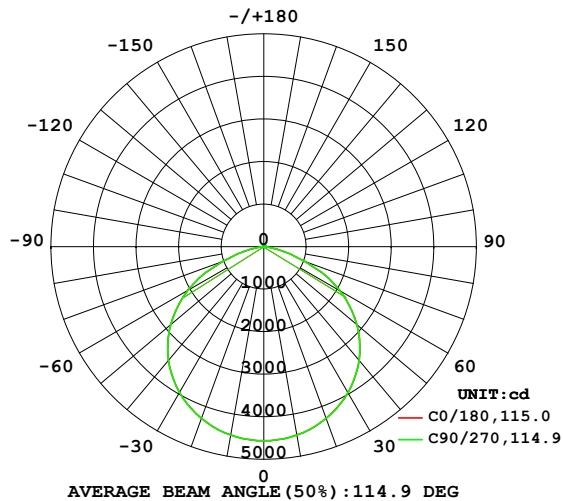


LUMINAIRE PHOTOMETRIC TEST REPORT

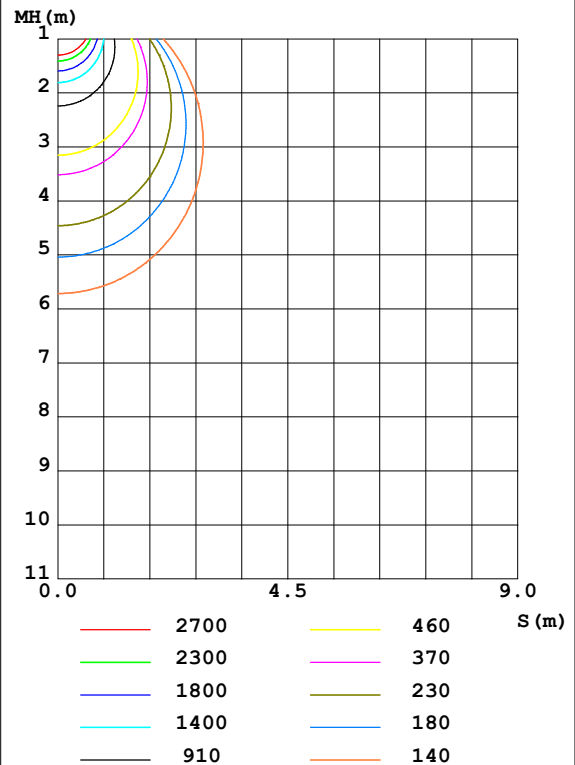
Test:U:230.0V I:0.4579A P:100.3W PF:0.9526 Lamp Flux:12949.7x1 lm		
NAME: HB08-100	TYPE:100W	WEIGHT:
SPEC.:5000K Ra70 120DEG H00A02	DIM.: 0.39*0.39*0.121	SERIAL No.:
MFR.:	SUR.:0.23*0.23	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 129.09 lm/W			
MODEL	HB08-100	I _{max} (cd)	4562	S/MH (C0/180)	1.29
NOMINAL POWER (W)	100	LOR (%)	100.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	12950	η UP, DN (C0-180)	0.5, 49.5
NOMINAL FLUX (lm)	12949.7	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.5, 49.5
LAMPS INSIDE	1	η up (%)	1.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	99.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2016-06-25

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=0.8733]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	4497	4497	4497	4497	4497	4498	4497	4498	0- 10	432.3	432.3	3.34, 3.34
20	4296	4297	4297	4297	4296	4298	4297	4298	10- 20	1247	1679	13, 13
30	3960	3960	3961	3960	3960	3961	3961	3961	20- 30	1911	3590	27.7, 27.7
40	3486	3487	3487	3487	3486	3487	3487	3487	30- 40	2340	5931	45.8, 45.8
50	2860	2858	2858	2858	2860	2858	2858	2858	40- 50	2460	8391	64.8, 64.8
60	2060	2059	2061	2059	2060	2063	2061	2063	50- 60	2213	10603	81.9, 81.9
70	1026	1024	1029	1024	1026	1024	1029	1024	60- 70	1551	12154	93.9, 93.9
80	184.1	189.8	189.0	189.8	184.1	192.1	189.0	192.1	70- 80	608.5	12763	98.6, 98.6
90	5.294	5.297	5.308	5.297	5.294	5.299	5.308	5.299	80- 90	52.34	12815	99, 99
100	9.540	9.536	9.544	9.536	9.540	9.542	9.544	9.542	90-100	7.971	12823	99, 99
110	14.80	14.80	14.81	14.80	14.80	14.82	14.81	14.82	100-110	12.80	12836	99.1, 99.1
120	20.21	20.22	20.25	20.22	20.21	20.27	20.25	20.27	110-120	17.36	12853	99.3, 99.3
130	25.59	25.61	25.63	25.61	25.59	25.66	25.63	25.66	120-130	20.52	12874	99.4, 99.4
140	31.01	31.02	31.04	31.02	31.01	31.06	31.04	31.06	130-140	21.90	12895	99.6, 99.6
150	35.79	35.78	35.79	35.78	35.79	35.80	35.79	35.80	140-150	20.97	12916	99.7, 99.7
160	39.74	39.71	39.70	39.71	39.74	39.71	39.70	39.71	150-160	17.45	12934	99.9, 99.9
170	42.84	42.79	42.78	42.79	42.84	42.77	42.78	42.77	160-170	11.67	12946	100, 100
180	44.24	44.14	44.09	44.14	44.24	44.09	44.09	44.09	170-180	4.143	12950	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 7415 lm

