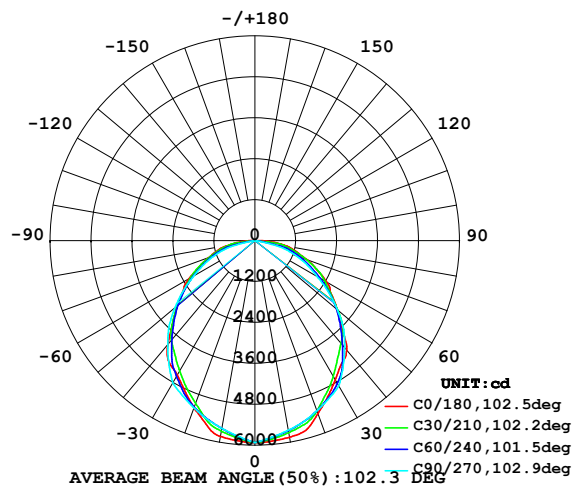


## LUMINAIRE PHOTOMETRIC TEST REPORT

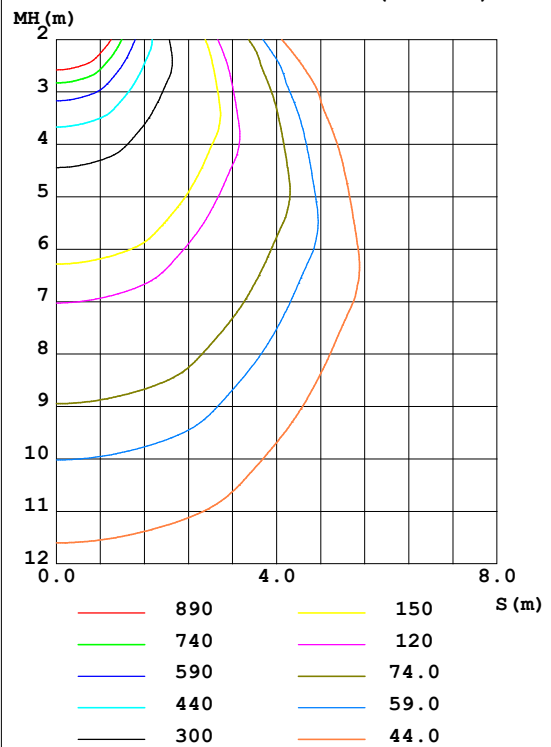
Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm					
NAME: BT-MG150W		TYPE:Clear pc cover		WEIGHT:	
SPEC.:5000k 144LEDs 120D		DIM.: 452*154*185mm		SERIAL No.:	
MFR.: EVERFINE		SUR.:427*125mm		PROTECTION ANGLE:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 99.94 lm/W
MODEL	SMD3030	Imax(cd)	5923	S/MH(C0/180)	1.15	
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.21	
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	15145	$\eta$ UP,DN(C0-180)	0.0,50.4	
NOMINAL FLUX(lm)	15145	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.6	
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	230	$\eta$ down(%)	100.0	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:30DEG  
 Operators:  
 Test Date:2015-08-17

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
 Humidity:65.0%  
 Test Distance:9.390m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
5	5900	5812	5783	5802	5887	5782	5756	5792	0- 5	139.8	139.8	0.92, 0.92
10	5851	5678	5644	5661	5828	5621	5589	5638	5- 10	410.5	550.3	3.63, 3.63
15	5760	5521	5504	5508	5564	5444	5422	5461	10- 15	663.6	1214	8.02, 8.02
20	5401	5357	5311	5238	5220	5159	5220	5277	15- 20	885.6	2100	13.9, 13.9
25	5057	5027	5118	4868	4863	4793	5019	4940	20- 25	1067	3167	20.9, 20.9
30	4711	4656	4925	4509	4553	4449	4817	4566	25- 30	1211	4378	28.9, 28.9
35	4425	4290	4512	4164	4379	4110	4399	4216	30- 35	1316	5694	37.6, 37.6
40	4196	3936	4099	3846	3965	3783	3980	3868	35- 40	1375	7069	46.7, 46.7
45	3613	3545	3686	3476	3408	3413	3561	3469	40- 45	1378	8447	55.8, 55.8
50	3153	3163	3161	3067	2974	3002	3061	3079	45- 50	1323	9771	64.5, 64.5
55	2734	2729	2636	2617	2572	2552	2560	2644	50- 55	1229	11000	72.6, 72.6
60	2430	2285	2111	2180	2226	2132	2059	2227	55- 60	1110	12110	80, 80
65	1993	1896	1691	1789	1780	1752	1643	1853	60- 65	968.9	13079	86.4, 86.4
70	1607	1521	1271	1415	1418	1390	1226	1490	65- 70	812.1	13891	91.7, 91.7
75	1256	1149	851.8	1065	1135	1046	809.4	1129	70- 75	643.5	14535	96, 96
80	961.8	670.6	0	625.6	772.6	613.1	0	664.8	75- 80	432.5	14967	98.8, 98.8
85	538.0	0	0	0	407.7	0	0	0	80- 85	154.6	15122	99.8, 99.8
90	100.7	0	0	0	131.7	0	0	0	85- 90	23.21	15145	100, 100
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 MAX (Ii - Iavg)/Iavg (0-135) = 100.0 %									UNIT:lm		

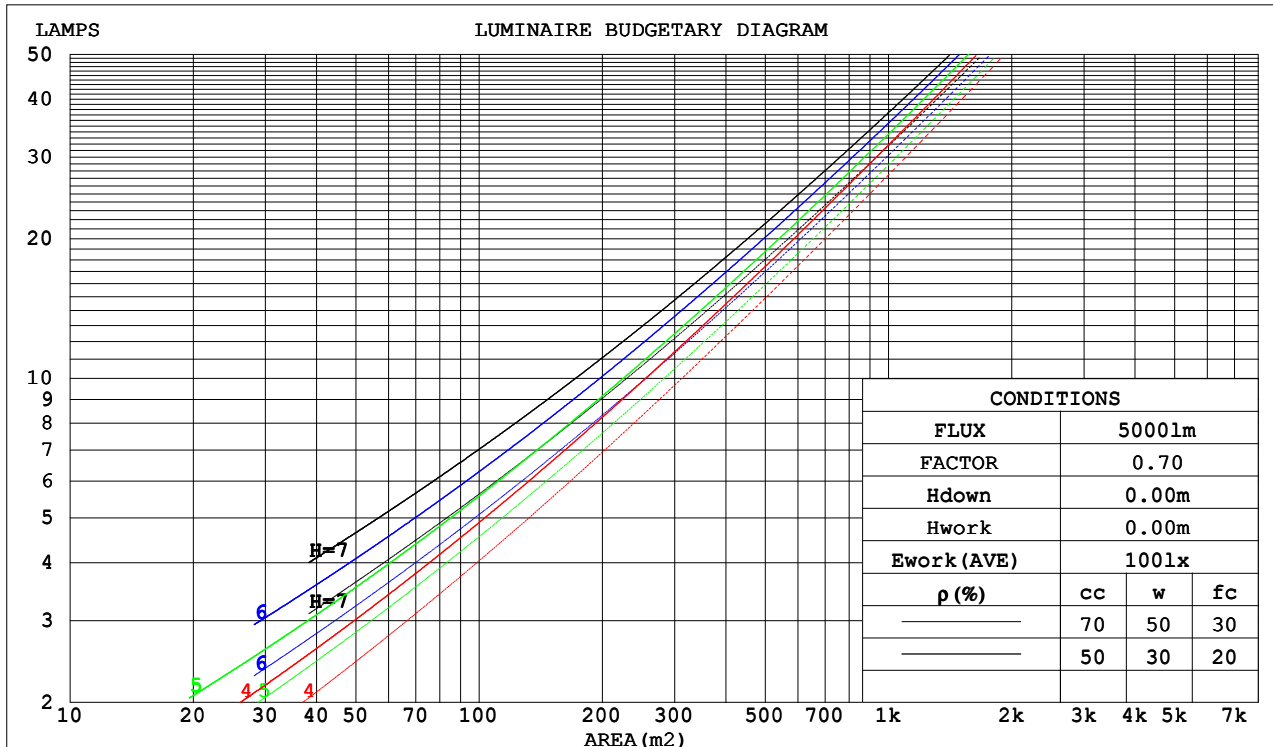
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 30DEG  
 Operators:  
 Test Date: 2015-08-17

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
 Humidity: 65.0%  
 Test Distance: 9.390m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm		
NAME: BT-MG150W	TYPE:Clear pc cover	WEIGHT:
SPEC.:5000k 144LEDs 120D	DIM.: 452*154*185mm	SERIAL No.:
MFR.: EVERFINE	SUR.:427*125mm	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	1.19	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	1.04	1.00	.96	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.79	.89	.83	.78	.86	.81	.76	.82	.78	.74	.79	.76	.73	.71
3.0	.80	.72	.66	.79	.71	.65	.76	.69	.64	.73	.67	.63	.70	.66	.62	.60
4.0	.71	.63	.56	.70	.62	.55	.67	.60	.55	.65	.59	.54	.63	.58	.53	.51
5.0	.64	.55	.48	.63	.54	.48	.60	.53	.47	.59	.52	.47	.57	.51	.46	.44
6.0	.57	.49	.42	.57	.48	.42	.55	.47	.42	.53	.46	.41	.51	.46	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.48	.39	.33	.47	.39	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.30	.28
10.0	.40	.33	.27	.40	.32	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:30DEG  
 Operators:  
 Test Date:2015-08-17

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
 Humidity:65.0%  
 Test Distance:9.390m [K=1.0000]  
 Remarks:

# WEC AND CCEC

Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm														
NAME: BT-MG150W					TYPE:Clear pc cover					WEIGHT:				
SPEC.:5000k 144LEDs 120D					DIM.: 452*154*185mm					SERIAL No.:				
MFR.: EVERFINE					SUR.:427*125mm					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	.300	.170	.054	.293	.167	.053	.279	.160	.051	.267	.154	.049	.256	.148	.048	
2.0	.285	.156	.048	.279	.153	.047	.267	.148	.046	.256	.144	.045	.246	.139	.044	
3.0	.265	.141	.042	.259	.139	.042	.249	.135	.041	.239	.131	.040	.230	.128	.039	
4.0	.245	.127	.037	.240	.126	.037	.231	.122	.037	.222	.119	.036	.214	.117	.035	
5.0	.227	.115	.033	.222	.114	.033	.214	.112	.033	.207	.109	.032	.200	.107	.032	
6.0	.210	.105	.030	.207	.104	.030	.199	.102	.030	.193	.100	.029	.186	.098	.029	
7.0	.196	.097	.027	.193	.096	.027	.186	.094	.027	.180	.092	.027	.175	.091	.027	
8.0	.183	.090	.025	.180	.089	.025	.175	.087	.025	.169	.086	.025	.164	.084	.025	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.155	.079	.023	
10.0	.162	.078	.022	.159	.077	.021	.155	.076	.021	.150	.075	.021	.146	.073	.021	

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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.085	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.034	.084	.050	.024	.049	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:30DEG  
Operators:  
Test Date:2015-08-17

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
Humidity:65.0%  
Test Distance:9.390m [K=1.0000]  
Remarks:

UGR(Unified Glare Rating) Table

Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm										
NAME: BT-MG150W					TYPE:Clear pc cover			WEIGHT:		
SPEC.:5000k 144LEDs 120D					DIM.: 452*154*185mm			SERIAL No.:		
MFR.: EVERFINE					SUR.:427*125mm			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	28.6	30.1	28.9	30.3	30.5	28.3	29.7	28.5	29.9	30.2
3H	30.3	31.7	30.6	31.9	32.2	29.6	31.0	29.9	31.2	31.4
4H	31.1	32.4	31.4	32.7	32.9	30.1	31.4	30.4	31.6	31.9
6H	31.9	33.2	32.3	33.4	33.7	30.1	31.4	30.4	31.6	31.9
8H	32.2	33.4	32.6	33.7	34.0	30.1	31.3	30.4	31.5	31.8
12H	32.4	33.6	32.8	33.9	34.2	30.0	31.2	30.4	31.4	31.8
4H 2H	29.2	30.5	29.5	30.8	31.0	28.9	30.2	29.2	30.5	30.7
3H	31.2	32.3	31.5	32.6	32.9	30.5	31.6	30.8	31.9	32.2
4H	32.1	33.2	32.5	33.5	33.8	31.1	32.2	31.5	32.5	32.8
6H	33.1	34.0	33.5	34.4	34.7	31.2	32.1	31.6	32.5	32.9
8H	33.4	34.3	33.8	34.7	35.0	31.2	32.0	31.6	32.4	32.8
12H	33.6	34.4	34.1	34.8	35.2	31.1	31.9	31.5	32.3	32.7
8H 4H	32.4	33.3	32.8	33.7	34.0	31.6	32.4	32.0	32.8	33.2
6H	33.6	34.3	34.0	34.7	35.1	31.7	32.4	32.1	32.8	33.2
8H	34.1	34.7	34.5	35.1	35.6	31.7	32.3	32.1	32.7	33.2
12H	34.4	35.0	34.9	35.4	35.9	31.6	32.2	32.1	32.6	33.1
12H 4H	32.4	33.2	32.8	33.6	34.0	31.6	32.4	32.1	32.8	33.2
6H	33.6	34.2	34.0	34.6	35.1	31.8	32.4	32.3	32.9	33.3
8H	34.1	34.6	34.6	35.1	35.6	31.8	32.3	32.2	32.8	33.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
2.0H	+ 0.1 / - 0.2					+ 0.3 / - 0.3				

CIE Pub.117 Corrected 15145 lm Total Lamp Luminous Flux. (8log(F/F0) = 9.4)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:30DEG  
Operators:  
Test Date:2015-08-17

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
Humidity:65.0%  
Test Distance:9.390m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm		
NAME: BT-MG150W	TYPE:Clear pc cover	WEIGHT:
SPEC.:5000k 144LEDs 120D	DIM.: 452*154*185mm	SERIAL No.:
MFR.: EVERFINE	SUR.:427*125mm	PROTECTION ANGLE:

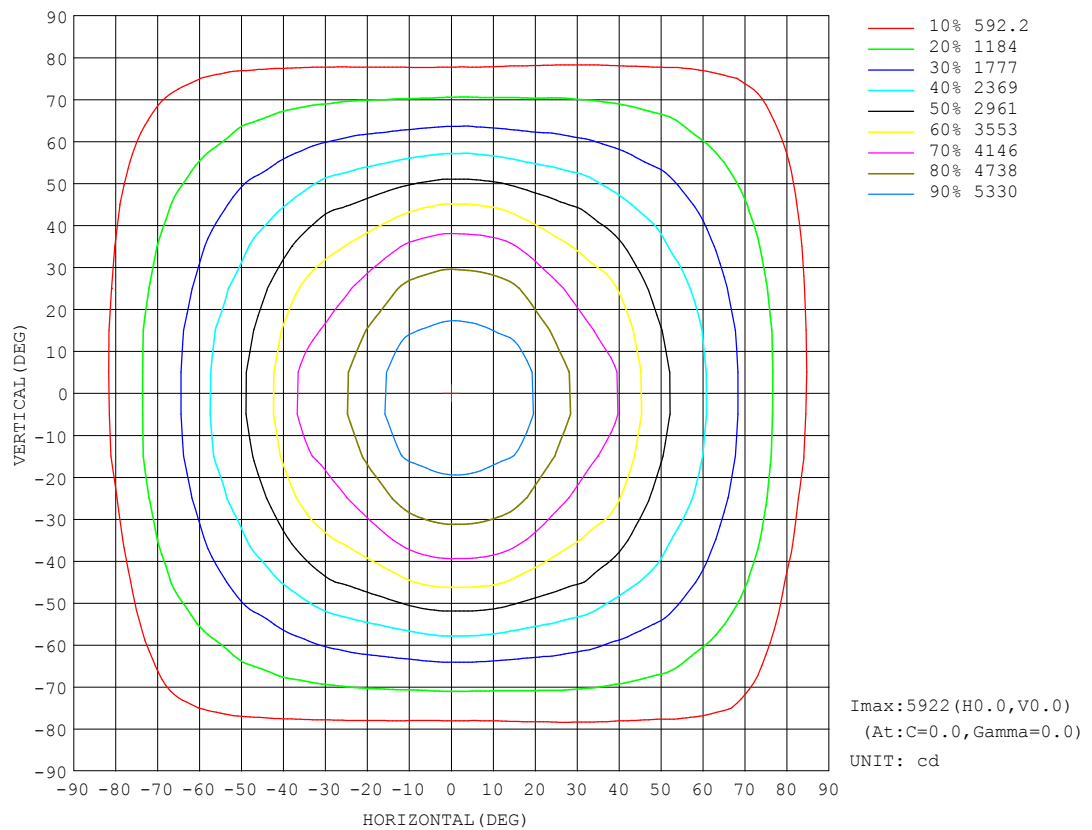
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	47	41	58	47	40	57	47	40	34
0.80	69	57	50	68	57	50	66	56	50	43
1.00	77	66	59	76	66	59	74	67	58	51
1.25	84	74	67	83	73	66	80	72	66	58
1.50	89	79	72	87	78	72	84	77	71	64
2.00	96	87	81	94	86	80	90	84	79	71
2.50	100	92	86	97	91	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	99	95	100	96	93	84
5.00	109	104	101	107	103	99	102	99	96	87
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:30DEG  
Operators:  
Test Date:2015-08-17

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
Humidity:65.0%  
Test Distance:9.390m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm		
NAME: BT-MG150W	TYPE:Clear pc cover	WEIGHT:
SPEC.:5000k 144LEDs 120D	DIM.: 452*154*185mm	SERIAL No.:
MFR.: EVERFINE	SUR.:427*125mm	PROTECTION ANGLE:

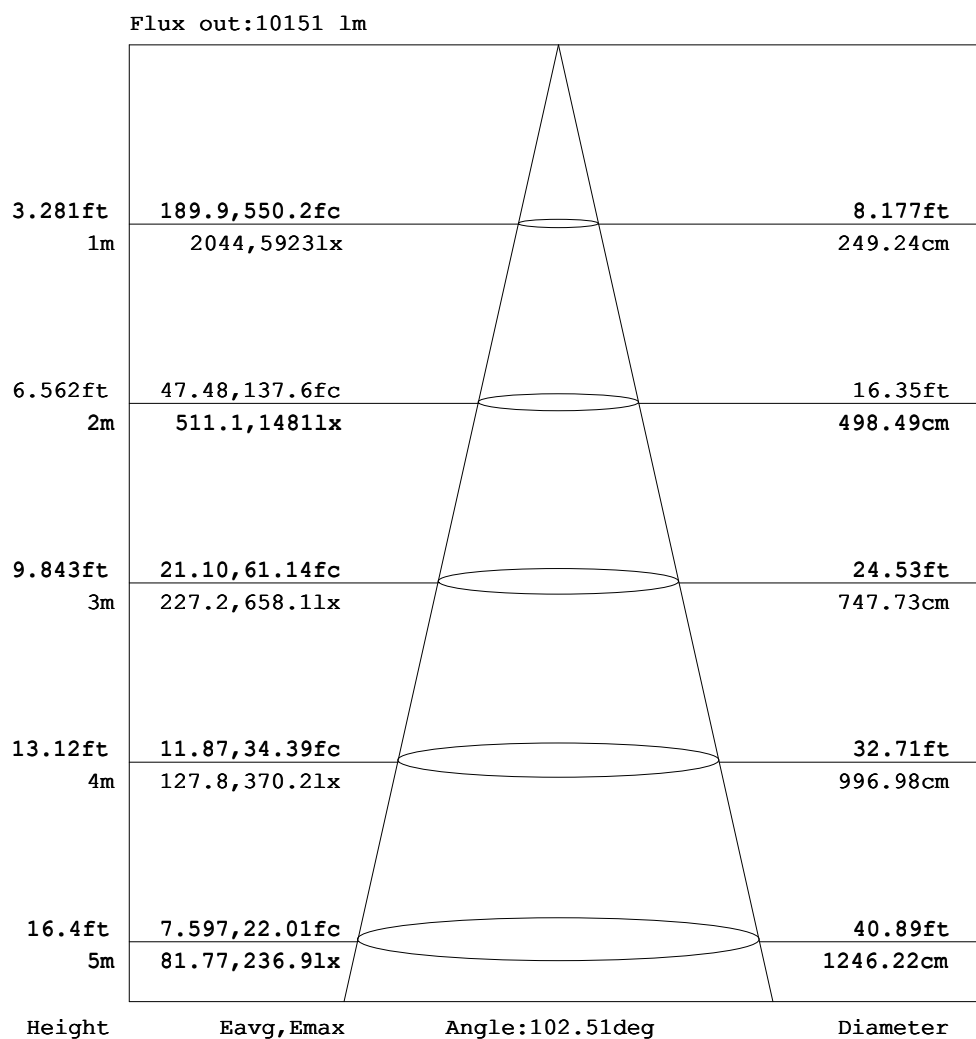


C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:30DEG  
 Operators:  
 Test Date:2015-08-17

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
 Humidity:65.0%  
 Test Distance:9.390m [K=1.0000]  
 Remarks:

### AAI Figure

Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm		
NAME: BT-MG150W	TYPE:Clear pc cover	WEIGHT:
SPEC.:5000k 144LEDs 120D	DIM.: 452*154*185mm	SERIAL No.:
MFR.: EVERFINE	SUR.:427*125mm	PROTECTION ANGLE:



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

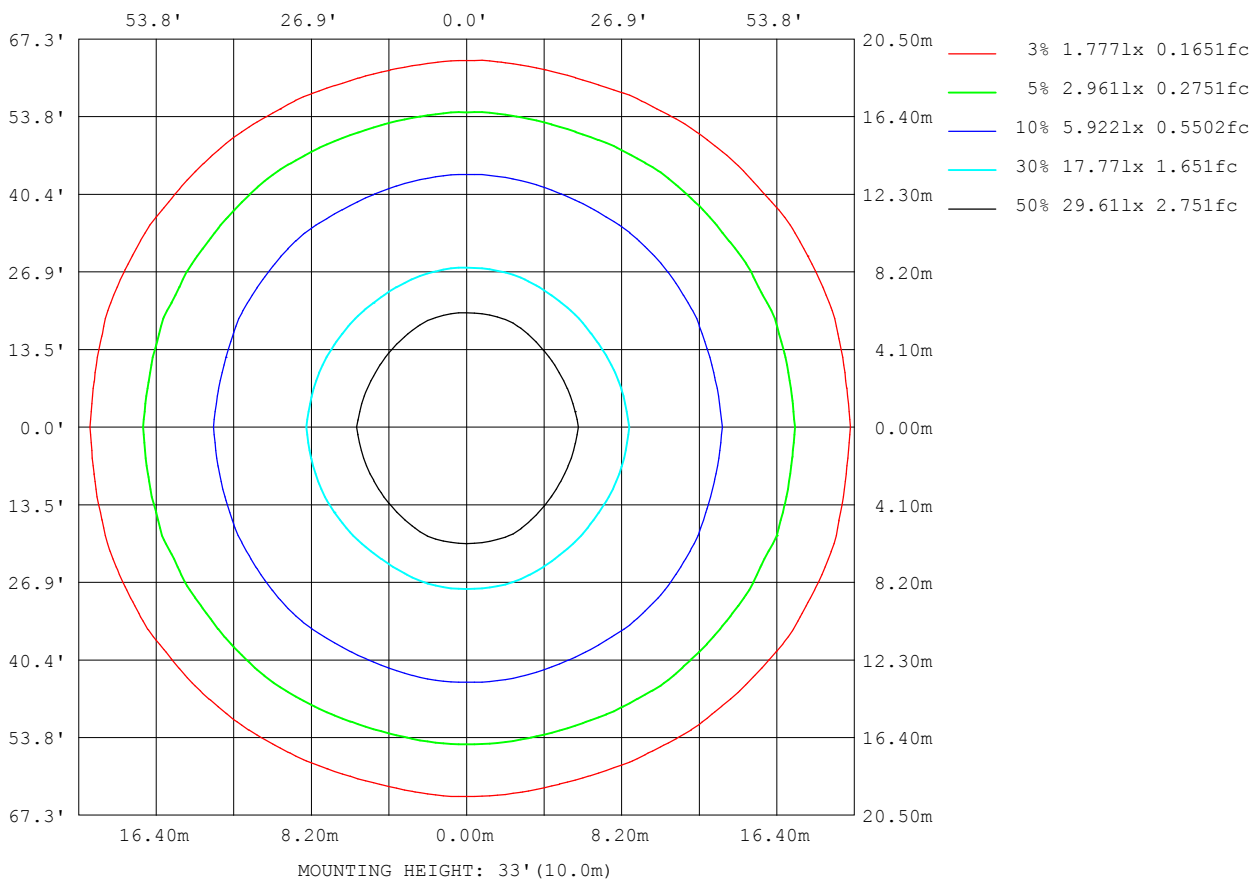
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 30DEG  
Operators:  
Test Date: 2015-08-17

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
Humidity: 65.0%  
Test Distance: 9.390m [K=1.0000]  
Remarks:



# ISOLUX DIAGRAM

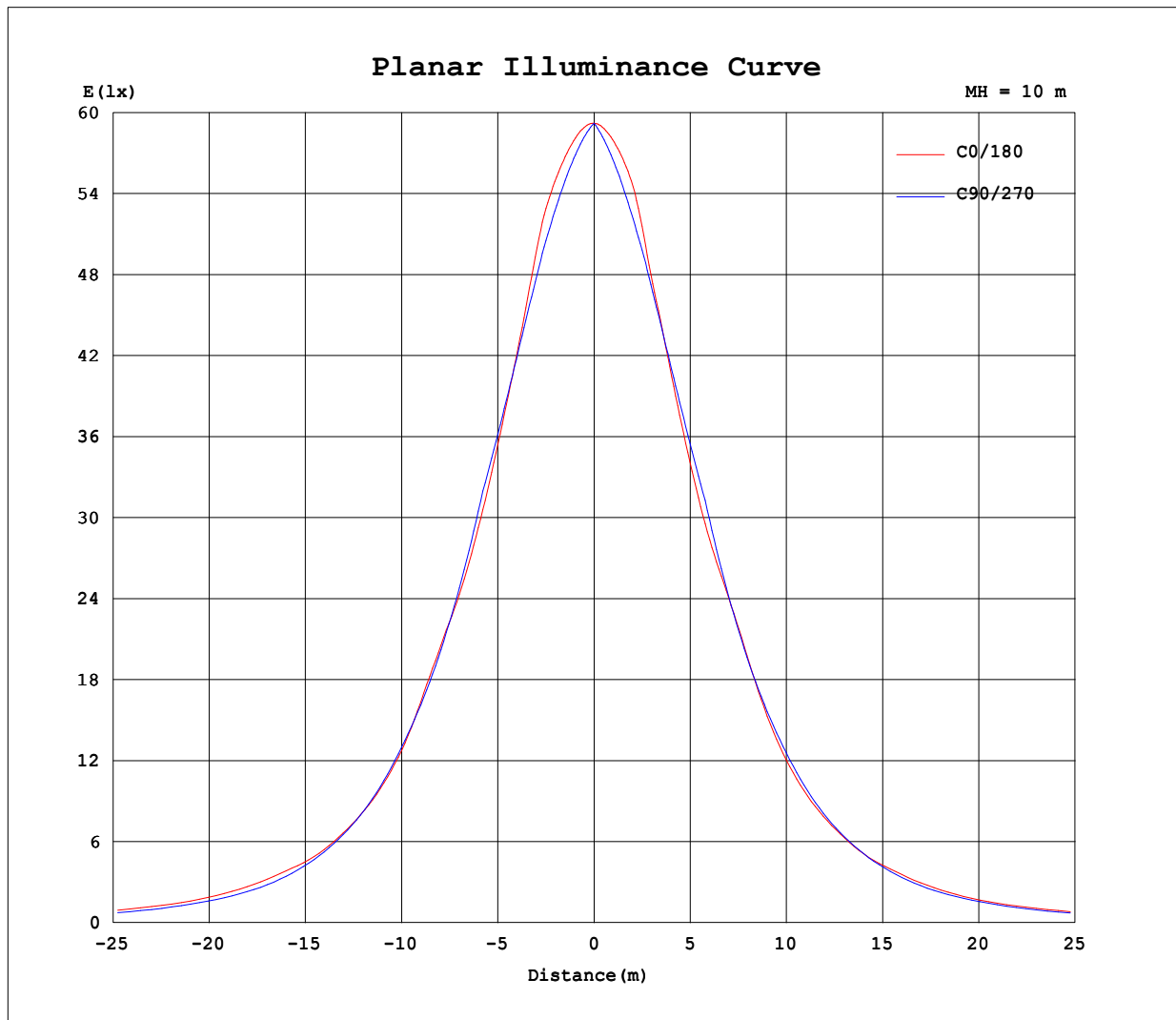
Test:U:231.1V I:0.6751A P:151.5W PF:0.9714 Lamp Flux:15145x1 lm		
NAME: BT-MG150W	TYPE:Clear pc cover	WEIGHT:
SPEC.:5000k 144LEDs 120D	DIM.: 452*154*185mm	SERIAL No.:
MFR.: EVERFINE	SUR.:427*125mm	PROTECTION ANGLE:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:30DEG  
Operators:  
Test Date:2015-08-17

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
Humidity:65.0%  
Test Distance:9.390m [K=1.0000]  
Remarks:

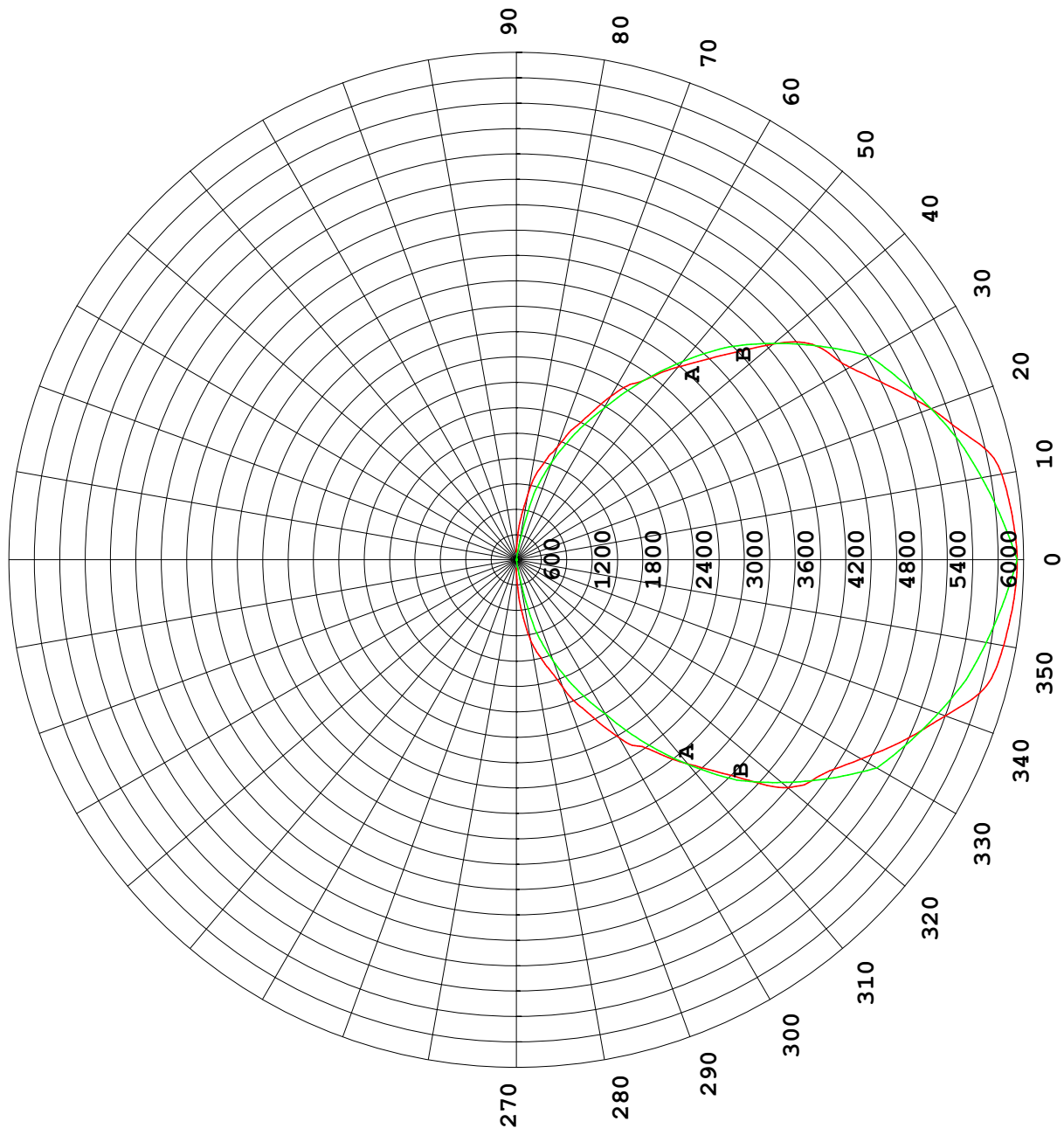
## Planar Illuminance Curve

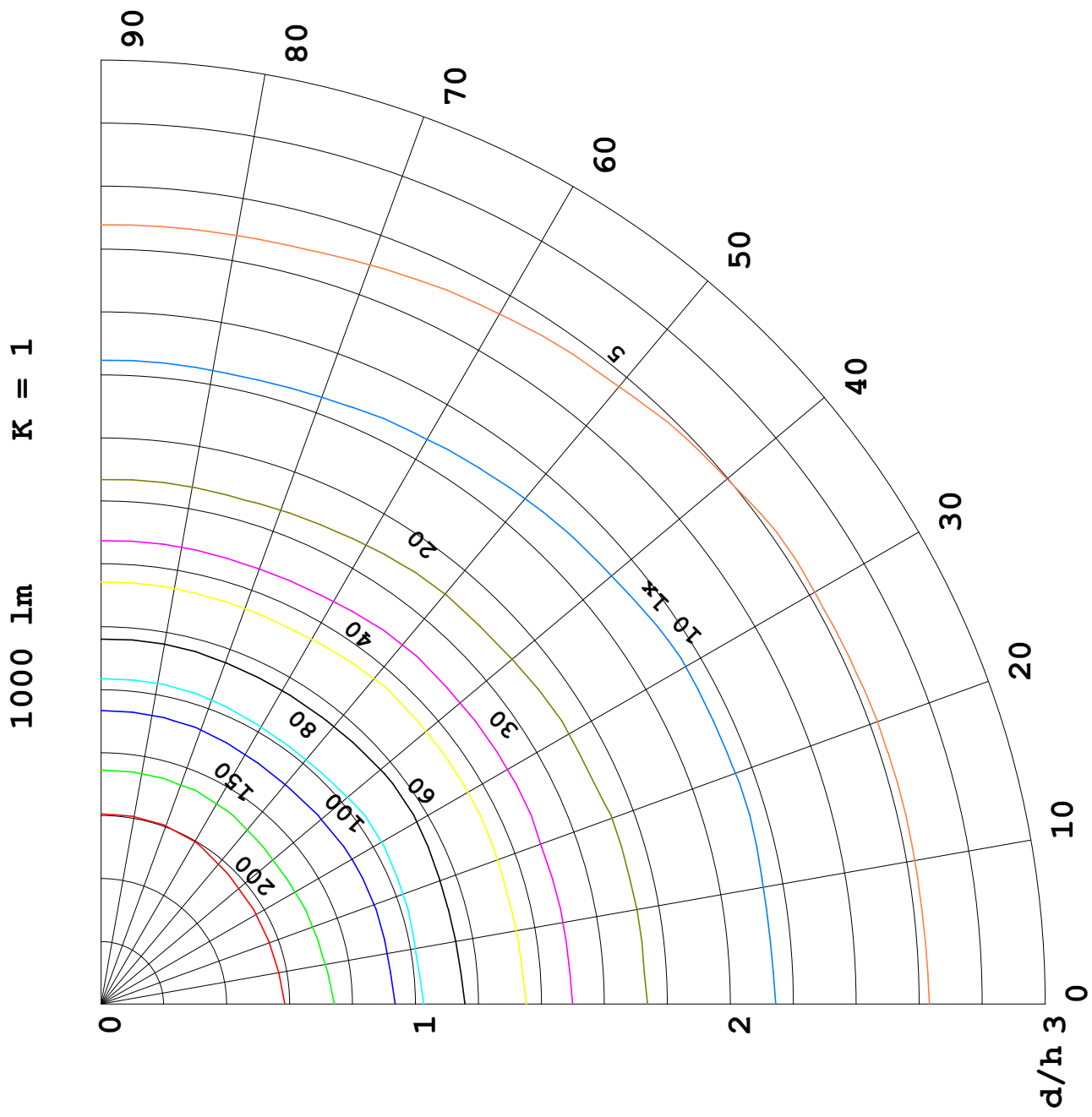


C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature: 30DEG  
Operators:  
Test Date: 2015-08-17

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.284  
Humidity: 65.0%  
Test Distance: 9.390m [K=1.0000]  
Remarks:

I (cd)





F = 5000 lm  
K = 0.7  
Hcc = 0.0 m  
Hfc = 0.0 m  
Eave = 100 lx

	Pcc	Pw	Pfc
—————	70	50	30
—————	50	30	20

