

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

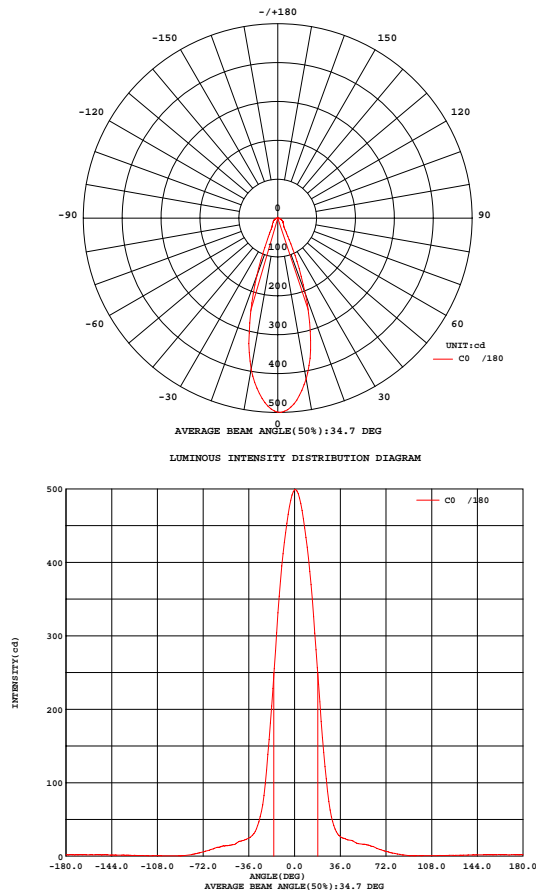


Fig. C0/C180

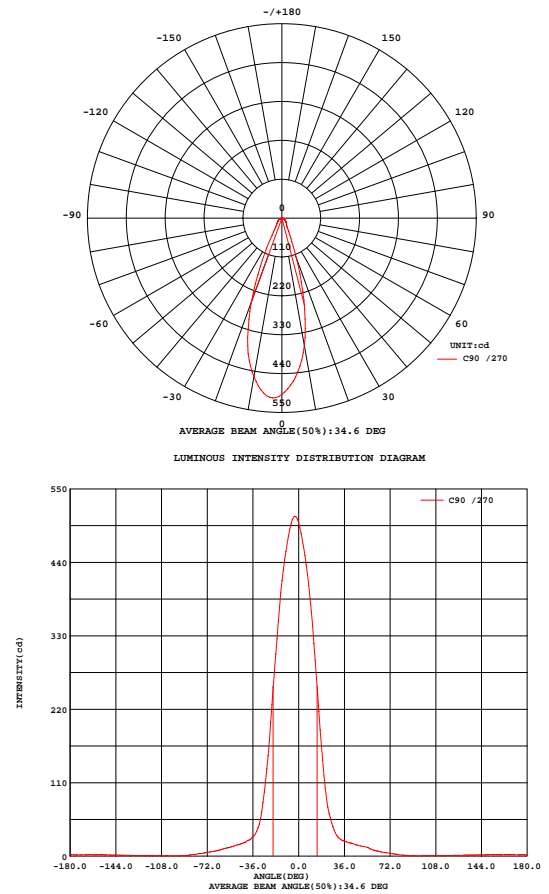


Fig. C90/C270

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:杨克亮
Test Date:2013-09-30

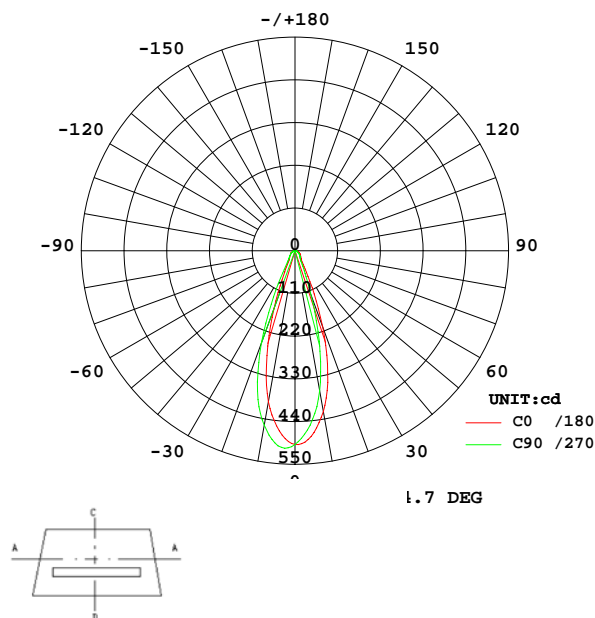
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B SYSTEM V1.0.139
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

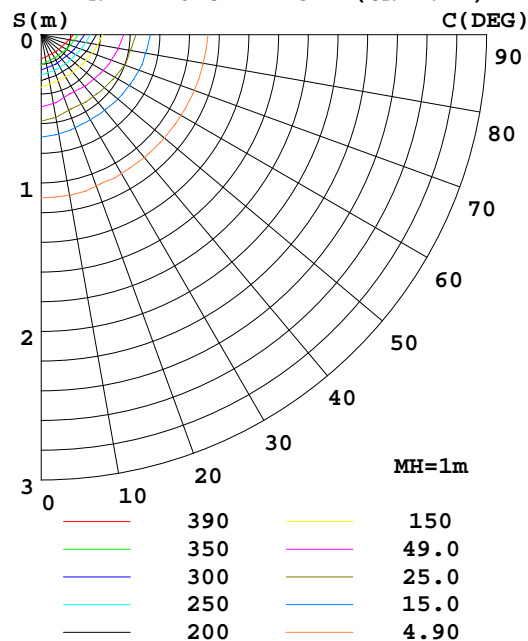
Test:U:12.00V I:0.380A P:4.560W PF:1.000 Lamp Flux:300.0x1 lm		
NAME: MR16	TYPE:	WEIGHT:
DIMENSION:	SPECIFICATION:	SERIAL No.:
MANUFACTURER: mason	SURFACE:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax(cd)	509.1	S/MH(C0/180)	0.53
NOMINAL POWER(W)	5	EFFICIENCY(%)	79.0	S/MH(C90/270)	0.61
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	237.11	η UP(C0-180)	1.1
NOMINAL FLUX(lm)	300.0	CIE CLASS	DIRECT	η DN(C0-180)	39.7
LAMPS INSIDE	1	η up(%)	2.3	η UP(C180-360)	1.3
TEST VOLTAGE(V)	0.0	η down(%)	76.7	η DN(C180-360)	37.0

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM(UNIT:lx)



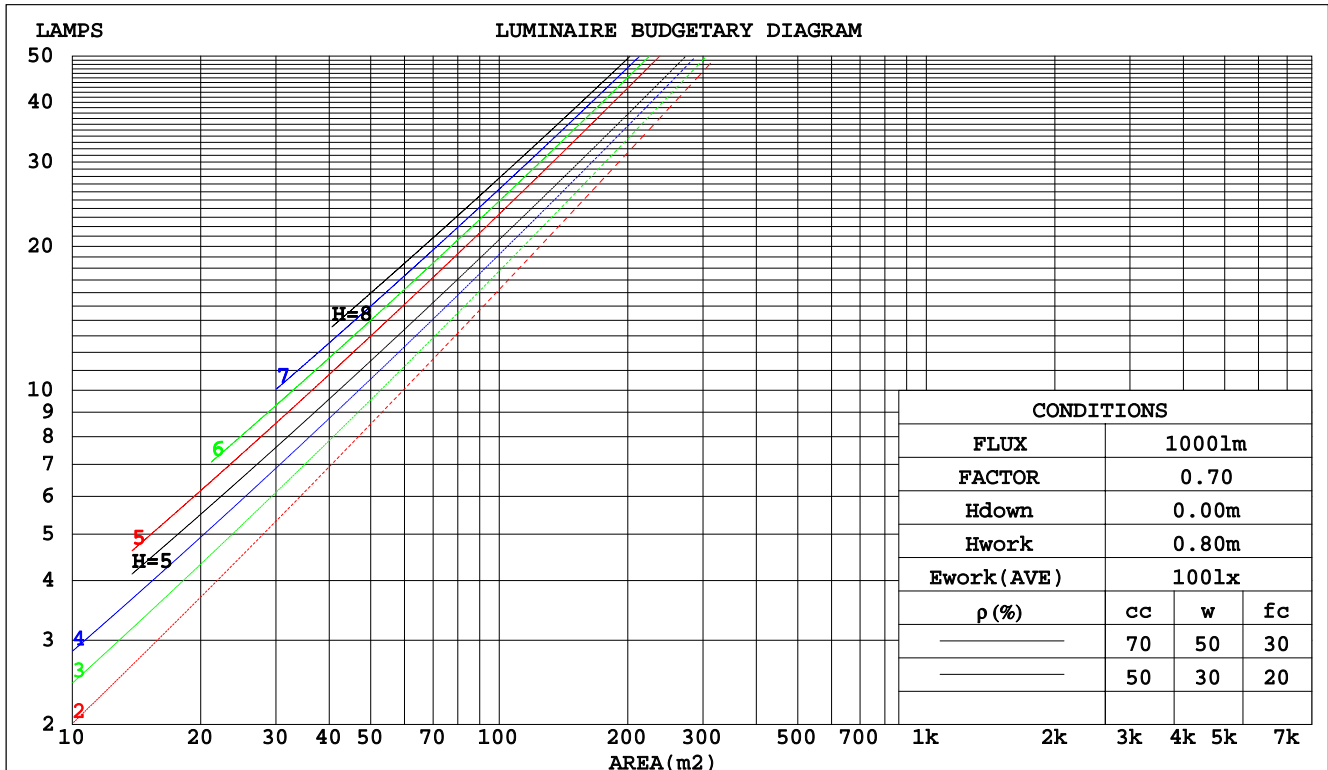
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:杨克亮
Test Date:2013-09-30

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B SYSTEM V1.0.139
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:12.00V I:0.380A P:4.560W PF:1.000 Lamp Flux:300.0x1 lm		
NAME: MR16	TYPE:	WEIGHT:
DIMENSION:	SPECIFICATION:	SERIAL No.:
MANUFACTURER: mason	SURFACE:	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	.94	.94	.94	.91	.91	.91	.87	.87	.87	.82	.82	.82	.78	.78	.78	.77
1.0	.86	.84	.82	.84	.82	.80	.81	.79	.78	.77	.76	.75	.74	.73	.72	.71
2.0	.80	.76	.73	.78	.75	.72	.75	.73	.70	.72	.70	.69	.70	.68	.67	.65
3.0	.74	.70	.67	.73	.69	.66	.71	.67	.65	.68	.66	.63	.66	.64	.62	.61
4.0	.70	.65	.62	.68	.64	.61	.66	.63	.60	.65	.62	.59	.63	.60	.58	.57
5.0	.65	.61	.57	.65	.60	.57	.63	.59	.56	.61	.58	.56	.60	.57	.55	.54
6.0	.62	.57	.54	.61	.57	.54	.60	.56	.53	.58	.55	.53	.57	.54	.52	.51
7.0	.59	.54	.51	.58	.54	.51	.57	.53	.50	.56	.52	.50	.55	.52	.49	.48
8.0	.56	.51	.48	.55	.51	.48	.54	.51	.48	.53	.50	.47	.52	.49	.47	.46
9.0	.53	.49	.46	.53	.49	.46	.52	.48	.46	.51	.48	.45	.50	.47	.45	.44
10.0	.51	.47	.44	.51	.47	.44	.50	.46	.44	.49	.46	.43	.49	.45	.43	.42



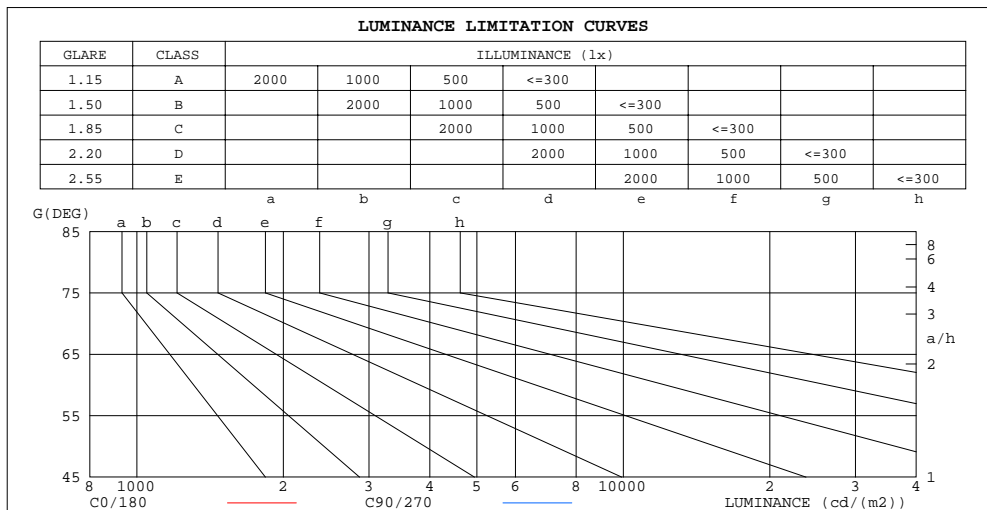
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: 杨克亮
Test Date: 2013-09-30

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B SYSTEM V1.0.139
Humidity: 65.0%
Test Distance: 6.900m [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
10	395.2	382.8	456.1	452.7	420.6	438.9	366.4	365.6	0- 10	43	43
20	158.7	134.6	253.3	254.5	210.2	230.8	120.4	121.4	10- 20	83	126
30	37.35	32.27	55.83	64.12	46.85	59.44	31.01	30.14	20- 30	44	170
40	21.55	20.37	23.39	22.56	23.69	25.12	19.95	19.68	30- 40	18	188
50	15.16	14.48	15.60	16.97	17.09	17.98	15.01	15.61	40- 50	14	203
60	12.06	9.392	10.49	12.66	13.86	14.33	8.658	9.184	50- 60	12	215
70	6.881	5.175	6.240	6.696	7.487	7.218	4.905	5.083	60- 70	8	224
80	2.712	2.005	3.305	3.469	3.281	3.662	2.071	2.100	70- 80	5	228
90	0.373	0.641	0.712	1.000	0.771	1.065	0.754	0.775	80- 90	2	230
100	0.552	0.585	0.592	0.656	0.575	0.679	0.825	0.719	90-100	1	231
110	0.692	0.523	0.737	0.581	0.741	0.835	0.932	0.900	100-110	1	231
120	1.046	0.897	0.699	0.732	0.967	0.953	1.146	0.957	110-120	1	232
130	1.132	1.376	1.139	1.044	1.138	1.114	1.316	1.419	120-130	1	233
140	1.432	1.594	1.379	1.619	1.579	1.563	1.523	1.788	130-140	1	234
150	1.946	1.868	1.794	1.781	2.038	1.912	1.945	2.150	140-150	1	235
160	2.124	1.999	1.958	1.975	2.038	2.011	2.128	2.063	150-160	1	236
170	1.806	1.955	2.040	2.069	1.848	1.924	2.027	1.963	160-170	1	237
180	1.879	1.924	2.210	2.006	1.861	2.030	1.851	2.069	170-180	0	237
DEG	LUMINOUS INTENSITY:cd									UNIT:lm	



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: 杨克亮
Test Date: 2013-09-30

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B SYSTEM V1.0.139
Humidity: 65.0%
Test Distance: 6.900m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:12.00V I:0.380A P:4.560W PF:1.000 Lamp Flux:300.0x1 lm									
NAME: MR16				TYPE:			WEIGHT:		
DIMENSION:				SPECIFICATION:			SERIAL No.:		
MANUFACTURER: mason				SURFACE:			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	.156	.089	.028	.150	.086	.027	.139	.080	.025	.129	.074	.024	.119	.069	.022	
2.0	.146	.080	.025	.141	.078	.024	.131	.073	.023	.122	.069	.021	.114	.064	.020	
3.0	.136	.072	.022	.131	.070	.021	.123	.067	.020	.115	.063	.019	.108	.060	.019	
4.0	.127	.066	.019	.123	.064	.019	.115	.061	.018	.109	.058	.018	.102	.056	.017	
5.0	.119	.060	.017	.115	.059	.017	.109	.057	.017	.103	.054	.016	.097	.052	.016	
6.0	.111	.056	.016	.108	.055	.016	.103	.053	.015	.097	.051	.015	.092	.049	.014	
7.0	.105	.052	.015	.102	.051	.015	.097	.049	.014	.092	.047	.014	.088	.046	.013	
8.0	.099	.048	.014	.097	.048	.013	.092	.046	.013	.088	.045	.013	.084	.043	.013	
9.0	.094	.045	.013	.092	.045	.013	.088	.043	.012	.084	.042	.012	.080	.041	.012	
10.0	.089	.043	.012	.087	.042	.012	.084	.041	.012	.080	.040	.011	.077	.039	.011	

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	.168	.168	.168	.144	.144	.144	.098	.098	.098	.056	.056	.056	.018	.018	.018		
1.0	.154	.142	.131	.132	.122	.113	.090	.084	.078	.052	.049	.045	.017	.016	.015		
2.0	.143	.123	.106	.122	.106	.091	.084	.073	.064	.048	.043	.037	.016	.014	.012		
3.0	.133	.108	.088	.114	.093	.076	.078	.065	.053	.045	.038	.032	.015	.012	.010		
4.0	.125	.097	.075	.107	.083	.065	.074	.058	.046	.043	.034	.027	.014	.011	.009		
5.0	.118	.087	.065	.101	.076	.057	.070	.053	.040	.040	.031	.024	.013	.010	.008		
6.0	.111	.080	.058	.096	.069	.050	.066	.049	.036	.038	.029	.021	.012	.009	.007		
7.0	.106	.074	.052	.091	.064	.045	.063	.045	.032	.037	.027	.019	.012	.009	.006		
8.0	.101	.069	.047	.087	.060	.041	.060	.042	.029	.035	.025	.017	.011	.008	.006		
9.0	.096	.065	.044	.083	.056	.038	.058	.040	.027	.034	.023	.016	.011	.008	.005		
10.0	.092	.061	.041	.080	.053	.035	.055	.037	.025	.032	.022	.015	.010	.007	.005		

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:杨克亮
Test Date:2013-09-30

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B SYSTEM V1.0.139
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:12.00V I:0.380A P:4.560W PF:1.000 Lamp Flux:300.0x1 lm												
NAME: MR16					TYPE:			WEIGHT:				
DIMENSION:					SPECIFICATION:			SERIAL No.:				
MANUFACTURER: mason					SURFACE:			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	3H	5.2	6.1	5.5	6.4	6.6	4.7	5.6	5.0	5.8	6.1	
	4H	5.7	6.6	6.1	6.8	7.1	5.3	6.1	5.6	6.4	6.7	
	6H	6.1	6.9	6.4	7.2	7.5	5.8	6.6	6.2	6.9	7.2	
	8H	6.2	6.9	6.5	7.2	7.6	6.1	6.8	6.4	7.1	7.4	
	12H	6.2	7.0	6.6	7.3	7.6	6.3	7.0	6.6	7.3	7.7	
	4H	2H	4.3	5.1	4.6	5.4	5.6	4.0	4.8	4.3	5.0	5.3
	3H	5.8	6.5	6.1	6.8	7.1	5.3	6.0	5.7	6.4	6.7	
	4H	6.4	7.0	6.8	7.4	7.7	6.0	6.6	6.4	7.0	7.4	
	6H	6.8	7.4	7.2	7.8	8.2	6.7	7.2	7.1	7.6	8.0	
	8H	7.0	7.5	7.4	7.9	8.3	6.9	7.5	7.4	7.9	8.3	
	12H	7.1	7.5	7.5	8.0	8.4	7.2	7.7	7.7	8.2	8.6	
	8H	4H	6.5	7.0	6.9	7.4	7.8	6.1	6.7	6.6	7.1	7.5
	6H	7.0	7.5	7.5	7.9	8.4	6.9	7.4	7.4	7.8	8.3	
	8H	7.2	7.6	7.7	8.1	8.6	7.3	7.7	7.8	8.2	8.7	
	12H	7.4	7.7	7.9	8.2	8.8	7.7	8.0	8.2	8.5	9.0	
	12H	4H	6.5	7.0	6.9	7.4	7.8	6.1	6.6	6.6	7.0	7.5
	6H	7.0	7.4	7.5	7.9	8.4	6.9	7.3	7.4	7.8	8.3	
	8H	7.3	7.6	7.8	8.1	8.6	7.3	7.7	7.8	8.2	8.7	
Variations with the observer position at spacings:												
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2						
1.5H	+ 0.1 / - 0.2					+ 0.1 / - 0.2						
2.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.4						

CIE Pub.117 Corrected 300.0 lm Total Lamp Luminous Flux.(8log(F/F0) = -4.2)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:杨克亮
Test Date:2013-09-30

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B SYSTEM V1.0.139
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:12.00V I:0.380A P:4.560W PF:1.000 Lamp Flux:300.0x1 lm		
NAME: MR16	TYPE:	WEIGHT:
DIMENSION:	SPECIFICATION:	SERIAL No.:
MANUFACTURER: mason	SURFACE:	PROTECTION ANGLE:

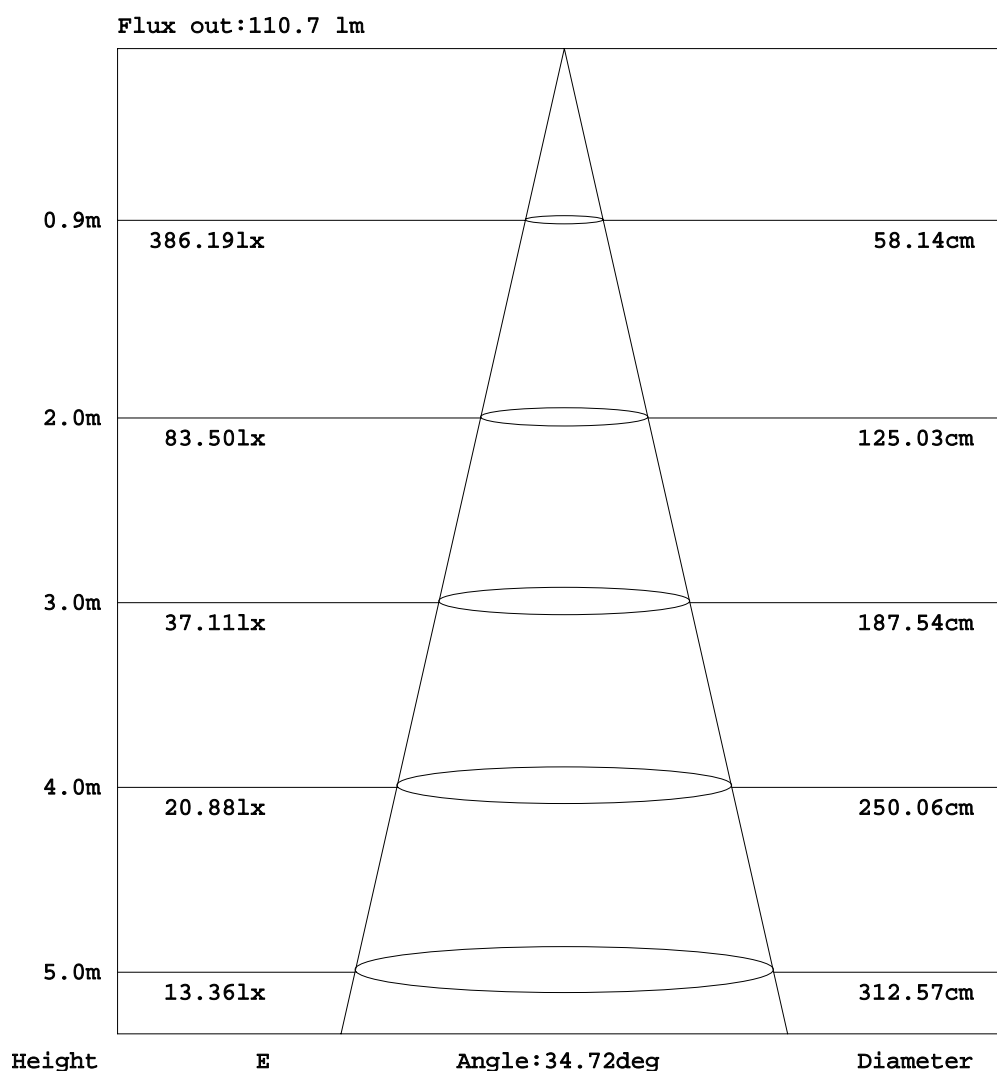
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	65	58	54	64	58	54	62	57	53	49
0.80	71	65	61	70	64	60	68	63	59	55
1.00	75	70	65	74	69	65	71	67	64	59
1.25	79	74	70	77	73	69	75	71	68	62
1.50	81	77	73	80	75	72	77	73	71	65
2.00	84	80	77	82	79	76	79	76	74	67
2.50	86	82	79	84	81	78	80	78	76	69
3.00	87	84	81	85	82	80	81	79	77	70
4.00	89	86	84	87	85	83	83	81	80	72
5.00	90	88	86	88	86	85	84	82	81	73
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Ceiling Mounted					SHRNM = 1.25		

C Range: 0 - 360DEG
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Test Speed: HIGH
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γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B SYSTEM V1.0.139
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:

AAI Figure

Test:U:12.00V I:0.380A P:4.560W PF:1.000 Lamp Flux:300.0x1 lm		
NAME: MR16	TYPE:	WEIGHT:
DIMENSION:	SPECIFICATION:	SERIAL No.:
MANUFACTURER: mason	SURFACE:	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:25.3DEG
Operators:杨克亮
Test Date:2013-09-30

γ Range: 0 - 180DEG
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Test System:EVERFINE GO-2000B SYSTEM V1.0.139
Humidity:65.0%
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LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:12.00V I:0.380A P:4.560W PF:1.000 Lamp Flux:300.0x1 lm									
NAME: MR16					TYPE:			WEIGHT:	
DIMENSION:					SPECIFICATION:			SERIAL No.:	
MANUFACTURER: mason					SURFACE:			PROTECTION ANGLE:	

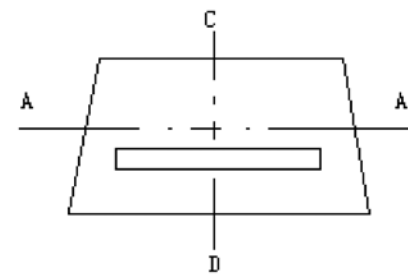
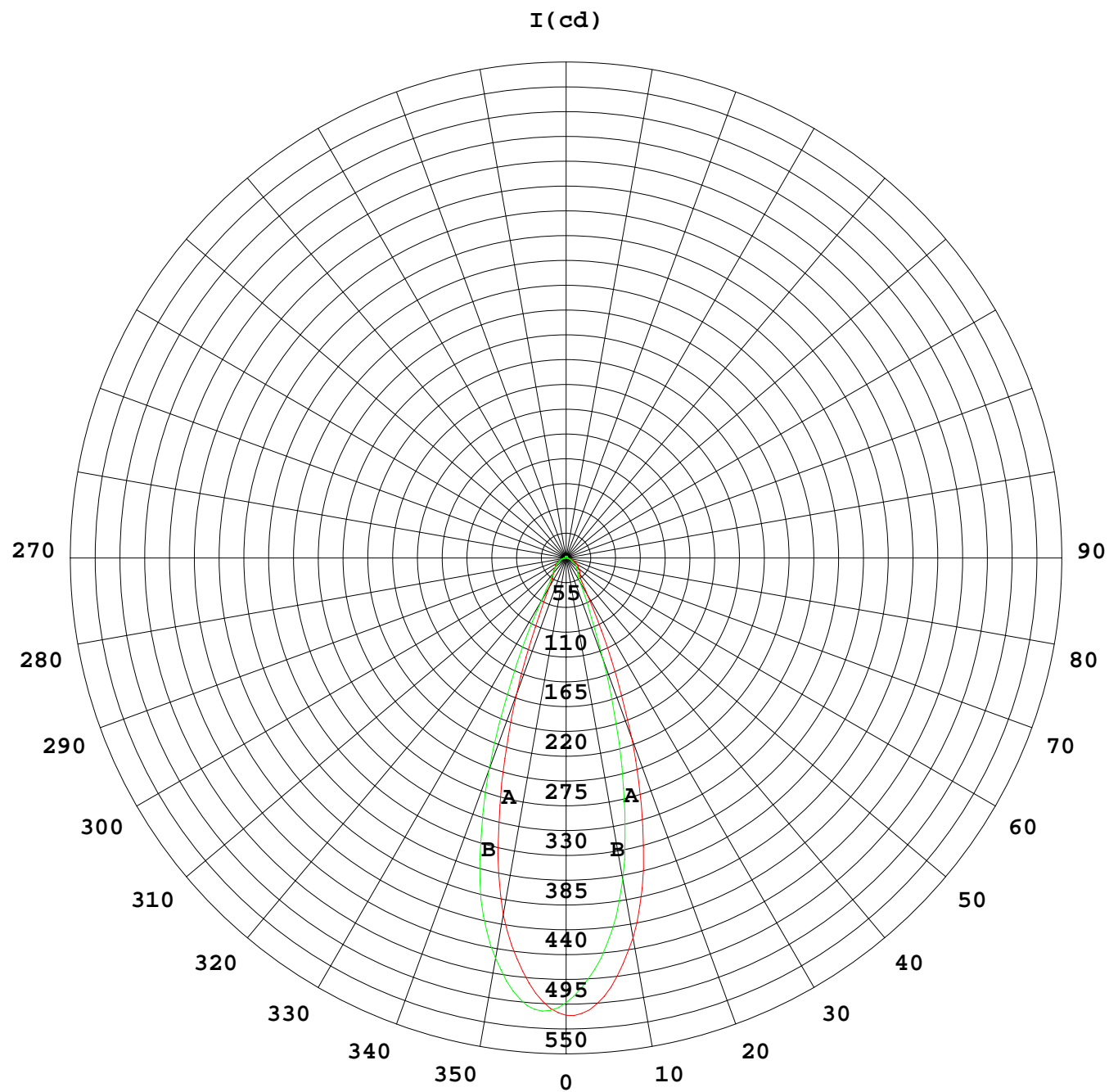
Table--1

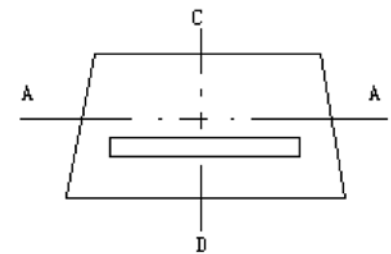
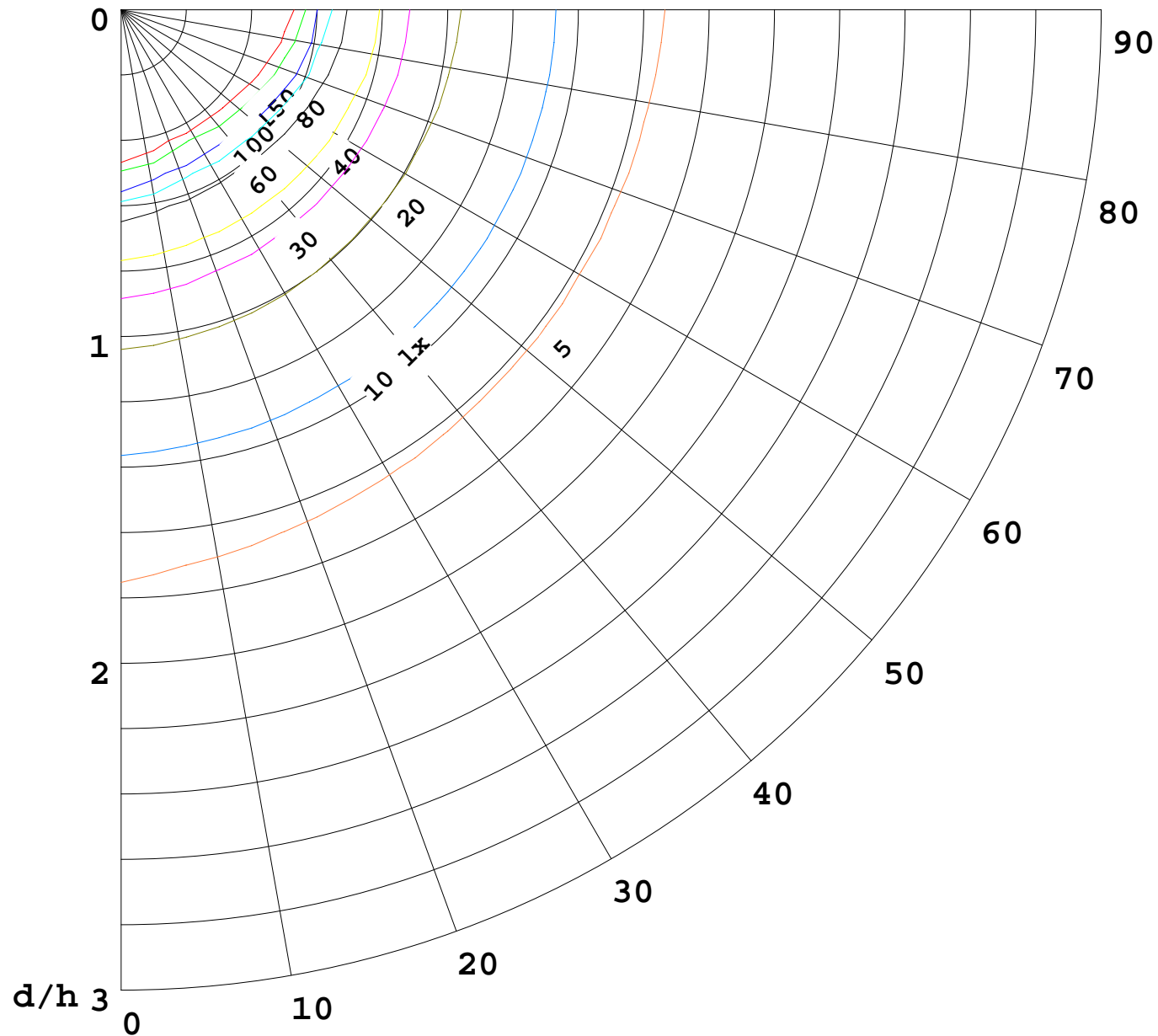
UNIT: cd

C(DEG) γ (DEG)	0	45	90	135	180	225	270	315										
0	499	499	499	499	499	499	499	499										
5	466	458	504	497	480	493	451	450										
10	395	383	456	453	421	439	366	366										
15	279	266	374	372	326	355	242	242										
20	159	135	253	255	210	231	120	121										
25	69.7	57.4	131	136	105	123	57.0	52.4										
30	37.3	32.2	55.8	64.1	46.8	59.4	31.0	30.1										
35	25.6	24.6	31.0	35.3	28.1	33.4	23.2	24.0										
40	21.5	20.3	23.3	22.5	23.6	25.1	19.9	19.6										
45	18.6	16.8	18.8	19.0	21.4	20.8	17.1	17.0										
50	15.1	14.4	15.6	16.9	17.0	17.9	15.0	15.6										
55	13.9	12.5	13.0	15.0	16.2	16.9	12.5	13.2										
60	12.0	9.39	10.4	12.6	13.8	14.3	8.65	9.18										
65	9.45	6.91	8.07	9.11	10.5	9.95	6.41	6.77										
70	6.88	5.17	6.24	6.69	7.48	7.21	4.90	5.08										
75	4.45	3.63	4.46	5.12	5.18	5.45	3.32	3.60										
80	2.71	2.00	3.30	3.46	3.28	3.66	2.07	2.10										
85	1.18	0.91	1.92	1.96	1.70	2.09	1.25	1.01										
90	0.37	0.64	0.71	1.00	0.77	1.06	0.75	0.78										
95	0.59	0.55	0.54	0.36	0.63	0.58	0.65	0.85										
100	0.55	0.59	0.59	0.66	0.58	0.68	0.82	0.72										
105	0.53	0.62	0.64	0.79	0.79	0.68	0.83	0.68										
110	0.69	0.52	0.74	0.58	0.74	0.83	0.93	0.90										
115	0.63	0.75	0.48	0.81	0.91	0.91	0.97	0.91										
120	1.04	0.90	0.70	0.73	0.97	0.95	1.14	0.96										
125	0.95	1.04	1.06	1.00	1.19	1.06	1.18	1.33										
130	1.13	1.37	1.13	1.04	1.13	1.11	1.31	1.41										
135	1.54	1.62	1.36	1.15	1.49	1.27	1.63	1.56										
140	1.43	1.59	1.37	1.61	1.57	1.56	1.52	1.78										
145	1.50	1.61	1.53	1.59	1.79	1.58	1.87	1.72										
150	1.94	1.86	1.79	1.78	2.03	1.91	1.94	2.15										
155	2.09	1.88	1.95	1.88	2.17	2.15	2.19	2.09										
160	2.12	1.99	1.95	1.97	2.03	2.01	2.12	2.06										
165	2.01	1.88	2.18	2.11	1.94	1.90	2.14	1.98										
170	1.80	1.95	2.04	2.06	1.84	1.92	2.02	1.96										
175	1.87	2.12	1.97	1.94	2.13	2.01	1.96	1.84										
180	1.87	1.92	2.21	2.00	1.86	2.03	1.85	2.06										

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:杨克亮
Test Date:2013-09-30

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B SYSTEM V1.0.139
Humidity:65.0%
Test Distance:6.900m [K=1.0000]
Remarks:



$$K = 1$$


F = 1000 lm
 K = 0.7
 Hcc = 0.8 m
 Hfc = 0.0 m
 Eave = 100 lx

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

