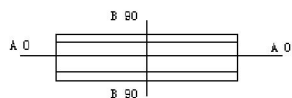
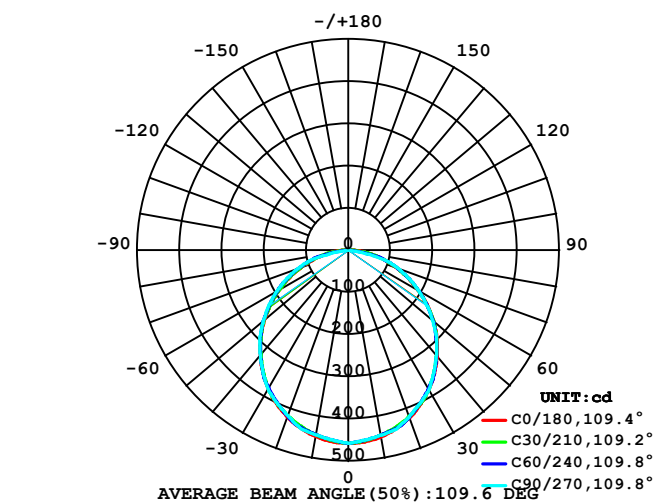


LUMINAIRE PHOTOMETRIC TEST REPORT

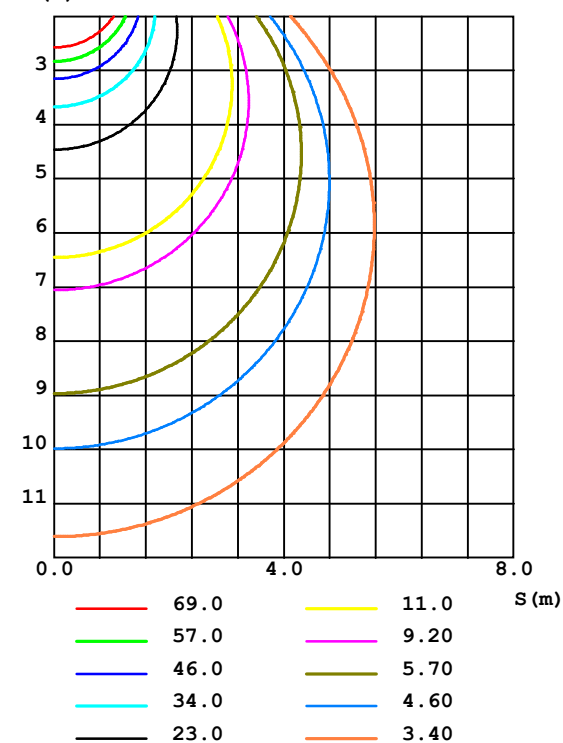
Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm		
NAME: LED-S0303S2-020W-CW	TYPE:Cool White	WEIGHT:
DIM.: 300*300	SPEC.:14W	SERIAL No.:N001
MFR.: LED Lighting	SUR.:0.256*0.256	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 63.72 lm/W
MODEL	LED	I _{max} (cd)	458.2	S/MH (C0/180)	1.24	
NOMINAL POWER(W)	20	LOR (%)	100.0	S/MH (C90/270)	1.24	
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	1255.3	η UP,DN (C0-180)	0.0, 50.0	
NOMINAL FLUX(lm)	1255.28	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0, 50.0	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	220.1	η 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:25.3DEG
Operators:Wenjie Chen
Test Date:2012-07-02

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:



ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	456.3	452.9	452.2	452.6	455.8	452.2	451.5	452.5	0- 5	10.88	10.88	0.87,0.87
10	449.8	445.5	446.1	445.0	448.8	444.0	444.8	444.6	5- 10	32.13	43.01	3.43,3.43
15	439.1	435.8	440.0	435.2	437.4	433.8	438.0	434.5	10- 15	52.29	95.30	7.59,7.59
20	424.1	424.2	421.0	423.7	422.0	421.7	419.1	422.6	15- 20	70.64	165.9	13.2,13.2
25	405.1	403.1	402.0	402.4	402.6	400.5	400.2	401.6	20- 25	86.19	252.1	20.1,20.1
30	382.7	379.4	383.0	378.4	379.8	376.6	381.2	378.1	25- 30	98.79	350.9	28,28
35	357.1	354.8	354.2	353.5	353.8	351.8	353.2	353.7	30- 35	108.0	458.9	36.6,36.6
40	328.7	328.4	325.4	326.8	325.0	325.3	325.1	327.6	35- 40	113.3	572.2	45.6,45.6
45	298.1	295.4	296.7	294.1	294.1	293.1	297.1	295.2	40- 45	114.8	687.0	54.7,54.7
50	265.2	262.6	262.0	261.5	259.8	261.1	263.3	263.0	45- 50	112.6	799.7	63.7,63.7
55	230.0	230.0	227.4	229.2	224.3	229.3	229.5	230.9	50- 55	106.5	906.2	72.2,72.2
60	192.3	192.9	192.7	191.4	188.2	192.1	195.7	194.6	55- 60	97.01	1003	79.9,79.9
65	156.1	156.4	157.9	154.6	151.9	155.9	160.7	158.9	60- 65	84.67	1088	86.7,86.7
70	120.3	120.9	123.1	119.1	116.1	120.7	125.6	123.7	65- 70	70.21	1158	92.3,92.3
75	85.92	86.32	88.29	84.87	81.37	86.30	90.52	89.04	70- 75	54.21	1212	96.6,96.6
80	53.46	45.96	0	45.03	49.28	46.05	0	48.08	75- 80	33.13	1245	99.2,99.2
85	16.71	0	0	0	9.928	0	0	0	80- 85	9.064	1254	99.9,99.9
90	4.984	0	0	0	3.780	0	0	0	85- 90	0.7958	1255	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									UNIT:lm		

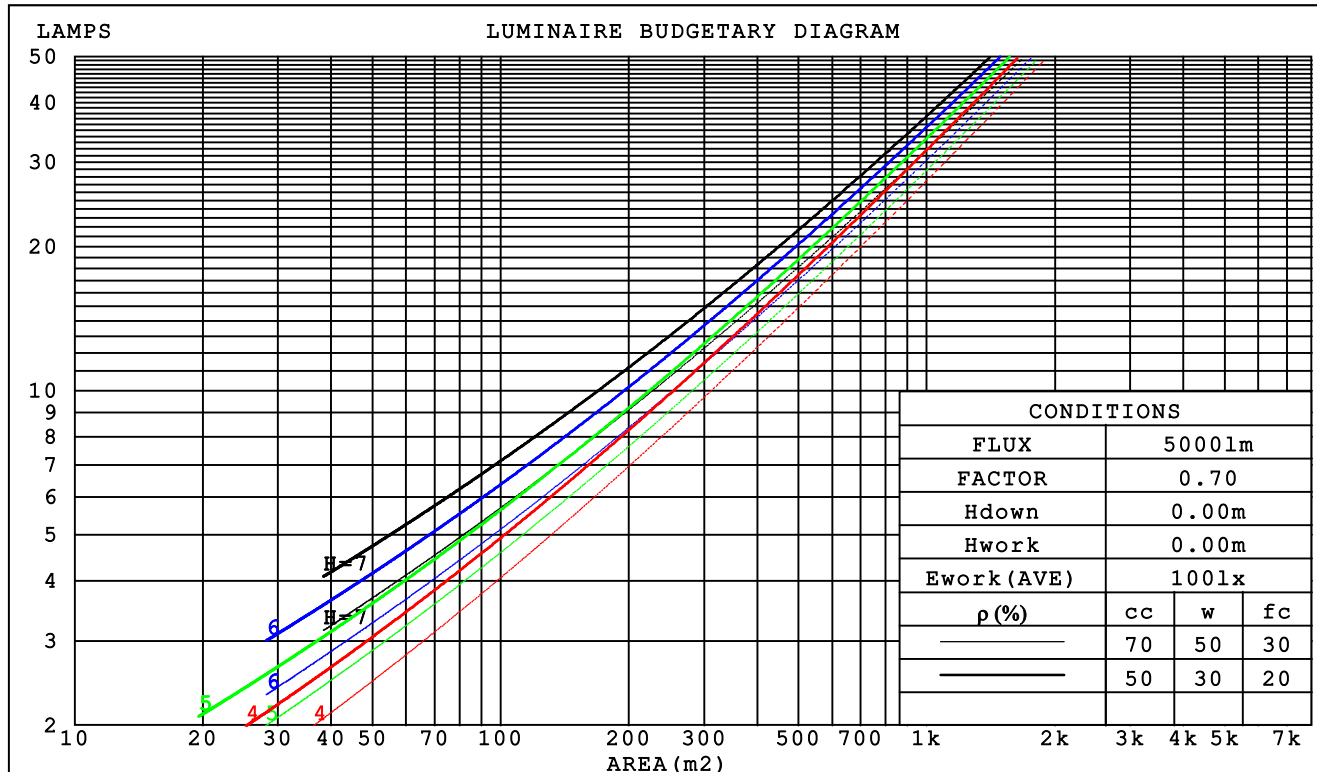
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Wenjie Chen
Test Date:2012-07-02

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm		
NAME: LED-S0303S2-020W-CW	TYPE:Cool White	WEIGHT:
DIM.: 300*300	SPEC.:14W	SERIAL No.:N001
MFR.: LED Lighting	SUR.:0.256*0.256	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	1.05	1.00	.97	1.02	.98	.95	.98	.95	.92	.94	.92	.89	.91	.88	.87	.85
2.0	.91	.84	.79	.89	.83	.78	.86	.80	.76	.82	.78	.74	.79	.76	.73	.70
3.0	.80	.72	.65	.78	.71	.65	.75	.69	.64	.73	.67	.63	.70	.66	.62	.59
4.0	.71	.62	.55	.70	.61	.55	.67	.60	.54	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.54	.48	.62	.54	.47	.60	.53	.47	.58	.52	.46	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.41	.54	.47	.41	.53	.46	.41	.51	.45	.40	.38
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.36	.48	.41	.36	.47	.40	.36	.34
8.0	.47	.39	.33	.46	.38	.33	.45	.38	.33	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.29	.42	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.27	.38	.31	.26	.37	.31	.26	.25



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Wenjia Chen
Test Date:2012-07-02

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:



WEC AND CCEC

Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm					
NAME: LED-S0303S2-020W-CW			TYPE:Cool White		WEIGHT:
DIM.: 300*300			SPEC.:14W		SERIAL No.:N001
MFR.: LED Lighting			SUR.:0.256*0.256		PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.298	.169	.054	.291	.166	.053	.278	.159	.051	.265	.153	.049	.254	.147	.048		
2.0	.285	.156	.048	.279	.154	.047	.267	.149	.046	.257	.144	.045	.247	.140	.044		
3.0	.266	.141	.042	.260	.139	.042	.250	.135	.041	.240	.132	.040	.232	.128	.040		
4.0	.246	.128	.038	.241	.126	.037	.232	.123	.037	.224	.120	.036	.216	.117	.036		
5.0	.228	.116	.034	.224	.115	.033	.216	.112	.033	.208	.110	.033	.201	.107	.032		
6.0	.212	.106	.030	.208	.105	.030	.201	.103	.030	.194	.101	.030	.188	.099	.029		
7.0	.197	.098	.028	.194	.097	.028	.188	.095	.027	.181	.093	.027	.176	.091	.027		
8.0	.185	.090	.025	.181	.089	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025		
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.156	.079	.023		
10.0	.163	.078	.022	.160	.077	.022	.156	.076	.021	.151	.075	.021	.147	.074	.021		

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	.179	.156	.135	.154	.134	.116	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.085	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.164	.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	.149	.090	.048	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Wenjie Chen
Test Date:2012-07-02

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:



Uncorrected UGR Table

Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm											
NAME: LED-S0303S2-020W-CW					TYPE:Cool White			WEIGHT:			
DIM.: 300*300					SPEC.:14W			SERIAL No.:N001			
MFR.: LED Lighting					SUR.:0.256*0.256			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	19.1	20.7	19.4	20.9	21.1	19.2	20.7	19.4	20.9	21.1	
	3H	20.6	22.0	20.9	22.3	22.5	20.7	22.1	21.0	22.4	22.6
	4H	21.3	22.6	21.6	22.8	23.1	21.4	22.7	21.7	22.9	23.2
	6H	21.7	23.0	22.0	23.2	23.5	21.4	22.7	21.8	23.0	23.2
	8H	21.8	23.0	22.2	23.3	23.6	21.4	22.6	21.7	22.9	23.2
12H	21.9	23.0	22.2	23.3	23.6	21.3	22.5	21.7	22.8	23.1	
4H	2H	19.8	21.1	20.1	21.3	21.6	19.8	21.1	20.1	21.4	21.6
	3H	21.4	22.6	21.8	22.9	23.2	21.5	22.7	21.9	23.0	23.3
	4H	22.2	23.2	22.6	23.6	23.9	22.3	23.4	22.7	23.7	24.0
	6H	22.8	23.7	23.2	24.1	24.4	22.4	23.4	22.8	23.7	24.1
	8H	23.0	23.8	23.4	24.2	24.6	22.4	23.2	22.8	23.6	24.0
12H	23.0	23.8	23.5	24.2	24.6	22.3	23.1	22.8	23.5	23.9	
8H	4H	22.5	23.3	22.9	23.7	24.1	22.6	23.4	23.0	23.8	24.2
	6H	23.2	23.9	23.7	24.3	24.8	22.7	23.5	23.2	23.9	24.3
	8H	23.5	24.1	23.9	24.5	25.0	22.7	23.3	23.2	23.8	24.2
	12H	23.6	24.2	24.1	24.6	25.1	22.7	23.2	23.1	23.7	24.1
	12H	4H	22.5	23.3	22.9	23.6	24.0	22.6	23.4	23.0	23.8
6H	23.2	23.8	23.7	24.3	24.7	22.8	23.4	23.2	23.8	24.3	
8H	23.5	24.0	24.0	24.5	25.0	22.7	23.3	23.2	23.7	24.2	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.3					
1.5H	+ 0.2 / - 0.3					+ 0.1 / - 0.2					
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.4					

CIE Pub.117 Corrected 1255 lm Total Lamp Luminous Flux. (8log(F/F0) = 0.8)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Wenjie Chen
Test Date:2012-07-02

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:



UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm		
NAME: LED-S0303S2-020W-CW	TYPE:Cool White	WEIGHT:
DIM.: 300*300	SPEC.:14W	SERIAL No.:N001
MFR.: LED Lighting	SUR.:0.256*0.256	PROTECTION ANGLE:

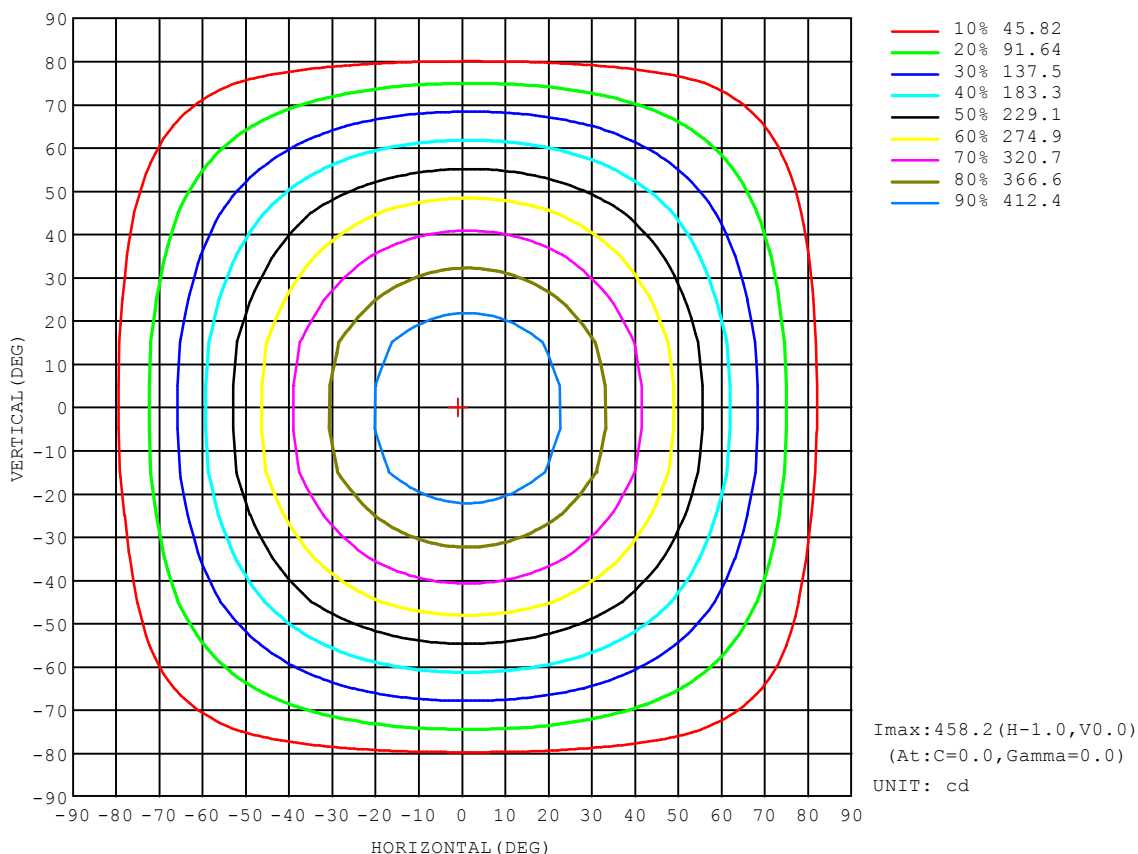
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	47	40	57	46	40	56	46	39	33
0.80	68	57	49	67	56	49	65	55	49	42
1.00	77	66	58	75	65	58	73	66	58	51
1.25	84	73	66	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	76	71	63
2.00	96	87	81	94	86	80	90	84	79	71
2.50	99	92	86	97	90	85	94	88	83	75
3.00	103	96	91	101	95	90	97	92	88	79
4.00	107	101	97	104	100	95	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: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Wenjie Chen
 Test Date:2012-07-02

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm		
NAME: LED-S0303S2-020W-CW	TYPE:Cool White	WEIGHT:
DIM.: 300*300	SPEC.:14W	SERIAL No.:N001
MFR.: LED Lighting	SUR.:0.256*0.256	PROTECTION ANGLE:

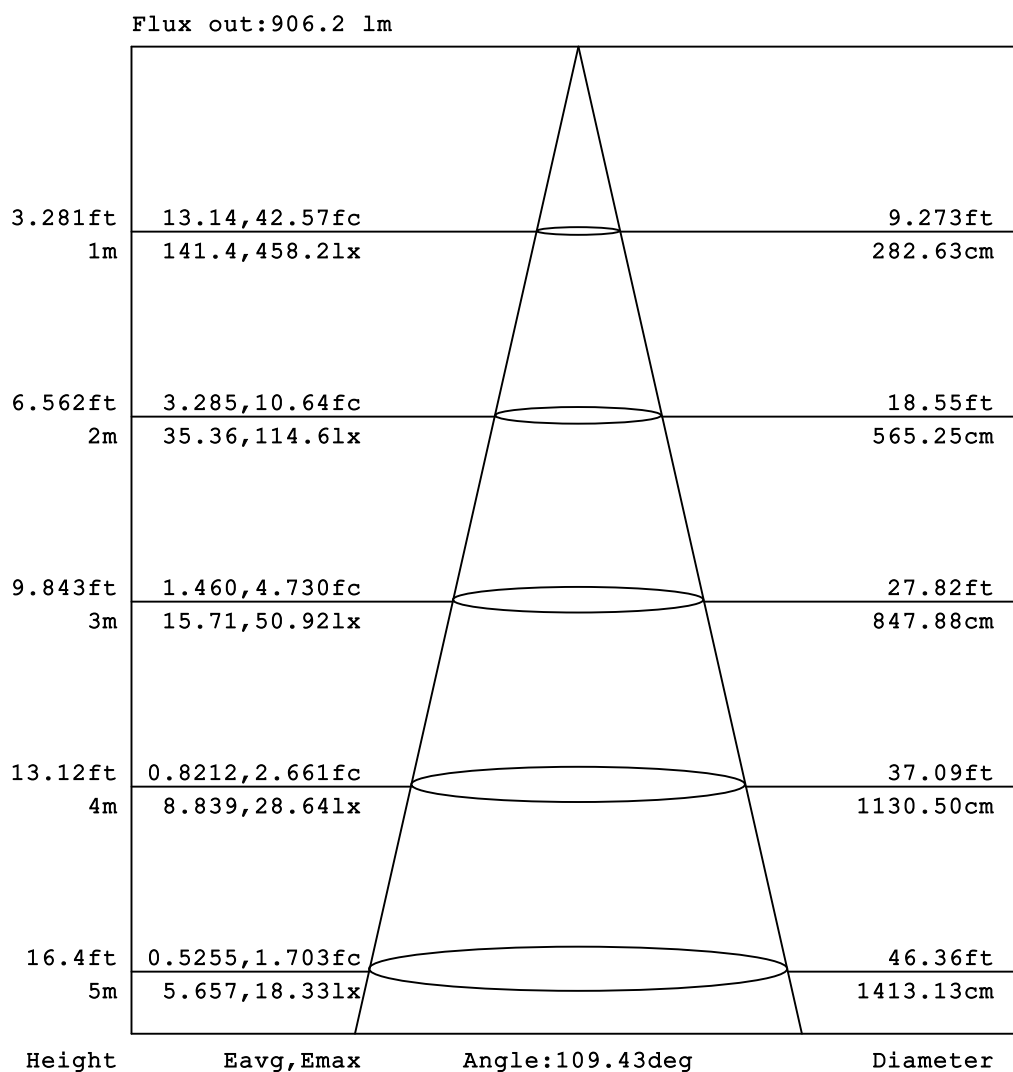


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Wenjie Chen
 Test Date:2012-07-02

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

AAI Figure

Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm		
NAME: LED-S0303S2-020W-CW	TYPE:Cool White	WEIGHT:
DIM.: 300*300	SPEC.:14W	SERIAL No.:N001
MFR.: LED Lighting	SUR.:0.256*0.256	PROTECTION ANGLE:



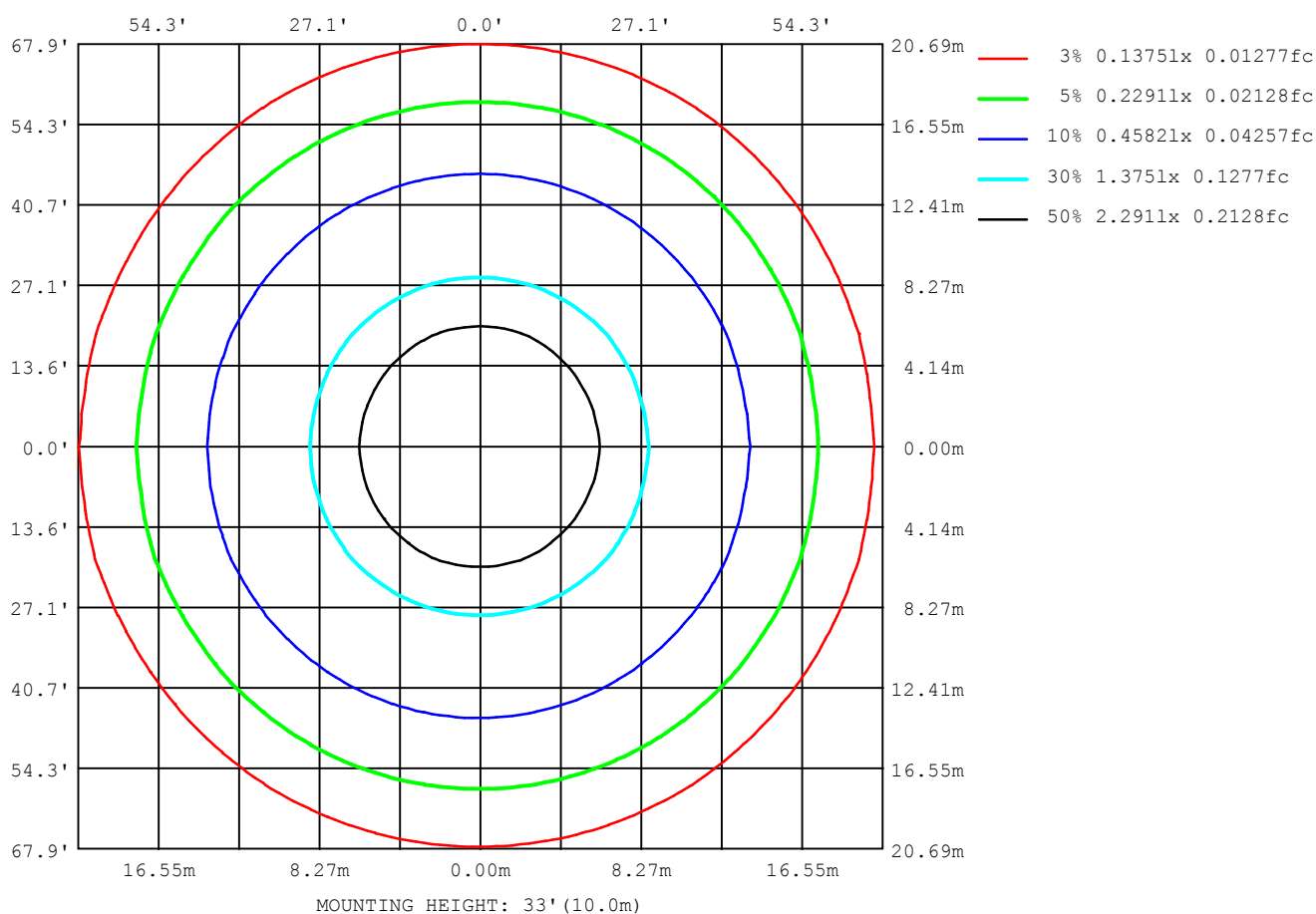
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Wenjia Chen
Test Date:2012-07-02

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

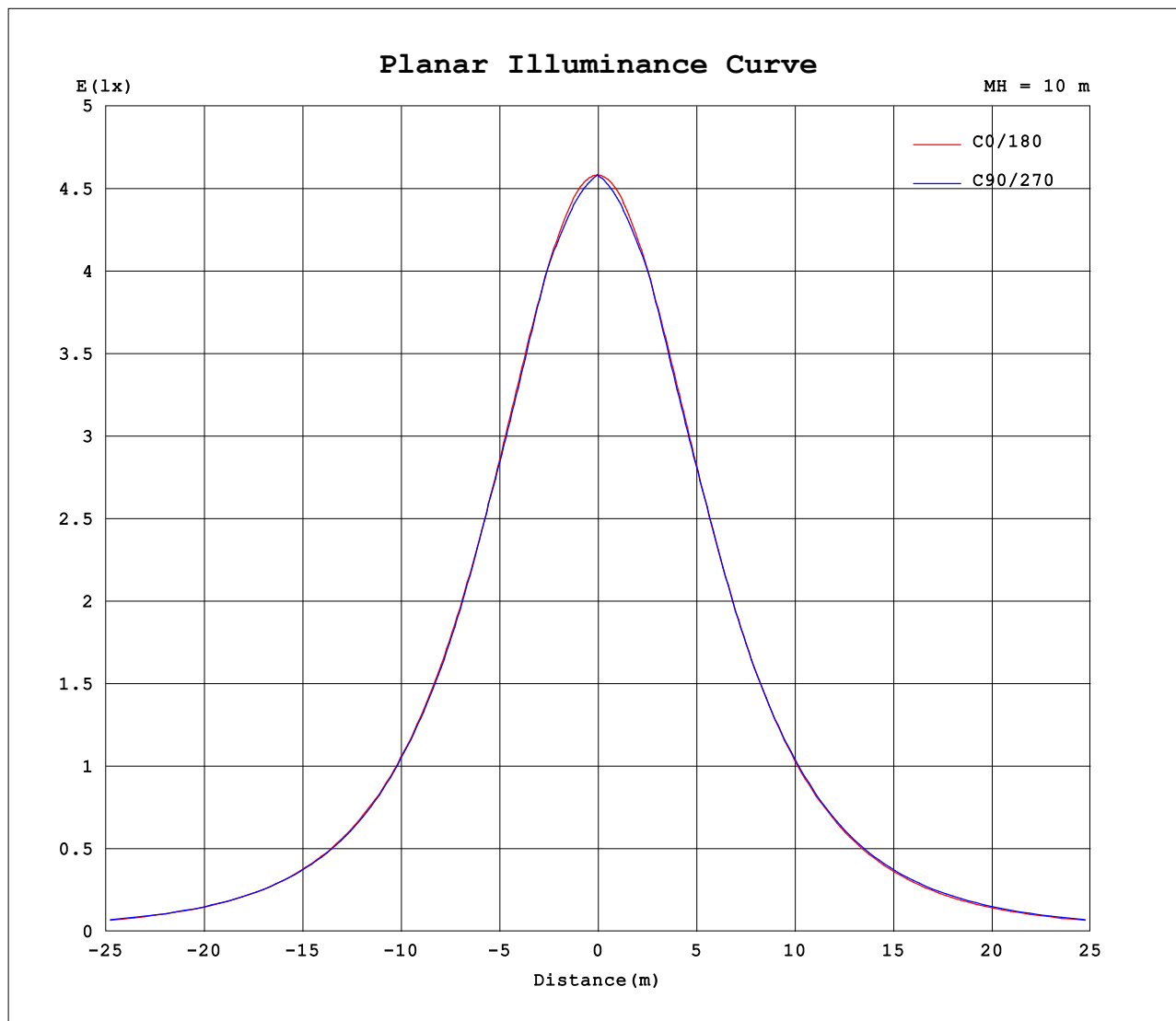
Test:U:220.0V I:0.0960A P:19.70W PF:0.9340 Lamp Flux:1255.28x1 lm		
NAME: LED-S0303S2-020W-CW	TYPE:Cool White	WEIGHT:
DIM.: 300*300	SPEC.:14W	SERIAL No.:N001
MFR.: LED Lighting	SUR.:0.256*0.256	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Wenjie Chen
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γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Wenjie Chen
 Test Date: 2012-07-02

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.750m [K=1.0000]
 Remarks:

