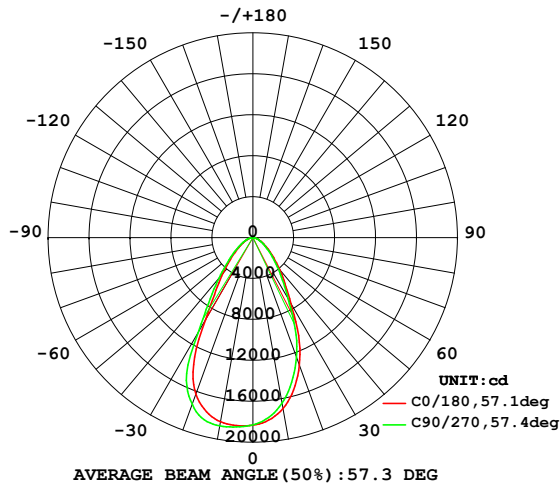


LUMINAIRE PHOTOMETRIC TEST REPORT

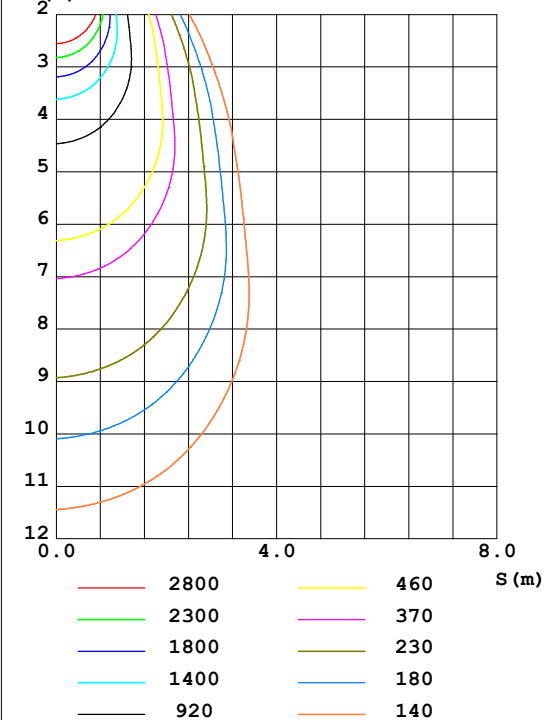
Test:U:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE:60°Lens	WEIGHT:4.503kg
SPEC.:5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.:0.12m*0.12m*3.14	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 140.65 lm/W			
MODEL	SMD3030 (757G P20D41)	I _{max} (cd)	18758	S/MH(C0/180)	0.90
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	0.95
RATED VOLTAGE(V)	277	TOTAL FLUX(lm)	21112	η UP,DN(C0-180)	0.2,44.5
NOMINAL FLUX(lm)	21111.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.2,55.1
LAMPS INSIDE	1	η up(%)	0.4	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	277	η down(%)	99.6	CIBSE SHR MAX	0.90

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



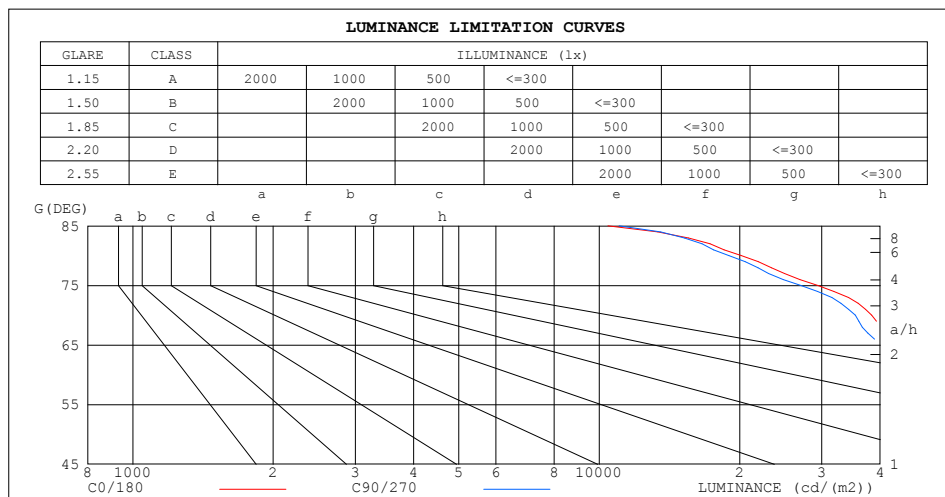
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:DEG
 Operators:
 Test Date:2017-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.284
 Humidity:65.0%
 Test Distance:9.390m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1697	1634	1644	1730	1827	1875	1868	1795	0- 10	1714	1714	8.12,8.12
20	1330	1239	1248	1398	1628	1769	1736	1537	10- 20	4616	6329	30,30
30	747.0	690.4	692.4	790.3	927.4	1128	1075	851.7	20- 30	5518	11848	56.1,56.1
40	408.4	371.0	372.8	411.0	457.5	514.7	515.0	441.2	30- 40	3830	15678	74.3,74.3
50	221.3	201.4	200.7	217.7	236.3	265.4	263.6	234.4	40- 50	2471	18149	86,86
60	119.9	110.8	108.7	116.8	124.6	138.4	138.8	125.5	50- 60	1525	19674	93.2,93.2
70	59.37	55.45	54.71	58.26	62.72	68.59	69.25	63.03	60- 70	876.0	20550	97.3,97.3
80	15.83	14.72	14.90	17.49	19.17	20.92	21.13	17.64	70- 80	401.9	20952	99.2,99.2
90	0.1317	0.1331	0.1357	0.1246	0.1204	0.1191	0.0965	0.1039	80- 90	72.36	21024	99.6,99.6
100	0.2418	0.2578	0.2594	0.2330	0.1684	0.1597	0.1553	0.1675	90-100	1.655	21026	99.6,99.6
110	0.4575	0.4959	0.4973	0.4450	0.3237	0.3063	0.2969	0.3213	100-110	3.068	21029	99.6,99.6
120	0.8466	0.9259	0.9267	0.8110	0.5866	0.5540	0.5390	0.5866	110-120	5.362	21034	99.6,99.6
130	1.589	1.770	1.730	1.485	1.041	0.9797	0.9561	1.055	120-130	8.866	21043	99.7,99.7
140	2.736	2.998	2.917	2.546	1.774	1.644	1.635	1.813	130-140	13.59	21057	99.7,99.7
150	4.082	4.362	4.242	3.803	2.774	2.591	2.579	2.837	140-150	17.62	21074	99.8,99.8
160	5.130	5.342	5.262	4.899	3.831	3.639	3.641	3.886	150-160	18.13	21093	99.9,99.9
170	5.944	6.047	5.947	5.723	4.910	4.721	4.726	4.925	160-170	13.79	21106	100,100
180	6.139	6.012	5.967	5.974	6.143	6.000	5.969	5.968	170-180	5.397	21112	100,100
DEG	LUMINOUS INTENSITY:×10cd MAX (Ii - Iavg)/Iavg (0-135) = 325.1 %									UNIT:lm		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	10430	11023
80	20160	18973
75	29385	26990
70	38388	35375
65	44179	40255
60	53028	48096
55	62911	57150
50	76139	69047
45	93974	85520

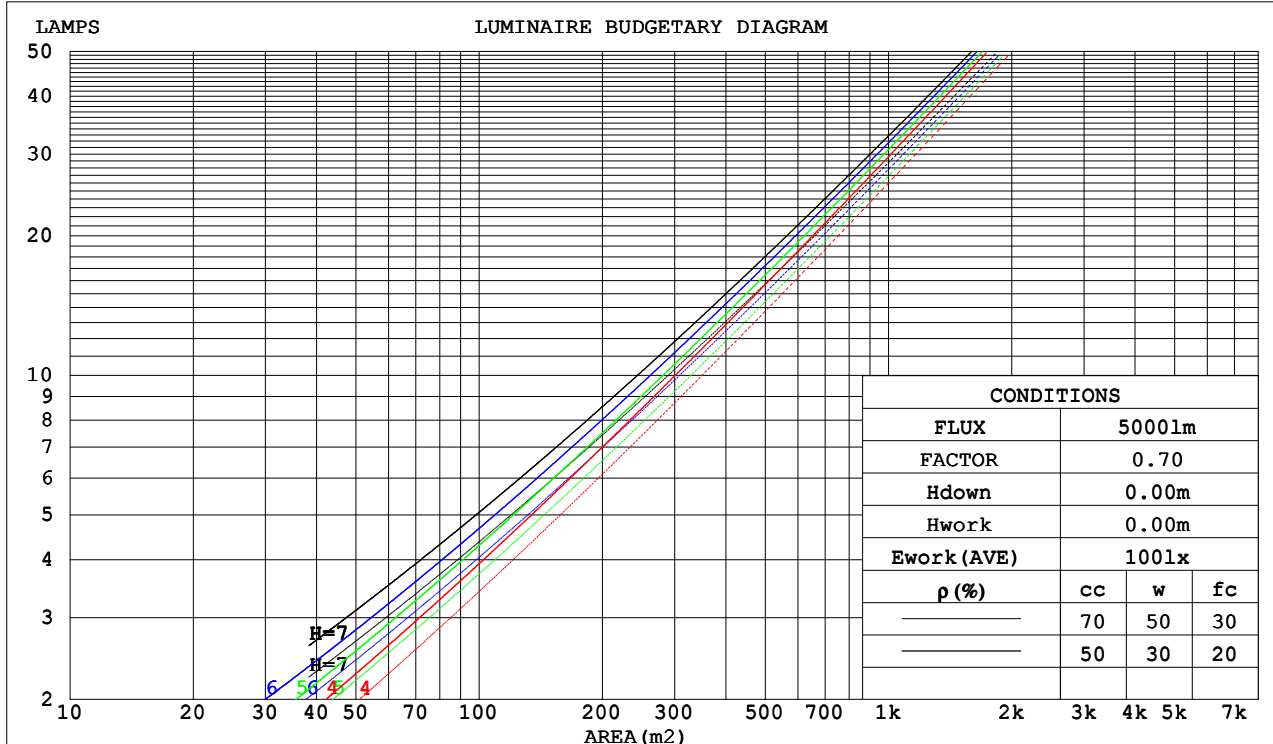
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: DEG
 Operators:
 Test Date: 2017-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 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:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE:60° Lens	WEIGHT:4.503kg
SPEC.:5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.:0.12m*0.12m*3.14	PROTECTION ANGLE:

pcc	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	1.09	1.06	1.03	1.06	1.04	1.01	1.02	.00	.98	.98	.97	.95	.95	.93	.92	.90
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3.0	.91	.84	.80	.89	.83	.79	.86	.82	.78	.84	.80	.76	.81	.78	.75	.73
4.0	.83	.77	.72	.82	.76	.71	.80	.74	.70	.77	.73	.69	.75	.72	.68	.67
5.0	.77	.70	.65	.76	.69	.64	.74	.68	.64	.72	.67	.63	.70	.66	.63	.61
6.0	.71	.64	.59	.70	.64	.59	.69	.63	.58	.67	.62	.58	.66	.61	.58	.56
7.0	.66	.59	.54	.65	.59	.54	.64	.58	.54	.63	.57	.54	.62	.57	.53	.52
8.0	.62	.55	.50	.61	.55	.50	.60	.54	.50	.59	.54	.50	.58	.53	.49	.48
9.0	.58	.51	.47	.57	.51	.47	.56	.50	.46	.55	.50	.46	.54	.50	.46	.44
10.0	.54	.48	.44	.54	.48	.44	.53	.47	.43	.52	.47	.43	.51	.47	.43	.42



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: DEG
Operators:
Test Date: 2017-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
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:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE: 60° Lens	WEIGHT: 4.503kg
SPEC.: 5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.: 0.12m*0.12m*3.14	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	.218	.124	.039	.211	.120	.038	.198	.114	.036	.186	.107	.034	.175	.101	.033		
2.0	.209	.115	.035	.203	.112	.034	.192	.107	.033	.182	.102	.032	.172	.097	.031		
3.0	.198	.105	.032	.193	.103	.031	.183	.099	.030	.174	.095	.029	.166	.092	.028		
4.0	.186	.097	.028	.182	.095	.028	.174	.092	.027	.166	.089	.027	.158	.086	.026		
5.0	.176	.090	.026	.172	.088	.026	.164	.086	.025	.157	.083	.025	.151	.081	.024		
6.0	.166	.083	.024	.162	.082	.024	.156	.080	.023	.150	.078	.023	.144	.076	.023		
7.0	.157	.078	.022	.154	.077	.022	.148	.075	.022	.142	.073	.021	.137	.071	.021		
8.0	.149	.073	.020	.146	.072	.020	.141	.070	.020	.136	.069	.020	.131	.067	.020		
9.0	.141	.068	.019	.139	.068	.019	.134	.066	.019	.130	.065	.019	.125	.064	.018		
10.0	.134	.064	.018	.132	.064	.018	.128	.063	.018	.124	.062	.017	.120	.060	.017		

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	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.177	.160	.145	.152	.137	.125	.104	.095	.086	.060	.055	.050	.019	.018	.016	
2.0	.164	.136	.111	.141	.117	.096	.097	.081	.067	.056	.047	.039	.018	.015	.013	
3.0	.154	.117	.088	.132	.101	.076	.091	.070	.053	.052	.041	.031	.017	.013	.010	
4.0	.145	.103	.071	.124	.089	.062	.085	.062	.043	.049	.036	.026	.016	.012	.008	
5.0	.137	.092	.059	.117	.079	.051	.081	.055	.036	.047	.033	.021	.015	.011	.007	
6.0	.129	.083	.049	.111	.072	.043	.077	.050	.030	.045	.029	.018	.014	.010	.006	
7.0	.123	.075	.042	.106	.065	.037	.073	.046	.026	.042	.027	.016	.014	.009	.005	
8.0	.117	.069	.037	.101	.060	.032	.070	.042	.023	.041	.025	.014	.013	.008	.004	
9.0	.112	.064	.032	.096	.056	.028	.067	.039	.020	.039	.023	.012	.013	.008	.004	
10.0	.107	.060	.029	.092	.052	.025	.064	.037	.018	.037	.022	.011	.012	.007	.004	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: DEG
 Operators:
 Test Date: 2017-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 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:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm										
NAME: LM-150W					TYPE:60°Lens			WEIGHT:4.503kg		
SPEC.:5000k R80 360L					DIM.: D280mm*167mm			SERIAL No.:		
MFR.:					SUR.:0.12m*0.12m*3.14			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	24.9	26.0	25.1	26.2	26.4	24.5	25.7	24.8	25.8	26.0
3H	25.5	26.6	25.8	26.8	27.0	25.1	26.2	25.4	26.4	26.6
4H	25.7	26.7	26.0	27.0	27.2	25.3	26.3	25.6	26.6	26.8
6H	25.8	26.7	26.1	27.0	27.3	25.4	26.3	25.7	26.6	26.9
8H	25.8	26.7	26.1	27.0	27.2	25.4	26.3	25.7	26.6	26.8
12H	25.8	26.6	26.1	26.9	27.2	25.4	26.2	25.7	26.5	26.8
4H 2H	25.1	26.1	25.4	26.3	26.6	24.8	25.8	25.1	26.0	26.2
3H	25.9	26.8	26.2	27.0	27.3	25.6	26.4	25.9	26.7	27.0
4H	26.2	27.0	26.5	27.3	27.6	25.8	26.6	26.2	26.9	27.2
6H	26.3	27.0	26.7	27.3	27.7	25.9	26.6	26.3	27.0	27.3
8H	26.3	26.9	26.7	27.3	27.7	26.0	26.6	26.4	27.0	27.3
12H	26.3	26.9	26.7	27.3	27.7	25.9	26.5	26.4	26.9	27.3
8H 4H	26.2	26.8	26.6	27.2	27.6	25.9	26.5	26.3	26.9	27.3
6H	26.4	26.9	26.8	27.3	27.7	26.0	26.6	26.5	27.0	27.4
8H	26.4	26.9	26.9	27.3	27.8	26.1	26.6	26.5	27.0	27.4
12H	26.4	26.8	26.9	27.3	27.7	26.1	26.5	26.6	26.9	27.4
12H 4H	26.2	26.7	26.6	27.1	27.5	25.8	26.4	26.3	26.8	27.2
6H	26.3	26.8	26.8	27.2	27.7	26.0	26.5	26.5	26.9	27.4
8H	26.4	26.8	26.9	27.2	27.7	26.1	26.5	26.6	26.9	27.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.8					+ 0.6 / - 0.9				
1.5H	+ 0.8 / - 0.5					+ 0.6 / - 0.5				
2.0H	+ 1.3 / - 1.1					+ 1.3 / - 1.0				

CIE Pub.117 Corrected 21112 lm Total Lamp Luminous Flux. (8log(F/F0) = 10.6)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: DEG
Operators:
Test Date: 2017-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
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:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE: 60° Lens	WEIGHT: 4.503kg
SPEC.: 5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.: 0.12m*0.12m*3.14	PROTECTION ANGLE:

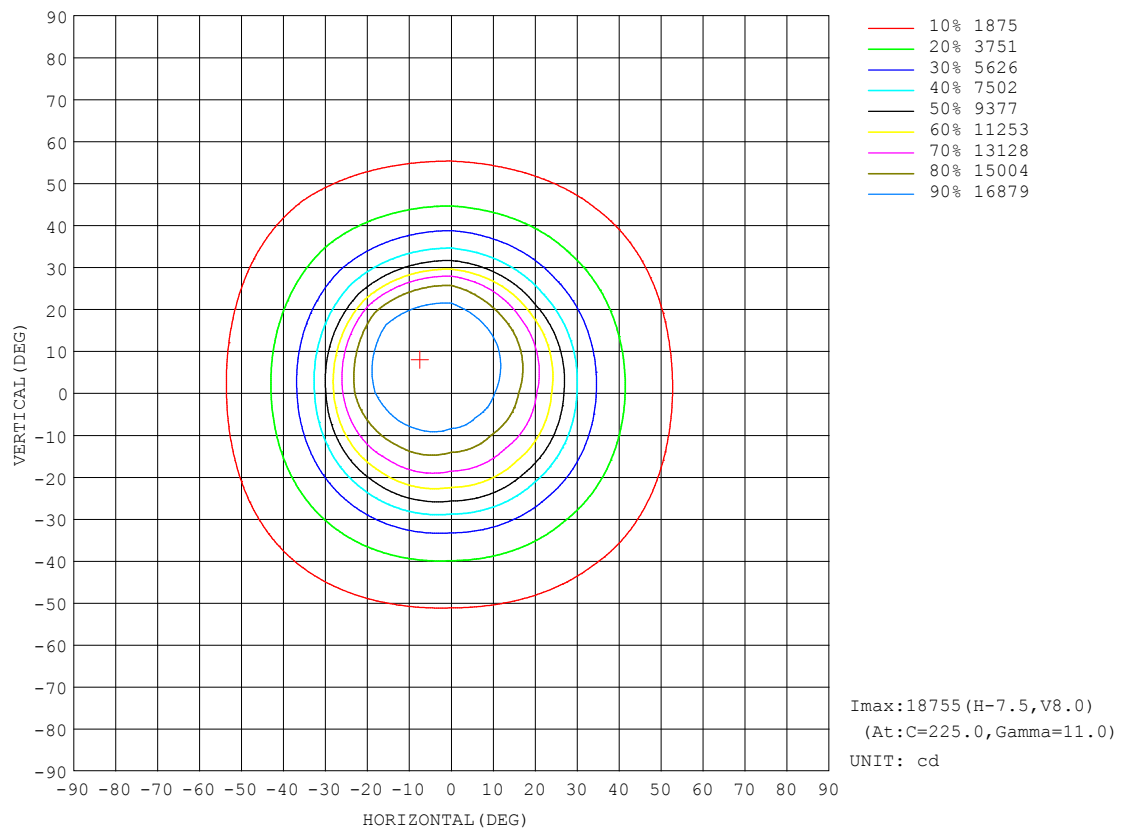
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	75	67	62	75	67	62	74	66	62	57
0.80	84	76	71	83	76	71	82	75	70	65
1.00	91	83	78	90	82	78	88	83	77	72
1.25	96	89	84	95	88	84	92	87	83	77
1.50	99	93	88	98	92	88	95	90	87	81
2.00	104	98	94	102	97	93	99	95	91	85
2.50	106	101	97	104	100	96	101	97	94	87
3.00	108	104	100	106	102	99	103	100	97	90
4.00	111	107	104	109	106	103	105	102	100	92
5.00	113	110	107	110	108	105	106	104	102	94
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: DEG
 Operators:
 Test Date: 2017-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 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:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE:60°Lens	WEIGHT:4.503kg
SPEC.:5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.:0.12m*0.12m*3.14	PROTECTION ANGLE:

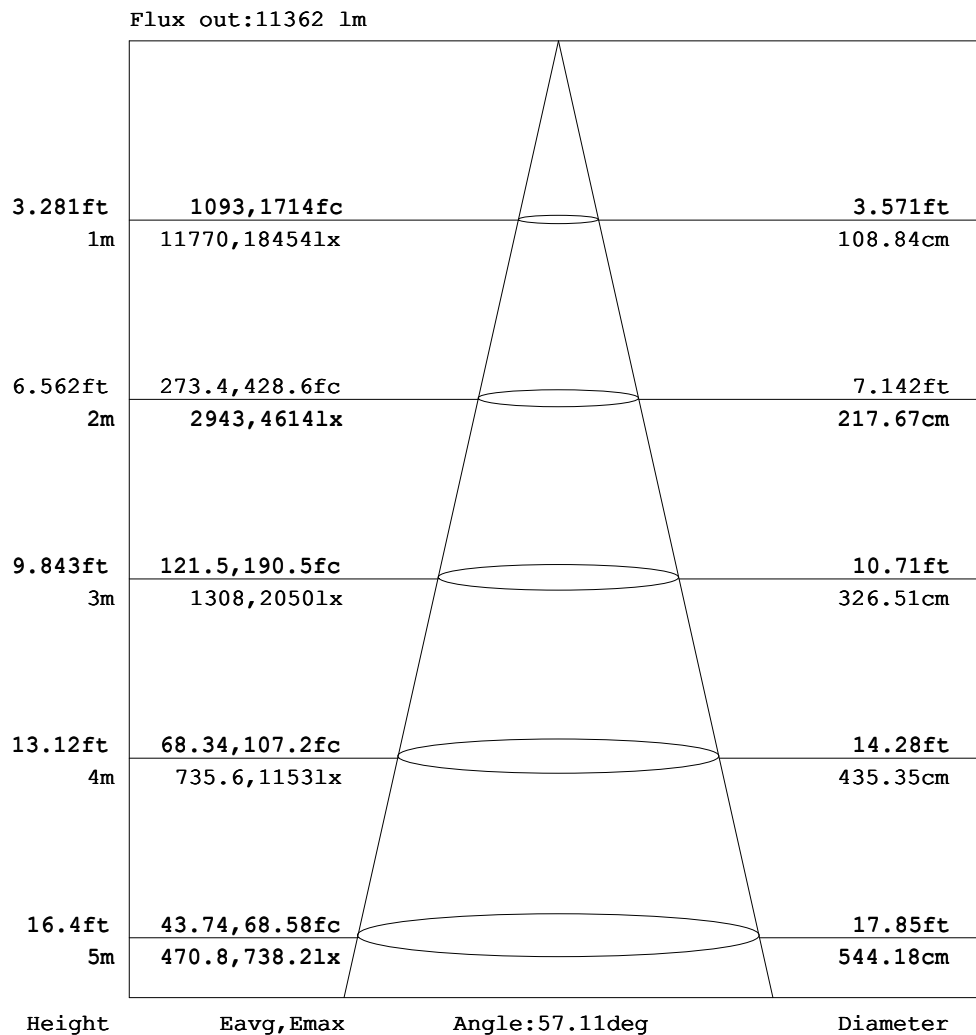


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: DEG
Operators:
Test Date: 2017-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
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:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE:60°Lens	WEIGHT:4.503kg
SPEC.:5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.:0.12m*0.12m*3.14	PROTECTION ANGLE:



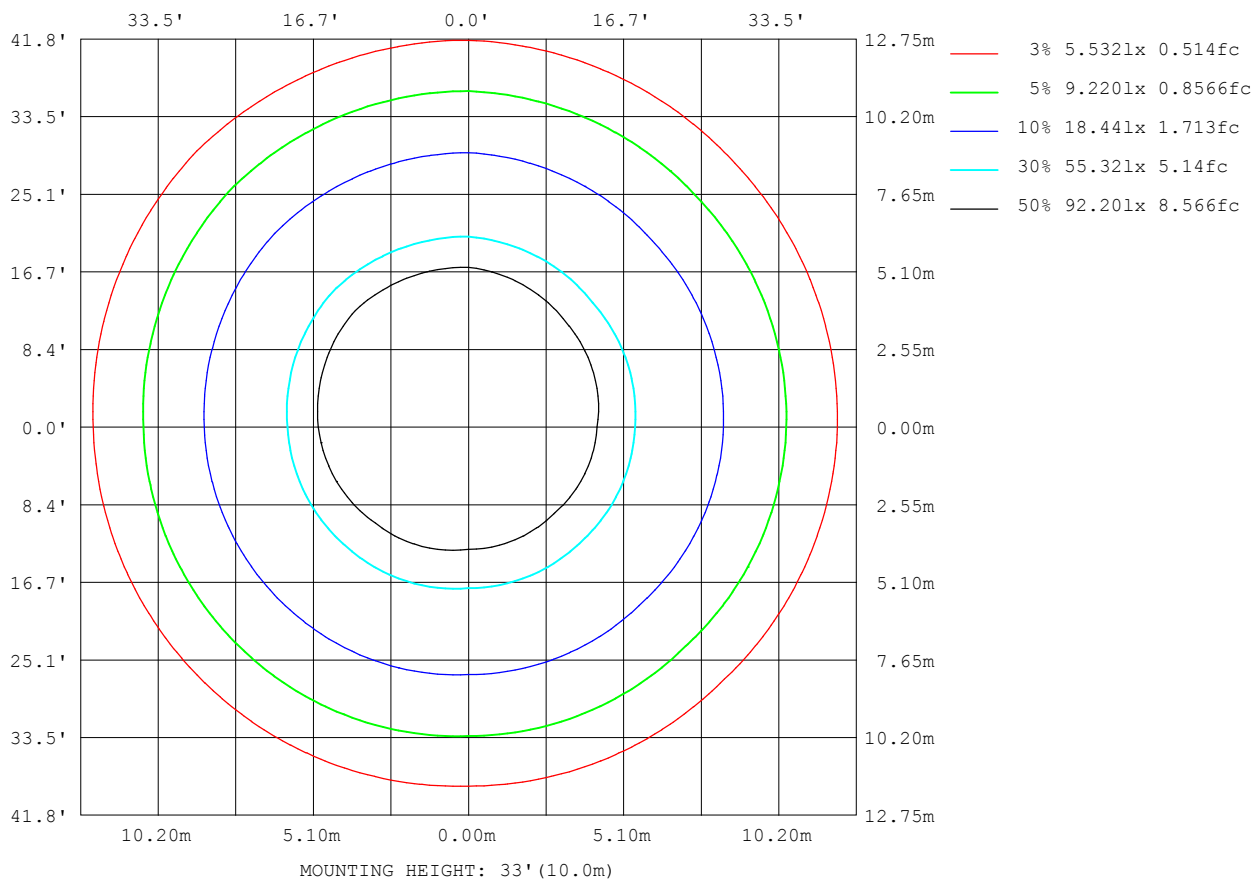
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:DEG
Operators:
Test Date:2017-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.284
Humidity:65.0%
Test Distance:9.390m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

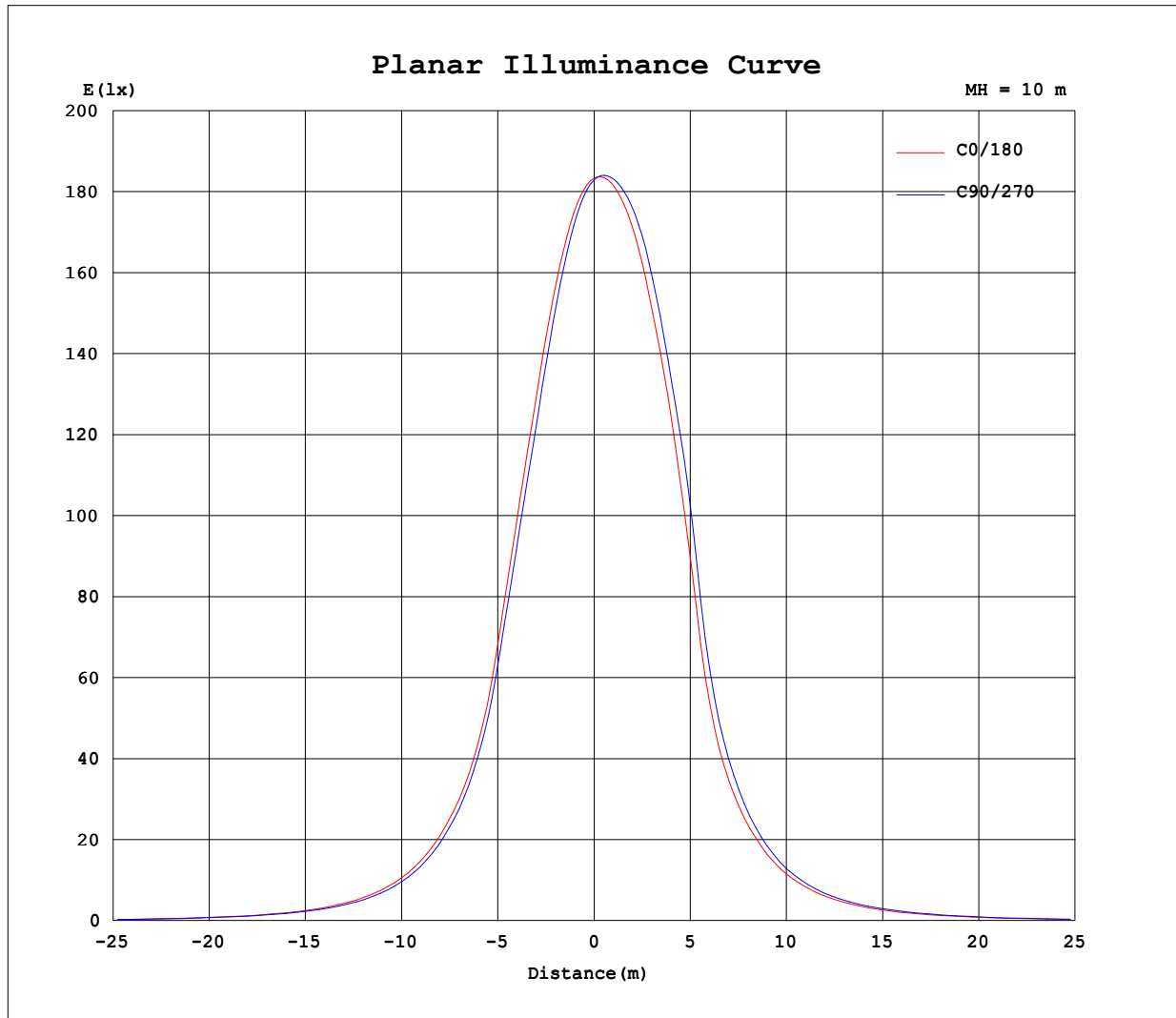
Test:U:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE:60°Lens	WEIGHT:4.503kg
SPEC.:5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.:0.12m*0.12m*3.14	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: DEG
Operators:
Test Date: 2017-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
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: 45.0DEG
Test Speed: HIGH
Temperature: DEG
Operators:
Test Date: 2017-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.284
Humidity: 65.0%
Test Distance: 9.390m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:277.1V I:0.5710A P:150.1W PF:0.9487 Lamp Flux:21111.8x1 lm		
NAME: LM-150W	TYPE:60°Lens	WEIGHT:4.503kg
SPEC.:5000k R80 360L	DIM.: D280mm*167mm	SERIAL No.:
MFR.:	SUR.:0.12m*0.12m*3.14	PROTECTION ANGLE:

Table--1

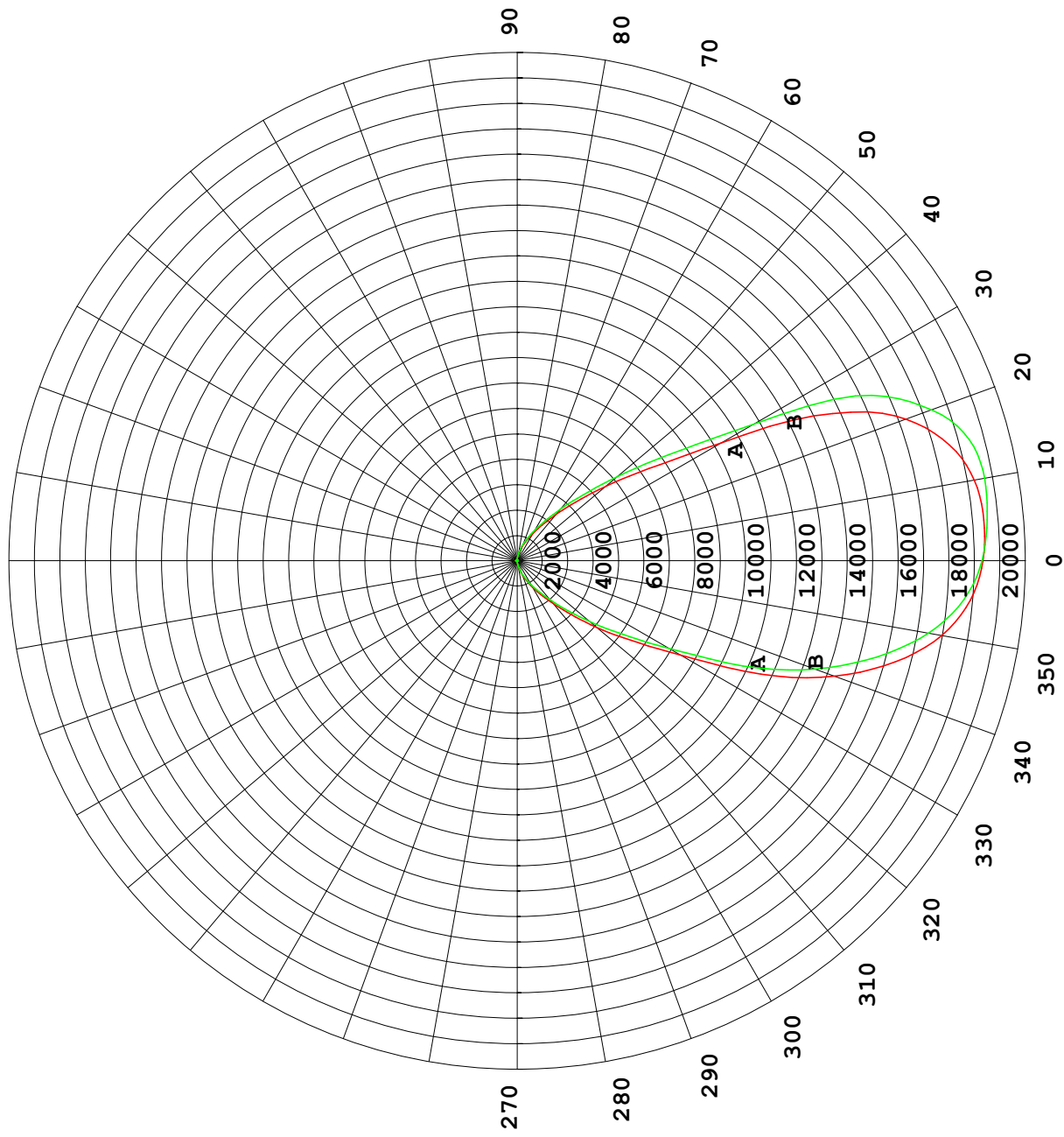
UNIT: ×10cd

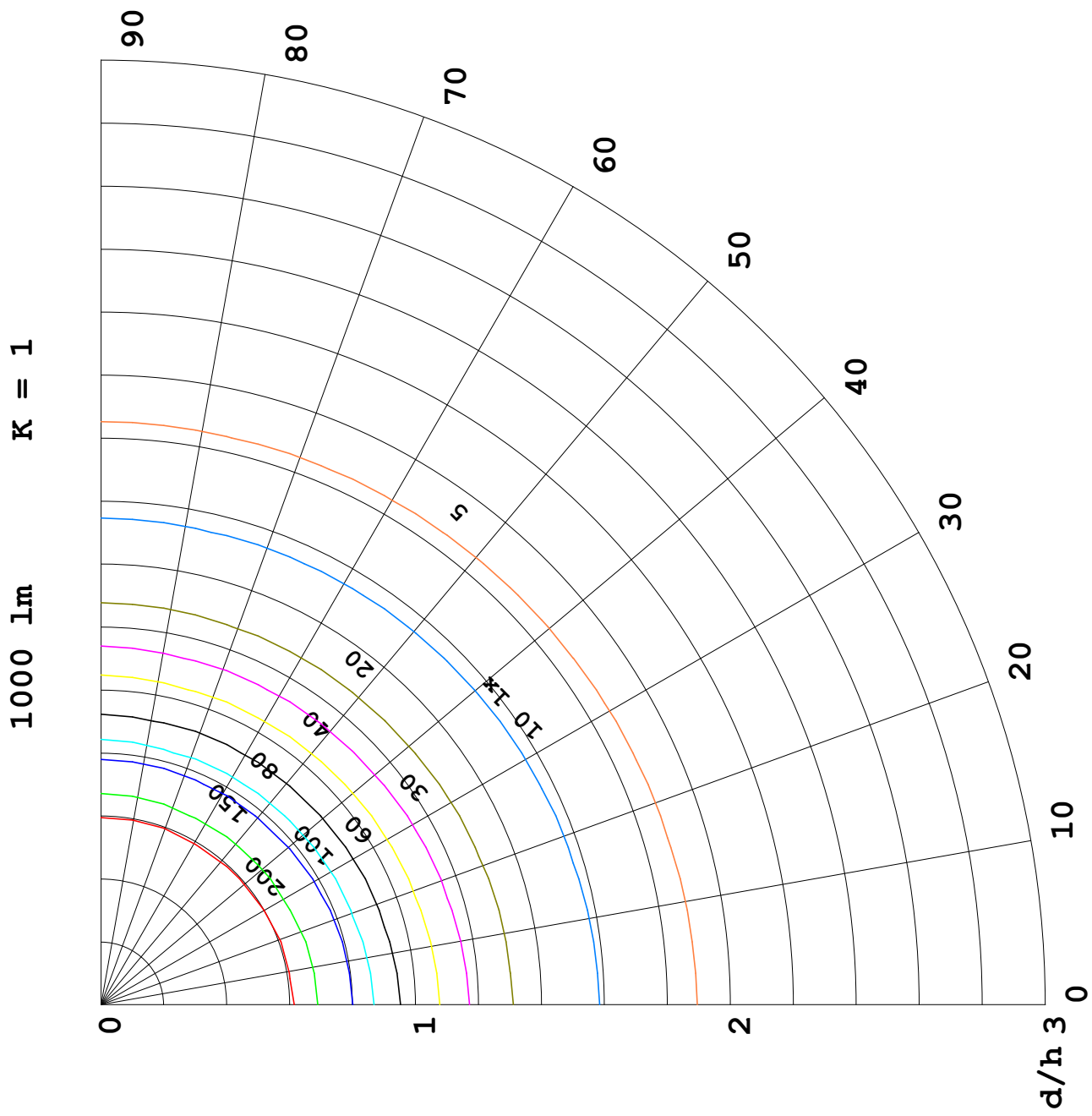
C (DEG) γ (DEG)	0	45	90	135	180	225	270	315										
0	1834	1833	1830	1828	1834	1833	1830	1828										
5	1790	1762	1765	1801	1843	1862	1857	1829										
10	1697	1634	1644	1730	1827	1875	1868	1795										
15	1541	1451	1465	1601	1761	1860	1842	1705										
20	1330	1239	1248	1398	1628	1769	1736	1537										
25	1058	974	981	1131	1370	1573	1540	1249										
30	747	690	692	790	927	1128	1075	852										
35	547	504	505	564	633	733	727	605										
40	408	371	373	411	457	515	515	441										
45	300	272	273	299	327	367	365	322										
50	221	201	201	218	236	265	264	234										
55	163	150	148	159	172	192	191	171										
60	120	111	109	117	125	138	139	125										
65	84.4	78.1	76.9	82.6	88.2	97.4	98.0	88.3										
70	59.4	55.5	54.7	58.3	62.7	68.6	69.3	63.0										
75	34.4	31.3	31.6	36.5	40.2	43.4	43.8	37.8										
80	15.8	14.7	14.9	17.5	19.2	20.9	21.1	17.6										
85	4.11	4.02	4.34	6.01	7.37	7.45	7.23	5.22										
90	0.13	0.13	0.14	0.12	0.12	0.12	0.10	0.10										
95	0.17	0.18	0.18	0.17	0.12	0.12	0.11	0.12										
100	0.24	0.26	0.26	0.23	0.17	0.16	0.16	0.17										
105	0.34	0.36	0.36	0.33	0.23	0.22	0.22	0.23										
110	0.46	0.50	0.50	0.44	0.32	0.31	0.30	0.32										
115	0.62	0.68	0.68	0.60	0.44	0.42	0.40	0.44										
120	0.85	0.93	0.93	0.81	0.59	0.55	0.54	0.59										
125	1.16	1.29	1.27	1.09	0.78	0.74	0.72	0.79										
130	1.59	1.77	1.73	1.49	1.04	0.98	0.96	1.06										
135	2.12	2.35	2.29	1.97	1.37	1.28	1.26	1.40										
140	2.74	3.00	2.92	2.55	1.77	1.64	1.63	1.81										
145	3.40	3.69	3.59	3.16	2.26	2.10	2.10	2.31										
150	4.08	4.36	4.24	3.80	2.77	2.59	2.58	2.84										
155	4.66	4.90	4.80	4.38	3.30	3.12	3.10	3.37										
160	5.13	5.34	5.26	4.90	3.83	3.64	3.64	3.89										
165	5.58	5.75	5.67	5.36	4.32	4.14	4.15	4.38										
170	5.94	6.05	5.95	5.72	4.91	4.72	4.73	4.93										
175	6.11	6.11	6.02	5.91	5.71	5.52	5.51	5.63										
180	6.14	6.01	5.97	5.97	6.14	6.00	5.97	5.97										

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: DEG
 Operators:
 Test Date: 2017-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.284
 Humidity: 65.0%
 Test Distance: 9.390m [K=1.0000]
 Remarks:

I (cd)





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