%lum = 57.3%

%lamp = 57.3%

Conical surface Flux(120deg): 10603 lm

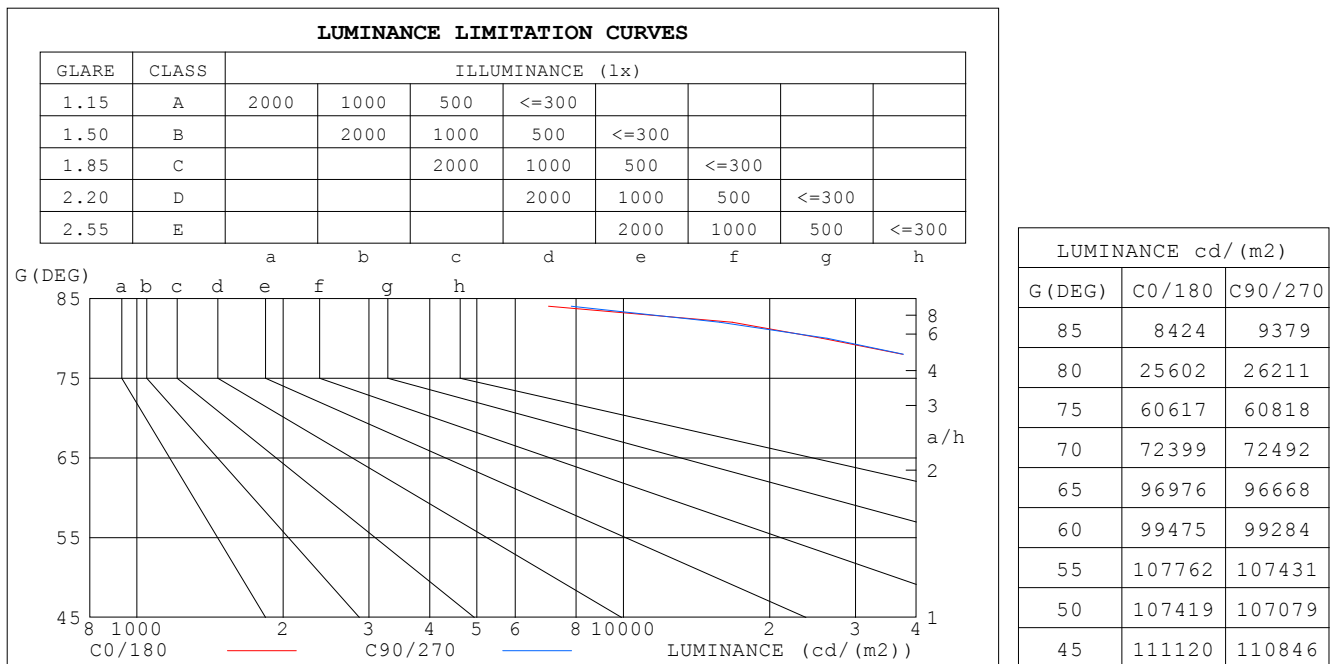
%lum = 81.9%

%lamp = 81.9%

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=0.8733]
 Remarks:

LUMINANCE LIMITATION CURVES

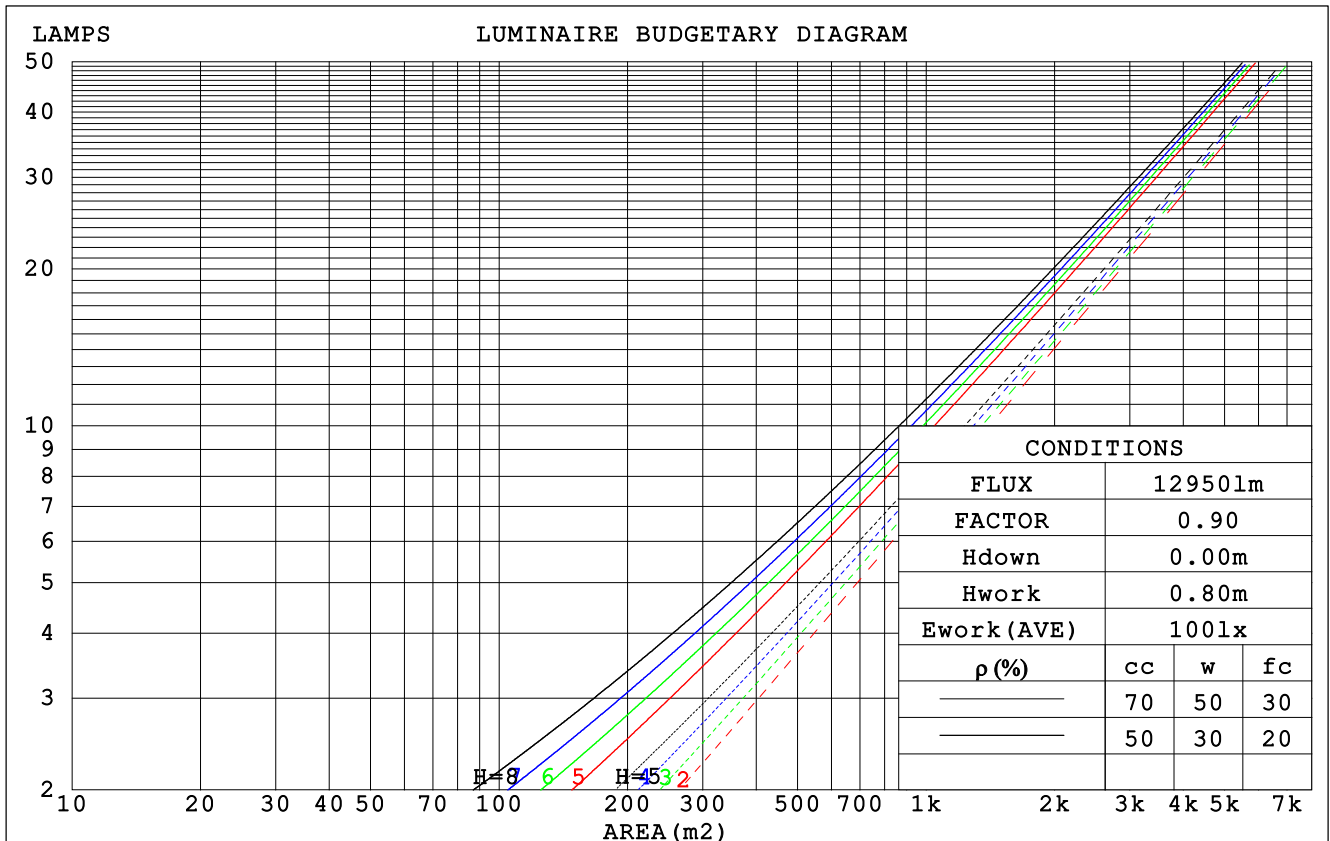


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2016-06-25

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=0.8733]
Remarks:

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	1.01	1.01	1.01	.99
1.0	1.05	1.01	.98	1.03	.99	.96	.98	.95	.93	.94	.92	.90	.90	.89	.87	.85
2.0	.92	.85	.80	.90	.84	.79	.86	.81	.77	.83	.79	.75	.80	.76	.73	.71
3.0	.81	.73	.67	.79	.72	.66	.76	.70	.65	.73	.68	.63	.71	.66	.62	.60
4.0	.72	.63	.57	.70	.62	.56	.68	.61	.55	.65	.59	.54	.63	.58	.54	.51
5.0	.64	.55	.49	.63	.55	.48	.61	.53	.48	.58	.52	.47	.57	.51	.46	.44
6.0	.58	.49	.42	.57	.48	.42	.55	.47	.42	.53	.46	.41	.51	.45	.41	.39
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.41	.37	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.39	.33	.45	.38	.33	.44	.37	.33	.43	.37	.32	.30
9.0	.44	.35	.30	.43	.35	.30	.42	.35	.30	.41	.34	.29	.39	.34	.29	.27
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.25



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=0.8733]
 Remarks:

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	.284	.161	.051	.276	.158	.050	.262	.151	.048	.250	.144	.046	.238	.138	.045	
2.0	.275	.151	.046	.269	.148	.046	.256	.143	.044	.245	.138	.043	.235	.133	.042	
3.0	.259	.138	.041	.253	.135	.041	.242	.131	.040	.232	.127	.039	.223	.124	.038	
4.0	.241	.125	.037	.236	.124	.037	.227	.120	.036	.218	.117	.035	.210	.114	.035	
5.0	.225	.114	.033	.220	.113	.033	.212	.110	.032	.204	.107	.032	.196	.105	.032	
6.0	.209	.105	.030	.205	.104	.030	.198	.101	.029	.191	.099	.029	.184	.097	.029	
7.0	.196	.097	.027	.192	.096	.027	.185	.094	.027	.179	.092	.027	.173	.090	.026	
8.0	.183	.089	.025	.180	.089	.025	.174	.087	.025	.168	.085	.025	.163	.083	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.158	.079	.023	.153	.078	.023	
10.0	.162	.078	.022	.159	.077	.021	.154	.076	.021	.150	.074	.021	.145	.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	.198	.198	.198	.170	.170	.170	.116	.116	.116	.066	.066	.066	.021	.021	.021		
1.0	.186	.164	.144	.160	.141	.124	.109	.097	.086	.063	.056	.050	.020	.018	.016		
2.0	.178	.140	.108	.153	.121	.093	.105	.083	.065	.060	.049	.038	.019	.016	.012		
3.0	.170	.122	.084	.146	.106	.073	.100	.073	.051	.058	.043	.030	.019	.014	.010		
4.0	.163	.109	.068	.140	.094	.059	.096	.066	.041	.056	.038	.024	.018	.013	.008		
5.0	.156	.099	.056	.134	.085	.049	.092	.060	.035	.053	.035	.020	.017	.011	.007		
6.0	.149	.090	.048	.128	.078	.042	.088	.055	.030	.051	.032	.018	.017	.011	.006		
7.0	.142	.083	.042	.122	.072	.036	.085	.051	.026	.049	.030	.015	.016	.010	.005		
8.0	.136	.077	.037	.117	.067	.032	.081	.047	.023	.047	.028	.014	.015	.009	.005		
9.0	.130	.073	.034	.112	.063	.029	.078	.044	.021	.045	.026	.012	.015	.009	.004		
10.0	.125	.068	.031	.107	.059	.027	.075	.042	.019	.043	.025	.011	.014	.008	.004		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2016-06-25

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=0.8733]
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	29.1	30.6	29.4	30.8	31.1	29.1	30.6	29.4	30.8	31.0
3H	30.2	31.6	30.6	31.9	32.1	30.2	31.6	30.6	31.8	32.1
4H	30.5	31.8	30.8	32.1	32.3	30.5	31.8	30.8	32.1	32.3
6H	30.5	31.7	30.9	32.0	32.3	30.5	31.7	30.9	32.0	32.3
8H	30.5	31.7	30.8	32.0	32.3	30.5	31.6	30.8	31.9	32.3
12H	30.4	31.6	30.8	31.9	32.2	30.4	31.6	30.8	31.9	32.2
4H 2H	29.7	31.0	30.0	31.2	31.5	29.7	30.9	30.0	31.2	31.5
3H	30.9	32.0	31.2	32.3	32.6	30.9	32.0	31.2	32.3	32.6
4H	31.2	32.2	31.6	32.6	32.9	31.2	32.2	31.6	32.6	32.9
6H	31.3	32.2	31.7	32.5	32.9	31.3	32.2	31.7	32.5	32.9
8H	31.2	32.1	31.7	32.5	32.9	31.2	32.1	31.7	32.5	32.9
12H	31.2	32.0	31.6	32.4	32.8	31.2	32.0	31.6	32.4	32.8
8H 4H	31.3	32.1	31.7	32.5	32.9	31.3	32.1	31.7	32.5	32.9
6H	31.4	32.1	31.8	32.5	32.9	31.4	32.1	31.8	32.5	32.9
8H	31.4	32.0	31.8	32.4	32.9	31.4	32.0	31.8	32.4	32.9
12H	31.3	31.8	31.8	32.3	32.8	31.3	31.8	31.8	32.3	32.8
12H 4H	31.2	32.0	31.7	32.4	32.8	31.2	32.0	31.7	32.4	32.8
6H	31.3	31.9	31.8	32.4	32.9	31.3	31.9	31.8	32.4	32.9
8H	31.3	31.8	31.8	32.3	32.8	31.3	31.8	31.8	32.3	32.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.3 / - 0.5					+ 0.2 / - 0.5				
2.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.5				

CIE Pub.117 Corrected 12950 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.9)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2016-06-25

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=0.8733]
Remarks:

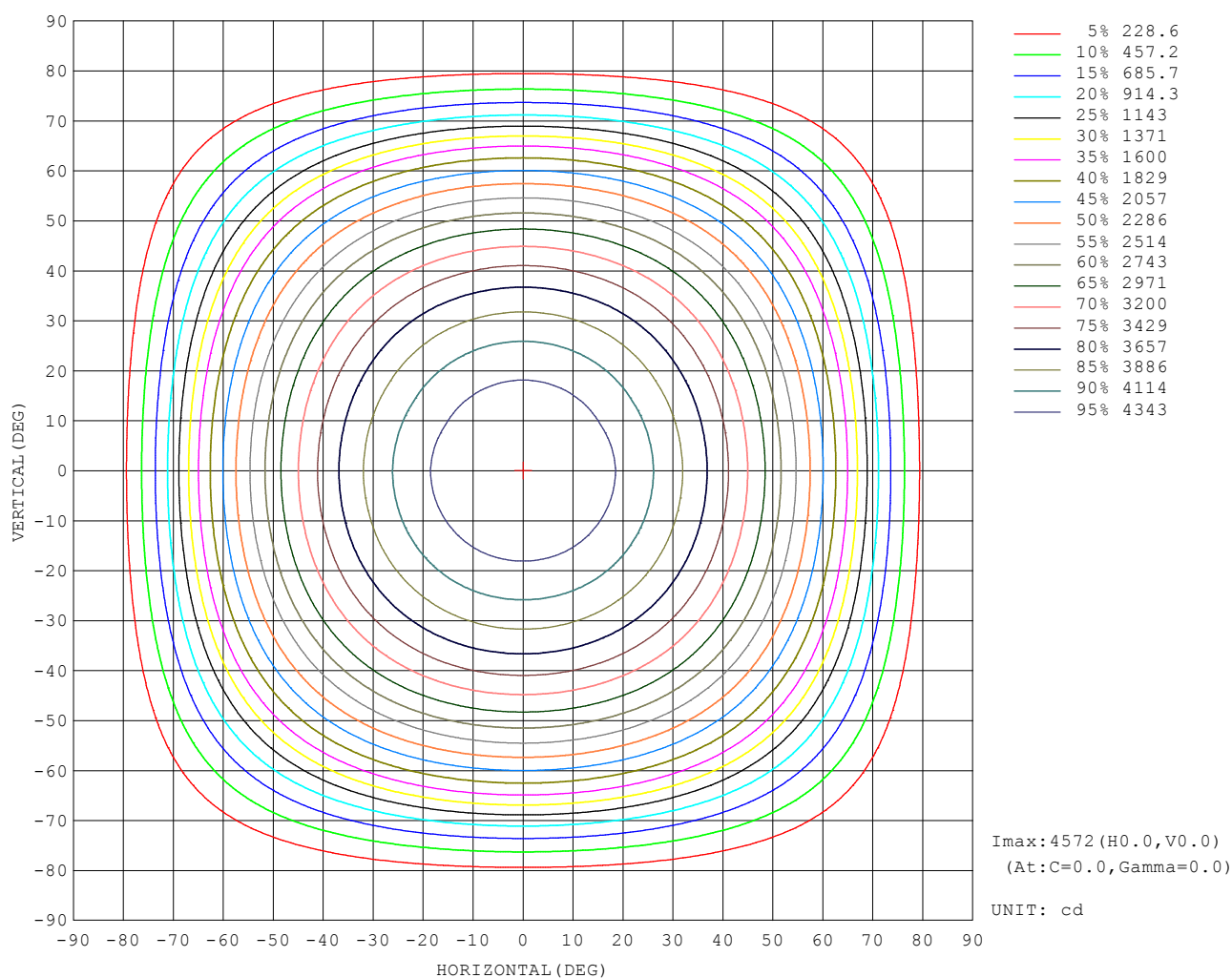
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	46	39	33
0.80	68	57	50	67	56	49	65	55	49	42
1.00	77	66	59	76	66	59	73	67	58	51
1.25	84	74	67	83	73	67	80	72	66	59
1.50	89	80	73	88	79	72	84	77	71	64
2.00	96	88	82	94	87	81	91	84	79	72
2.50	100	93	87	98	91	86	94	88	84	76
3.00	103	97	92	101	95	90	97	92	88	80
4.00	107	102	97	105	100	96	100	96	93	84
5.00	109	105	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: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=0.8733]
 Remarks:

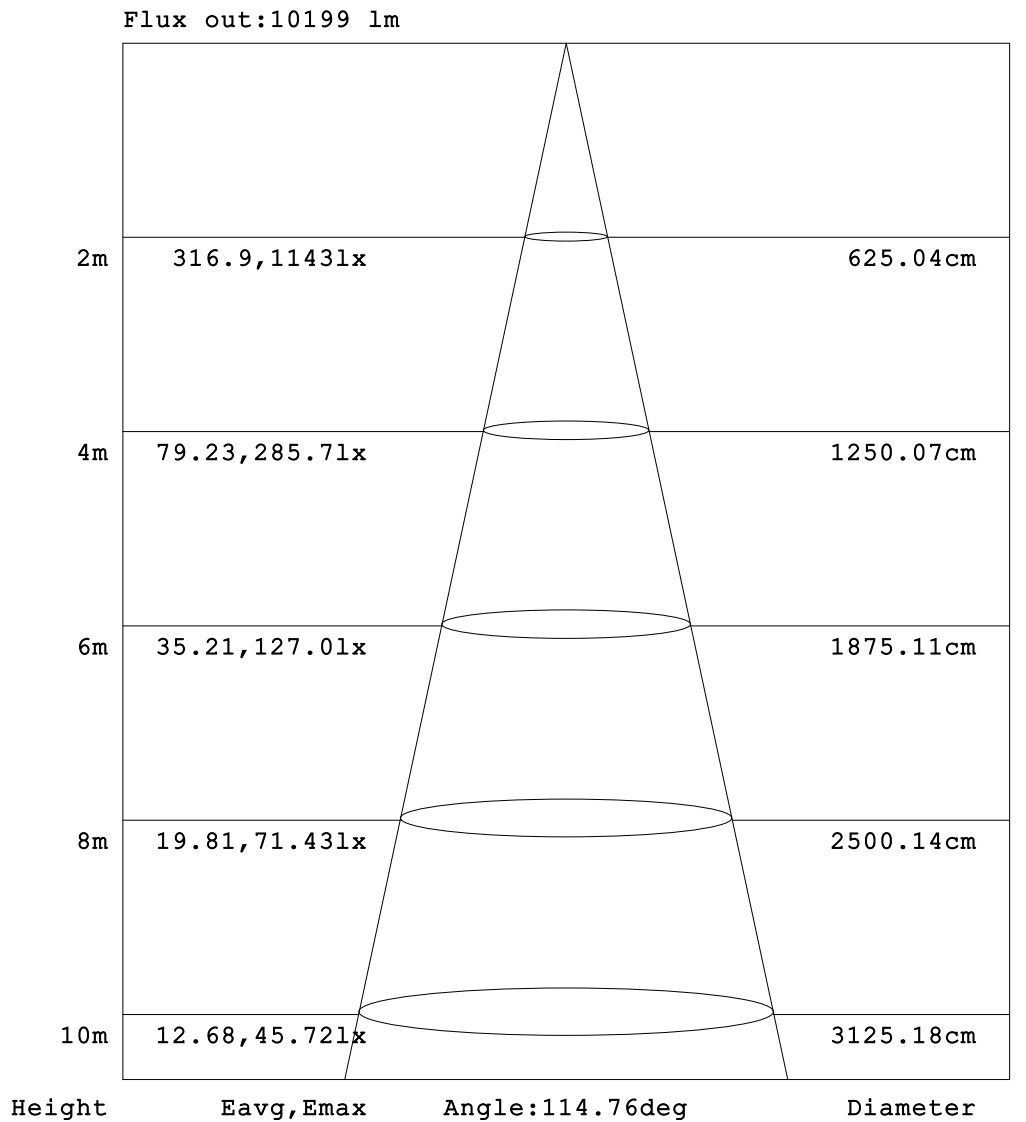
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=0.8733]
Remarks:

AAI Figure

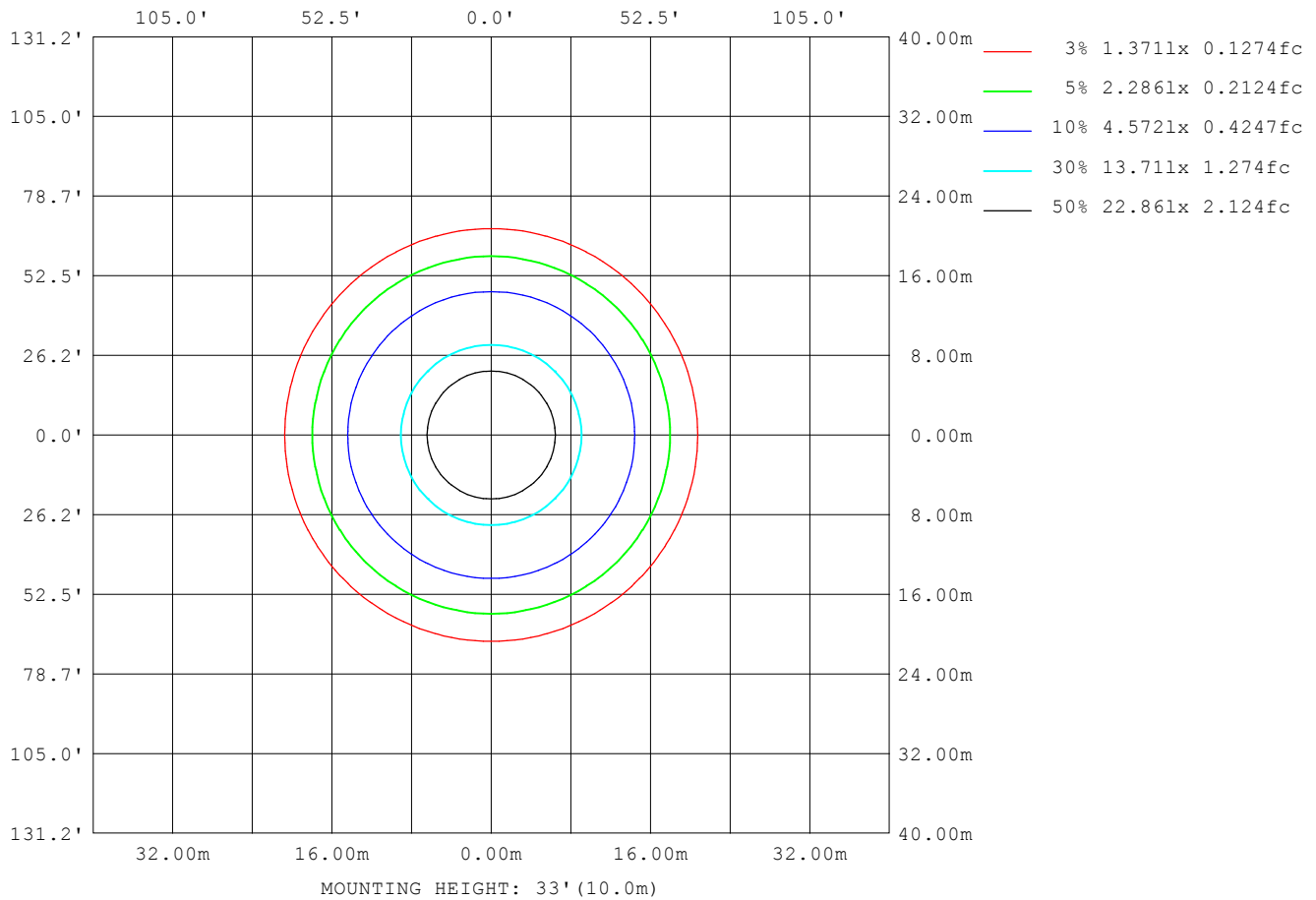


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=0.8733]
Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=0.8733]
 Remarks:

LED Avg.L Report

Test:U:230.0V I:0.4579A P:100.3W PF:0.9526 Lamp Flux:12949.7x1 lm		
NAME: HB08-100	TYPE:100W	WEIGHT:
SPEC.:5000K Ra70 120DEG H00A02	DIM.: 0.39*0.39*0.121	SERIAL No.:
MFR.:	SUR.:0.23*0.23	Shielding Angle:

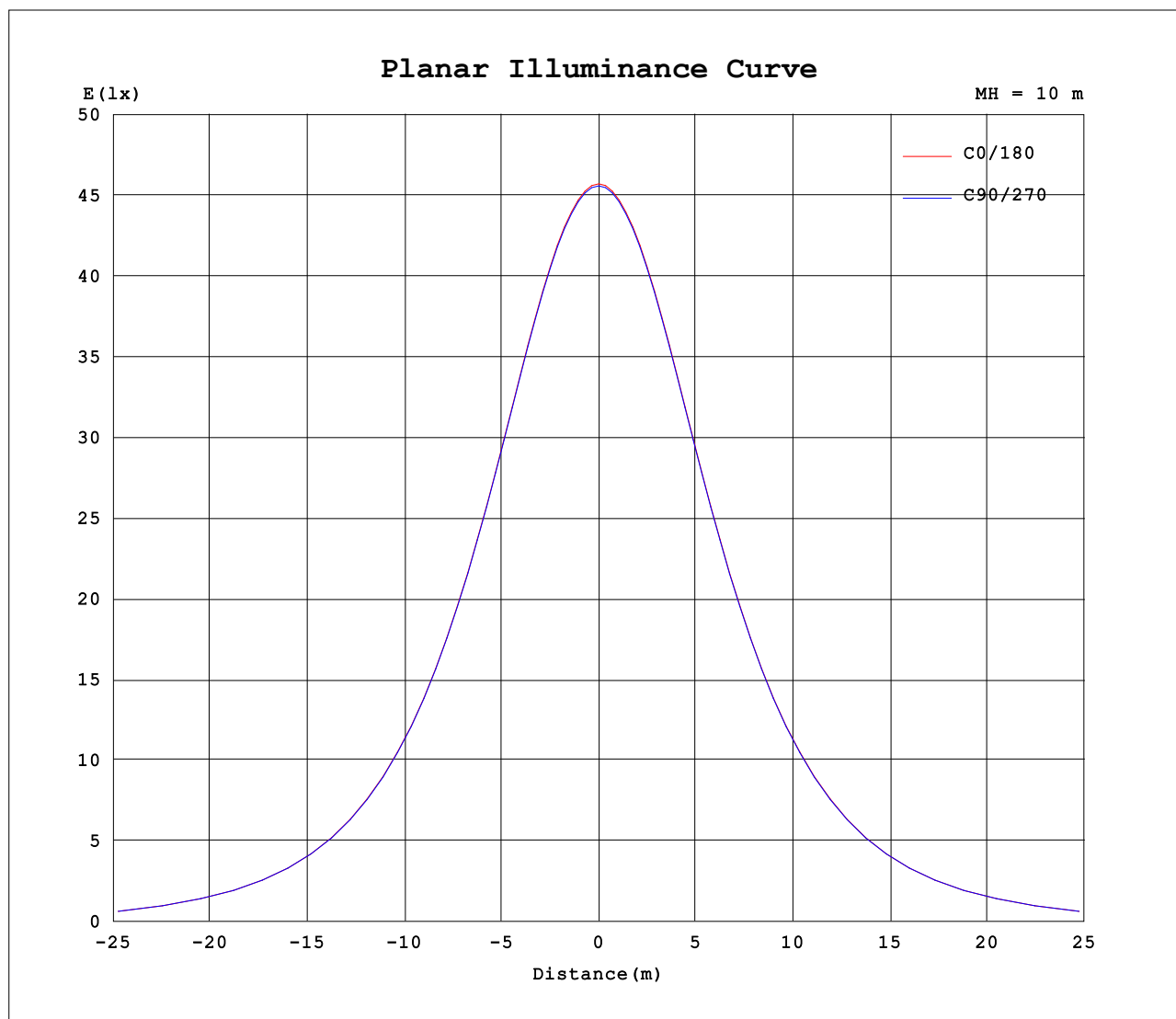
AvgL	cd/m2
L_0~180 (65) av	91037
L_0~180 (75) av	52633
L_0~180 (85) av	4049
L_90~270 (65) av	91087
L_90~270 (75) av	52802
L_90~270 (85) av	4982
L_45 (65) av	91004
L_45 (75) av	52711
L_45 (85) av	4458

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2016-06-25

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.470m [K=0.8733]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.470m [K=0.8733]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	4562	4562	4562	4562	4562	4562	4562	4562	4562	4562	4562	4562						
5	4551	4551	4552	4552	4552	4551	4551	4552	4552	4552	4552	4552						
10	4497	4497	4497	4497	4497	4497	4497	4498	4499	4497	4499	4498						
15	4434	4434	4434	4434	4434	4434	4434	4434	4435	4434	4435	4434						
20	4296	4297	4298	4297	4298	4297	4296	4297	4298	4297	4298	4297						
25	4177	4178	4179	4179	4179	4178	4177	4179	4179	4179	4179	4179						
30	3960	3960	3961	3961	3961	3960	3960	3961	3961	3961	3961	3961						
35	3788	3788	3788	3788	3788	3788	3788	3788	3789	3788	3789	3788						
40	3486	3487	3486	3487	3486	3487	3486	3486	3487	3487	3487	3486						
45	3254	3255	3255	3254	3255	3255	3254	3255	3254	3254	3254	3255						
50	2860	2858	2858	2858	2858	2858	2860	2858	2857	2858	2857	2858						
55	2560	2561	2560	2559	2560	2561	2560	2561	2559	2559	2559	2561						
60	2060	2060	2059	2061	2059	2060	2060	2064	2061	2061	2061	2064						
65	1697	1696	1696	1696	1696	1696	1697	1697	1696	1696	1696	1697						
70	1026	1026	1023	1029	1023	1026	1026	1026	1022	1029	1022	1026						
75	650	652	653	654	653	652	650	650	652	654	652	650						
80	184	185	194	189	194	185	184	188	196	189	196	188						
85	30.4	30.7	33.0	33.9	33.0	30.7	30.4	32.0	33.7	33.9	33.7	32.0						
90	5.29	5.29	5.30	5.31	5.30	5.29	5.29	5.29	5.30	5.31	5.30	5.29						
95	6.84	6.84	6.83	6.85	6.83	6.84	6.84	6.84	6.84	6.85	6.84	6.84						
100	9.54	9.53	9.54	9.54	9.54	9.53	9.54	9.54	9.54	9.54	9.54	9.54						
105	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6						
110	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8	14.8						
115	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0						
120	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.3	20.3	20.2	20.3	20.3						
125	22.3	22.3	22.4	22.4	22.4	22.3	22.3	22.4	22.4	22.4	22.4	22.4						
130	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.7	25.7	25.6	25.7	25.7						
135	27.8	27.8	27.8	27.8	27.8	27.8	27.8	27.9	27.8	27.8	27.8	27.9						
140	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.1	31.1	31.0	31.1	31.1						
145	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.1	33.1	33.0	33.1	33.1						
150	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8						
155	37.5	37.4	37.4	37.4	37.4	37.4	37.5	37.5	37.4	37.4	37.4	37.5						
160	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7	39.7						
165	41.1	41.1	41.0	41.0	41.0	41.1	41.1	41.0	41.0	41.0	41.0	41.0						
170	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8						
175	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.5	43.5	43.6	43.5	43.5						
180	44.2	44.2	44.1	44.1	44.1	44.2	44.2	44.1	44.1	44.1	44.1	44.1						

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2016-06-25

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.470m [K=0.8733]
 Remarks: