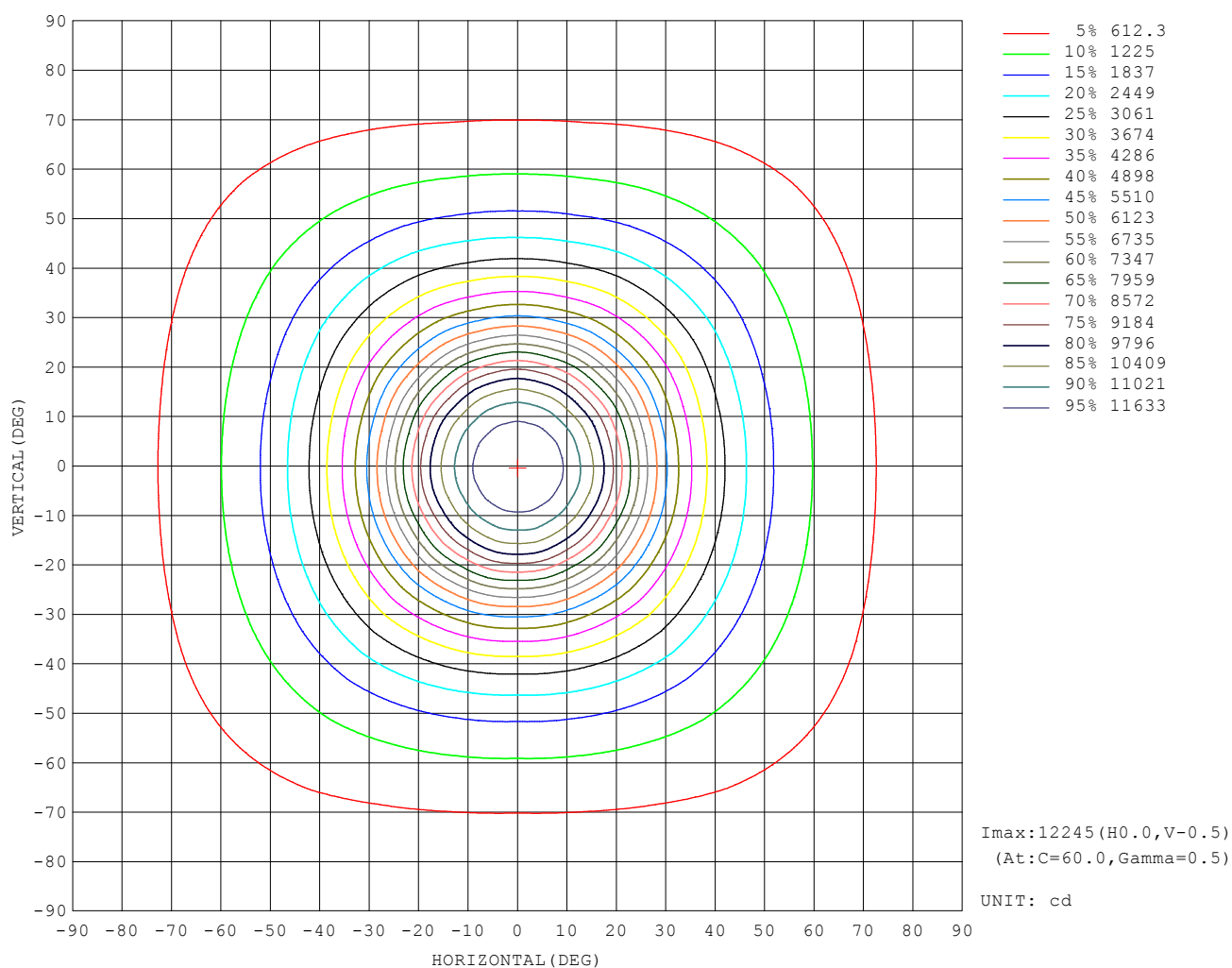
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	71	62	56	70	61	56	69	61	56	51
0.80	80	71	65	79	71	65	78	70	65	59
1.00	87	78	73	86	78	73	84	79	72	66
1.25	93	85	79	91	84	79	89	83	78	72
1.50	97	89	84	95	88	84	93	87	82	76
2.00	102	95	90	100	94	90	97	92	88	82
2.50	104	99	94	103	97	93	99	95	91	84
3.00	107	102	98	105	100	97	101	97	94	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	104	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: 15.0DEG  
 Test Speed: HIGH  
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 Operators: LI  
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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity: 44.4%  
 Test Distance: 26.000m [K=0.4589]  
 Remarks:

## ISOCANDELA DIAGRAM

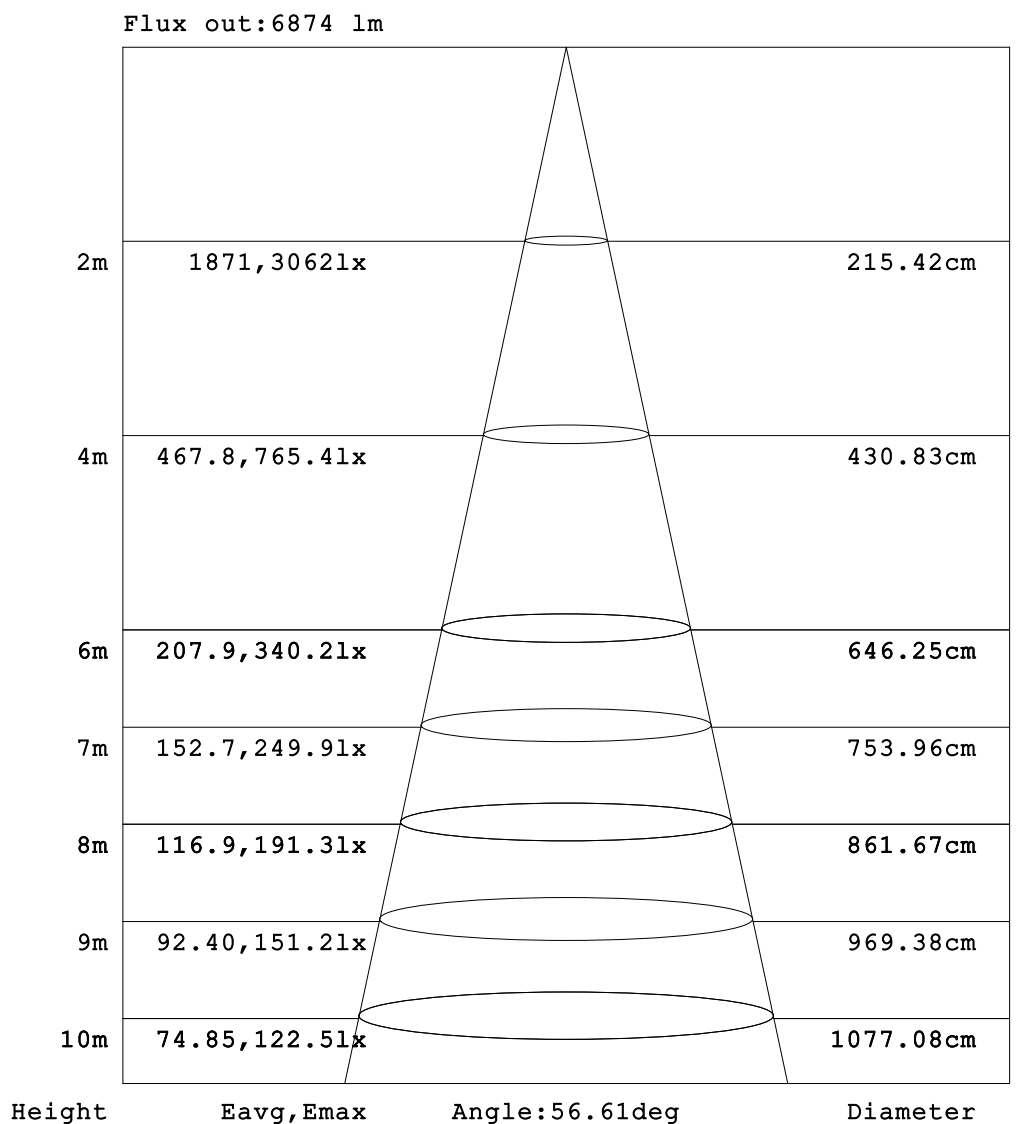


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:26.6DEG  
Operators:LI  
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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:44.4%  
Test Distance:26.000m [K=0.4589]  
Remarks:



## AAI Figure



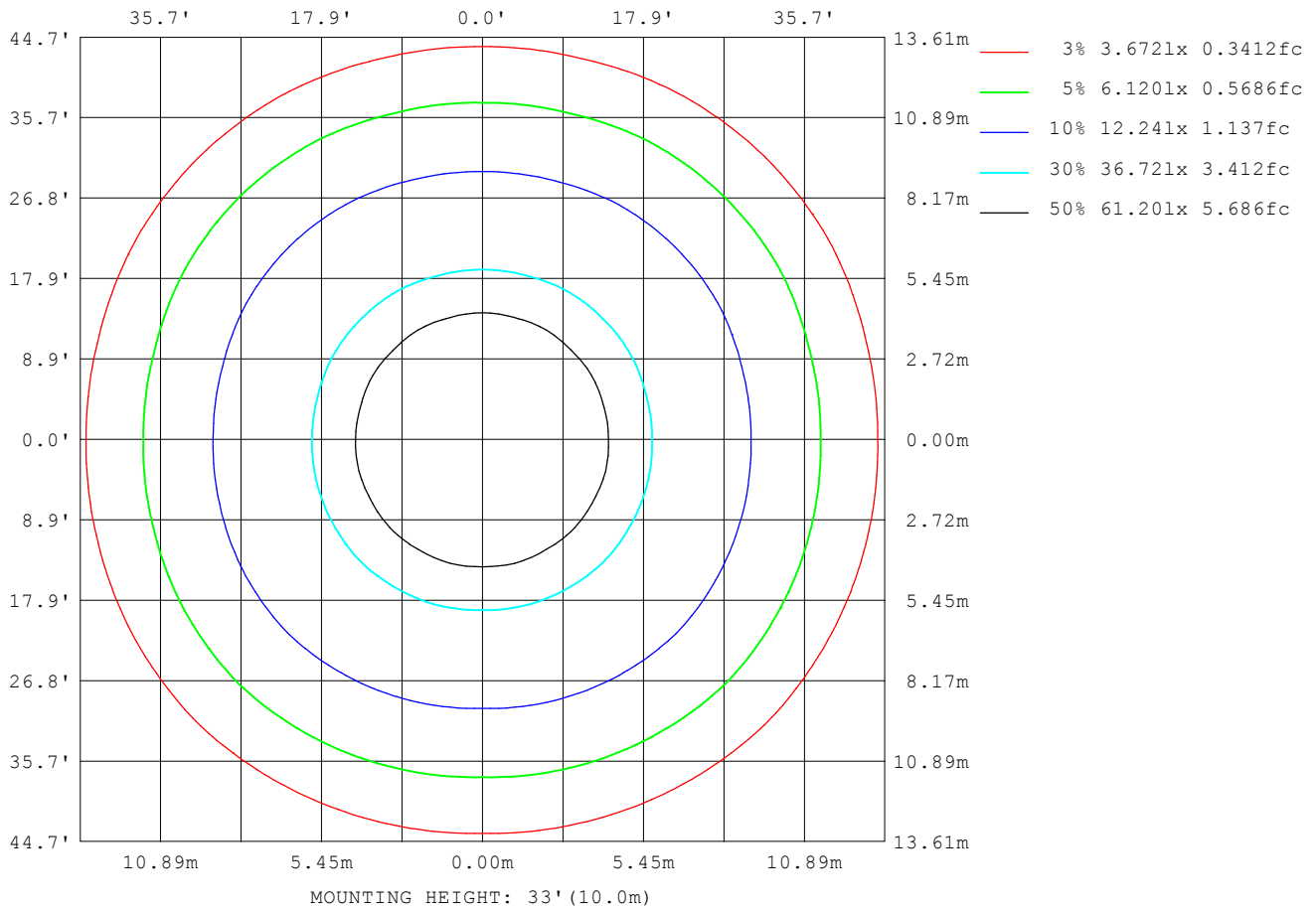
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:26.6DEG  
Operators:LI  
Test Date:2020-03-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:44.4%  
Test Distance:26.000m [K=0.4589]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

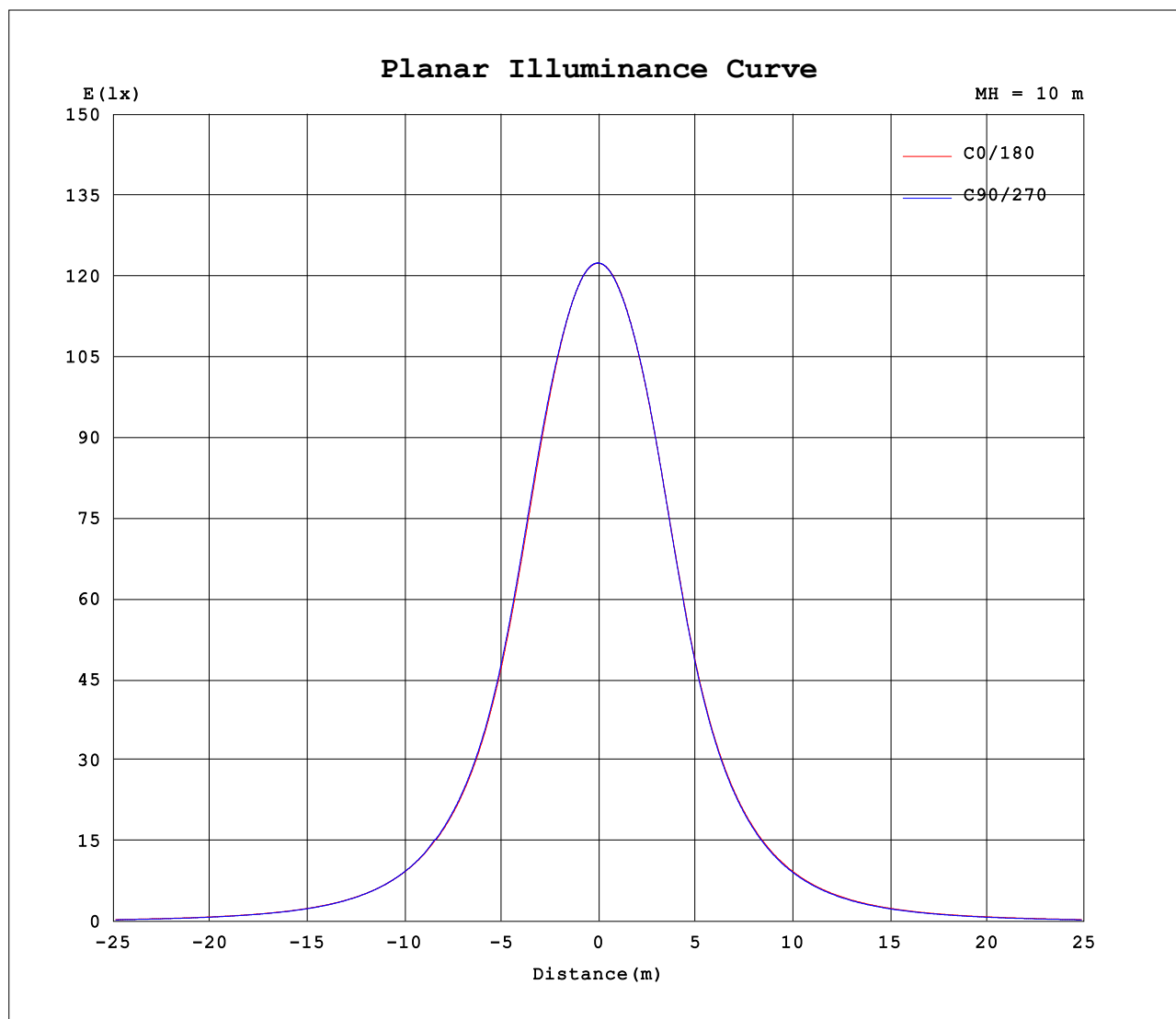
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 26.6DEG  
Operators: LI  
Test Date: 2020-03-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 44.4%  
Test Distance: 26.000m [K=0.4589]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 26.6DEG  
Operators: LI  
Test Date: 2020-03-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 44.4%  
Test Distance: 26.000m [K=0.4589]  
Remarks: