

LED Downlight FUSION Series FS3-7W-930-15D



Light Output Ratio:	100.0%	
Luminaire Power:	7.994 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

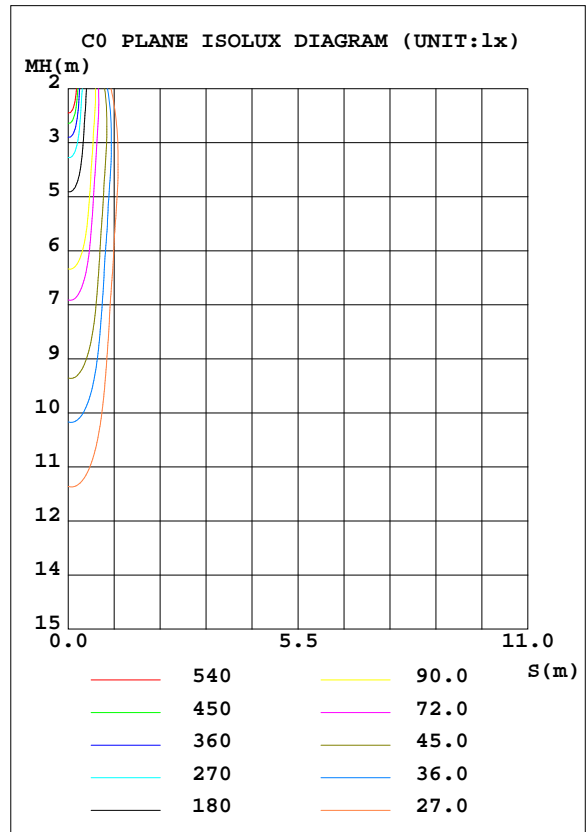
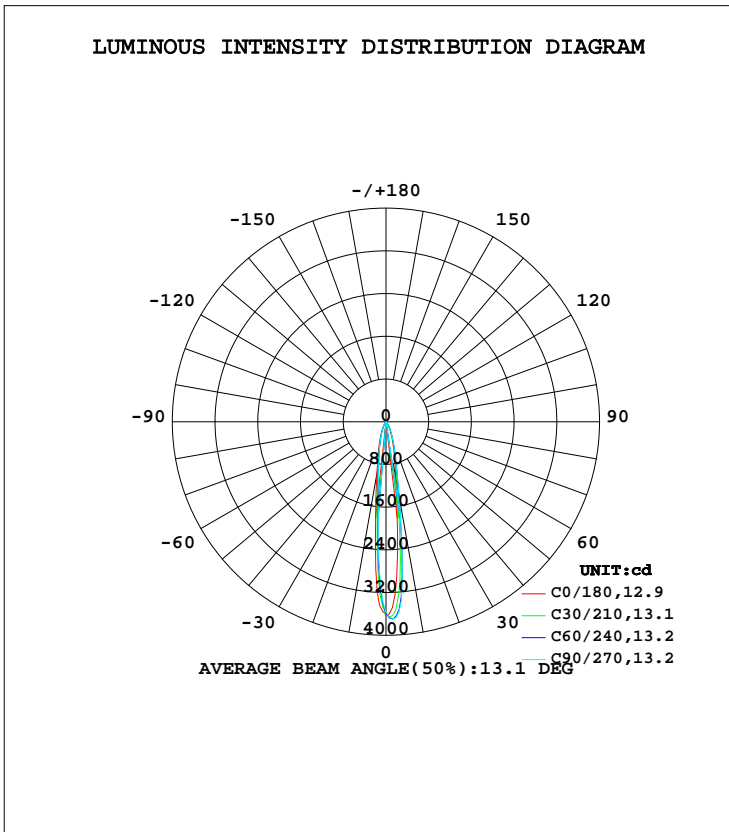
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Meng Yongjian
Test Date: 2017-05-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity: 52%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.7V I:0.0446A P:7.994W PF:0.8121 Freq:50.00Hz Lamp Flux:522.55x1 lm		
NAME: FS3-7W-930-15D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L152mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	OSRAM-3000K	Imax(cd)	3699	S/MH(C0/180)	0.22
NOMINAL POWER(W)	9.0	LOR(%)	100.0	S/MH(C90/270)	0.17
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	522.55	η UP, DN(C0-180)	0.0,57.0
NOMINAL FLUX(lm)	522.55	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,43.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
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 Humidity:52%
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 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1061	1397	1404	1099	970.7	813.8	794.2	952.6	0- 10	186.3	186.3	35.7,35.7
20	345.3	390.6	397.2	332.8	314.7	265.5	265.6	311.5	10- 20	160.7	347.0	66.4,66.4
30	106.3	126.7	124.9	100.8	94.67	78.42	77.06	92.94	20- 30	87.08	434.1	83.1,83.1
40	37.25	41.04	42.78	37.85	37.05	32.83	32.35	34.54	30- 40	36.39	470.5	90,90
50	20.77	23.92	24.76	21.22	20.68	18.68	18.24	19.45	40- 50	22.08	492.6	94.3,94.3
60	13.61	14.43	14.57	13.70	13.48	12.42	12.18	12.95	50- 60	14.79	507.3	97.1,97.1
70	7.288	8.346	8.519	7.629	7.242	6.093	5.798	6.774	60- 70	10.26	517.6	99.1,99.1
80	1.811	2.119	2.148	1.784	1.683	1.373	1.312	1.635	70- 80	4.099	521.7	99.8,99.8
90	0.0415	0.1465	0.2012	0.0394	0.0372	0.0306	0.0284	0.0284	80- 90	0.8410	522.5	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 482.47 lm

%lum = 92.3%

%lamp = 92.3%

Conical surface Flux(120deg): 507.35 lm

%lum = 97.1%

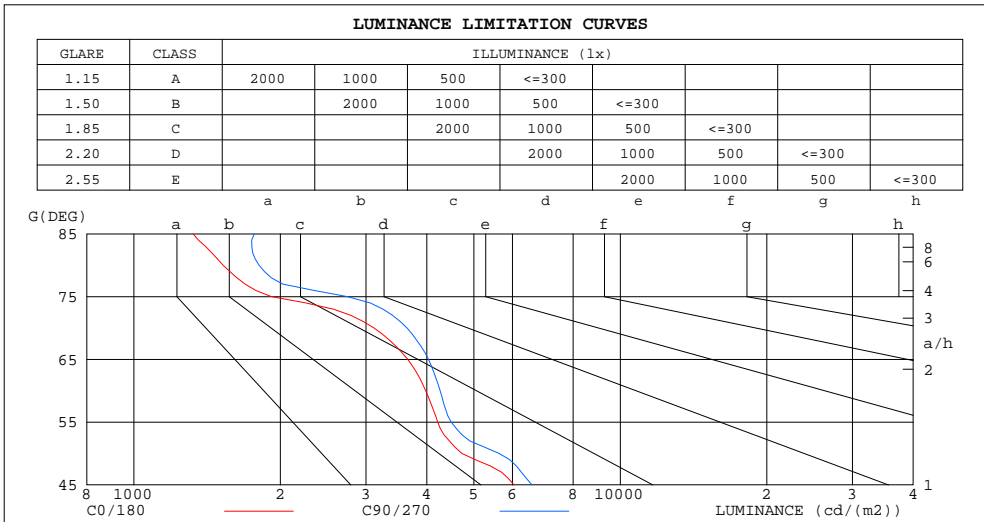
%lamp = 97.1%

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Operators:Meng Yongjian
Test Date:2017-05-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity:52%
Test Distance:5.850m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.7V I:0.0446A P:7.994W PF:0.8121 Freq:50.00Hz Lamp Flux:522.55x1 lm		
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SPEC.:3000K	DIM.: L152mm*W45mm*H60mm	
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1324	1768
80	1525	1808
75	1915	2744
70	3115	3641
65	3656	4033
60	3981	4260
55	4212	4491
50	4725	5631
45	6046	6582

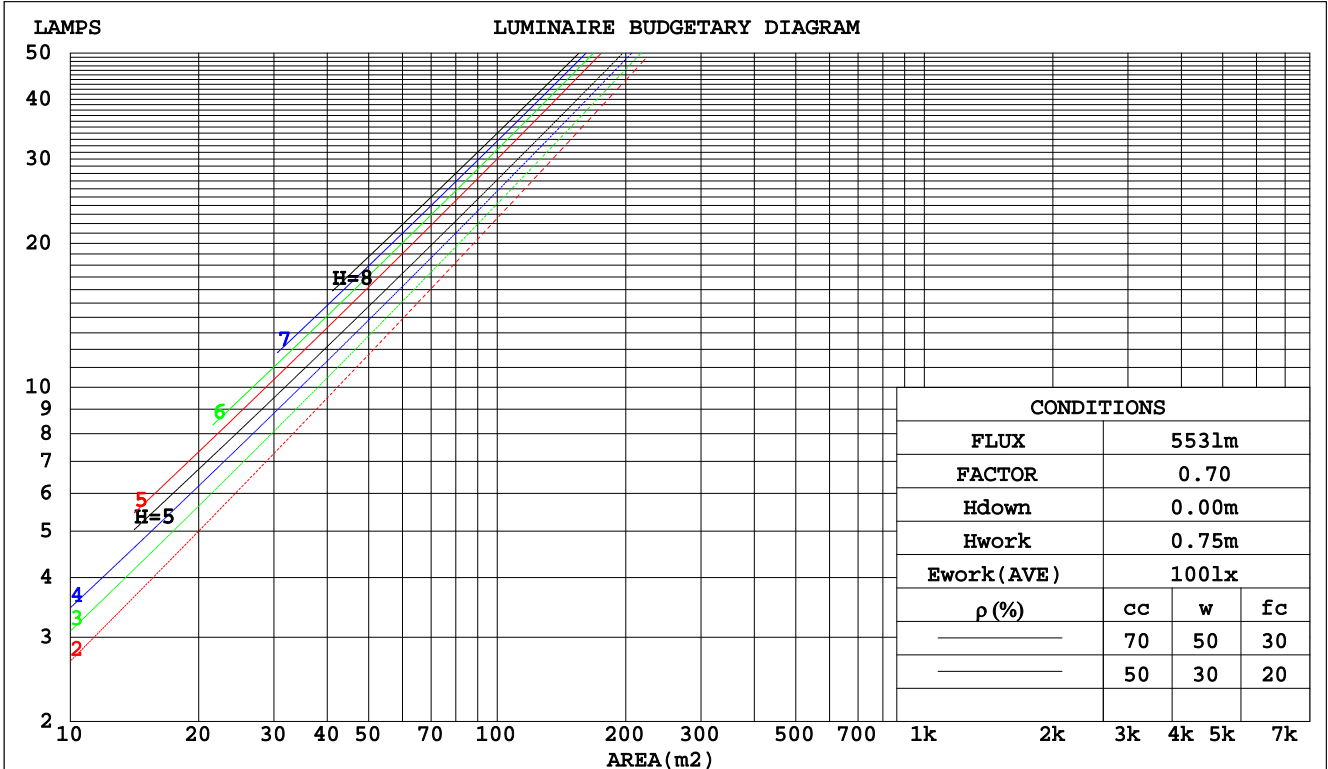
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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	1.12	1.09	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.98	.98	.97	.95
2.0	1.05	1.02	.99	1.04	1.00	.98	1.00	.98	.96	.97	.95	.94	.95	.93	.92	.90
3.0	.00	.95	.92	.98	.94	.91	.96	.93	.90	.93	.91	.89	.91	.89	.87	.86
4.0	.95	.90	.87	.94	.90	.86	.92	.88	.85	.90	.87	.84	.88	.86	.83	.82
5.0	.91	.86	.82	.90	.85	.82	.88	.84	.81	.87	.83	.81	.85	.82	.80	.79
6.0	.87	.82	.79	.86	.82	.78	.85	.81	.78	.84	.80	.77	.82	.79	.77	.76
7.0	.84	.79	.76	.83	.79	.75	.82	.78	.75	.81	.77	.75	.80	.77	.74	.73
8.0	.81	.76	.73	.80	.76	.73	.79	.75	.72	.78	.75	.72	.78	.74	.72	.71
9.0	.78	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.70	.75	.72	.70	.69
10.0	.76	.71	.68	.75	.71	.68	.75	.71	.68	.74	.70	.68	.73	.70	.68	.67



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WEC AND CCEC

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ρcc	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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.159	.091	.029	.153	.087	.028	.140	.080	.026	.129	.074	.024	.118	.069	.022	
2.0	.149	.082	.025	.144	.079	.024	.133	.074	.023	.124	.069	.022	.115	.065	.021	
3.0	.140	.074	.022	.135	.072	.022	.126	.068	.021	.118	.065	.020	.110	.061	.019	
4.0	.130	.068	.020	.126	.066	.020	.119	.063	.019	.112	.060	.018	.106	.057	.017	
5.0	.122	.062	.018	.119	.061	.018	.113	.059	.017	.107	.056	.017	.101	.054	.016	
6.0	.115	.058	.017	.112	.057	.016	.107	.055	.016	.102	.053	.016	.097	.051	.015	
7.0	.109	.054	.015	.106	.053	.015	.101	.051	.015	.097	.050	.014	.093	.048	.014	
8.0	.103	.050	.014	.101	.050	.014	.097	.048	.014	.093	.047	.014	.089	.046	.013	
9.0	.098	.047	.013	.096	.047	.013	.092	.046	.013	.089	.044	.013	.085	.043	.013	
10.0	.093	.045	.012	.092	.044	.012	.088	.043	.012	.085	.042	.012	.082	.041	.012	

ρcc	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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.170	.157	.146	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.080	.082	.068	.056	.047	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.109	.085	.066	.075	.059	.046	.044	.035	.028	.014	.011	.009	
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.037	.027	.020	.012	.009	.006	
7.0	.101	.069	.045	.087	.059	.040	.060	.042	.028	.035	.025	.017	.011	.008	.006	
8.0	.095	.062	.039	.082	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.089	.056	.034	.077	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.084	.052	.030	.072	.045	.026	.050	.032	.019	.029	.019	.011	.010	.006	.004	

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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
 Humidity:52%
 Test Distance:5.850m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.7V I:0.0446A P:7.994W PF:0.8121 Freq:50.00Hz Lamp Flux:522.55x1 lm		
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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	15.4	16.2	15.7	16.4	16.5	15.9	16.7	16.2	16.9	17.0
3H	16.4	17.1	16.6	17.3	17.5	16.9	17.7	17.2	17.8	18.0
4H	16.6	17.3	16.9	17.5	17.7	17.3	17.9	17.5	18.1	18.4
6H	16.7	17.3	16.9	17.5	17.8	17.3	18.0	17.6	18.2	18.4
8H	16.7	17.3	17.0	17.5	17.8	17.3	18.0	17.6	18.2	18.5
12H	16.6	17.3	17.0	17.5	17.8	17.3	17.9	17.7	18.2	18.5
4H 2H	15.9	16.6	16.2	16.8	17.0	16.3	17.0	16.6	17.2	17.4
3H	17.0	17.6	17.3	17.9	18.1	17.5	18.1	17.8	18.4	18.6
4H	17.3	17.8	17.6	18.1	18.4	17.9	18.4	18.2	18.7	19.0
6H	17.4	17.9	17.7	18.2	18.5	18.0	18.5	18.4	18.8	19.1
8H	17.4	17.8	17.8	18.2	18.6	18.0	18.5	18.4	18.8	19.2
12H	17.4	17.8	17.8	18.2	18.6	18.0	18.4	18.4	18.8	19.2
8H 4H	17.4	17.8	17.8	18.2	18.5	17.9	18.4	18.3	18.7	19.1
6H	17.5	17.9	17.9	18.3	18.7	18.1	18.5	18.5	18.8	19.3
8H	17.6	17.9	18.0	18.3	18.8	18.1	18.5	18.6	18.9	19.3
12H	17.6	17.9	18.1	18.3	18.8	18.2	18.5	18.7	18.9	19.4
12H 4H	17.3	17.7	17.7	18.1	18.5	17.9	18.3	18.3	18.7	19.0
6H	17.5	17.8	17.9	18.2	18.7	18.1	18.4	18.5	18.8	19.2
8H	17.6	17.9	18.0	18.3	18.8	18.1	18.4	18.6	18.9	19.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.7					+ 0.5 / - 0.6				
1.5H	+ 0.4 / - 0.6					+ 0.6 / - 0.5				
2.0H	+ 0.9 / - 0.7					+ 0.9 / - 0.6				

CIE Pub.117, 522.5 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.3)

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UTILIZATION FACTORS TABLE

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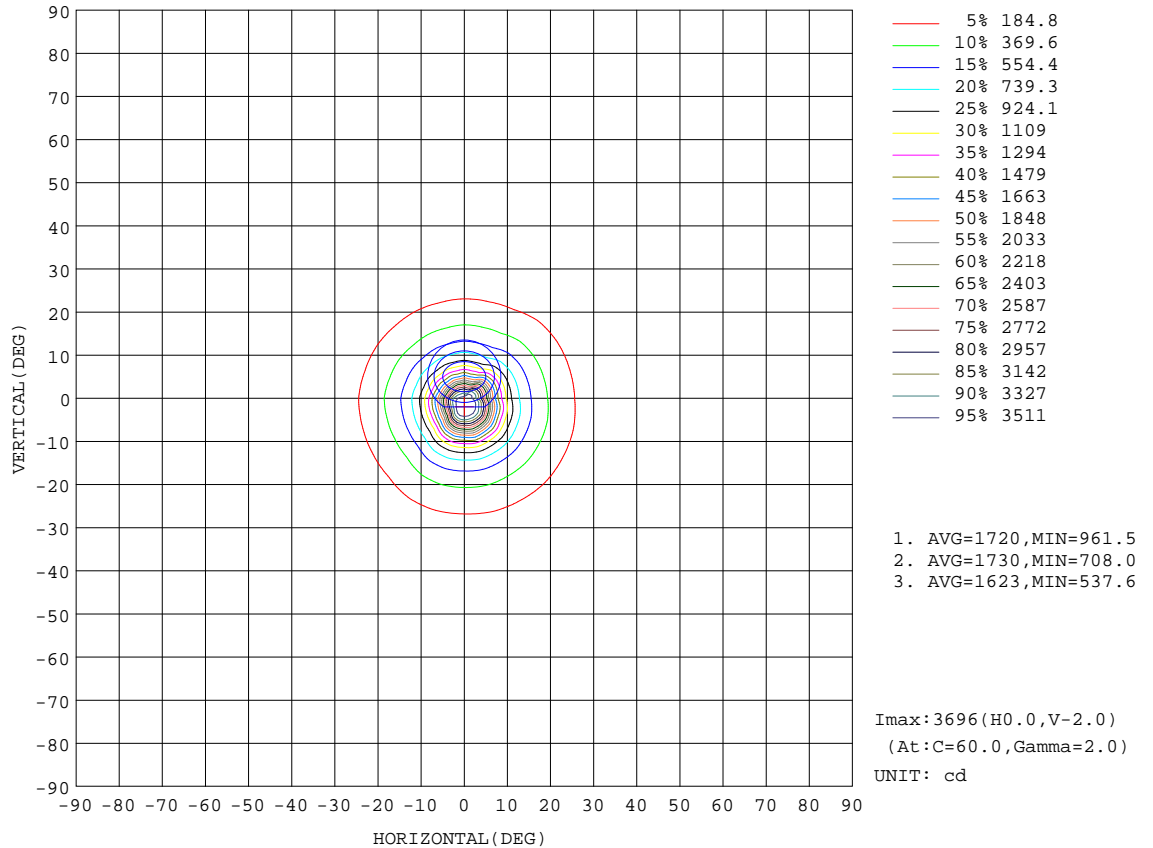
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	85	79	75	85	79	75	84	78	74	71
0.80	93	87	83	92	86	83	91	86	82	78
1.00	98	92	88	97	91	87	95	91	87	83
1.25	102	96	92	101	96	92	99	94	91	87
1.50	105	99	96	103	99	95	101	97	94	90
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	105	109	106	103	106	103	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	112	110	109	108	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

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ISOCANDELA DIAGRAM

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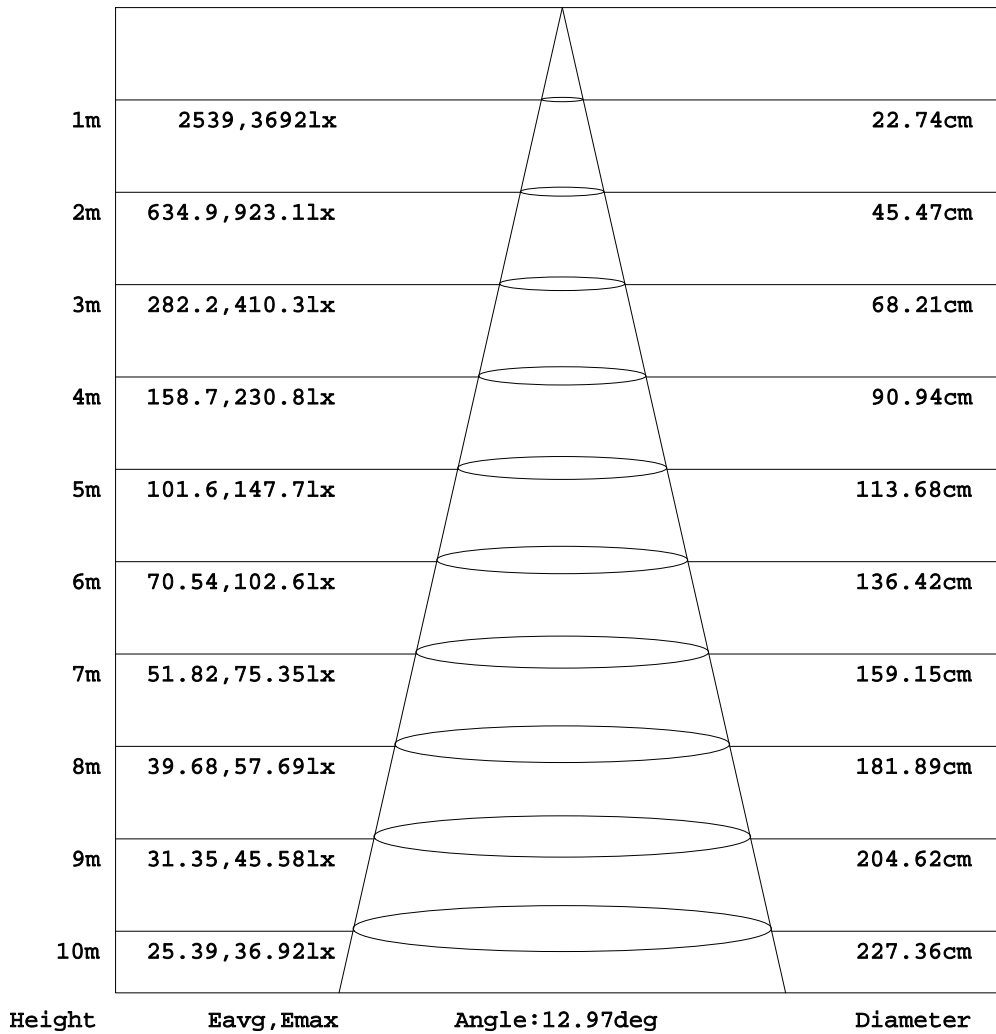
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AAI Figure

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Flux out:120.3 lm



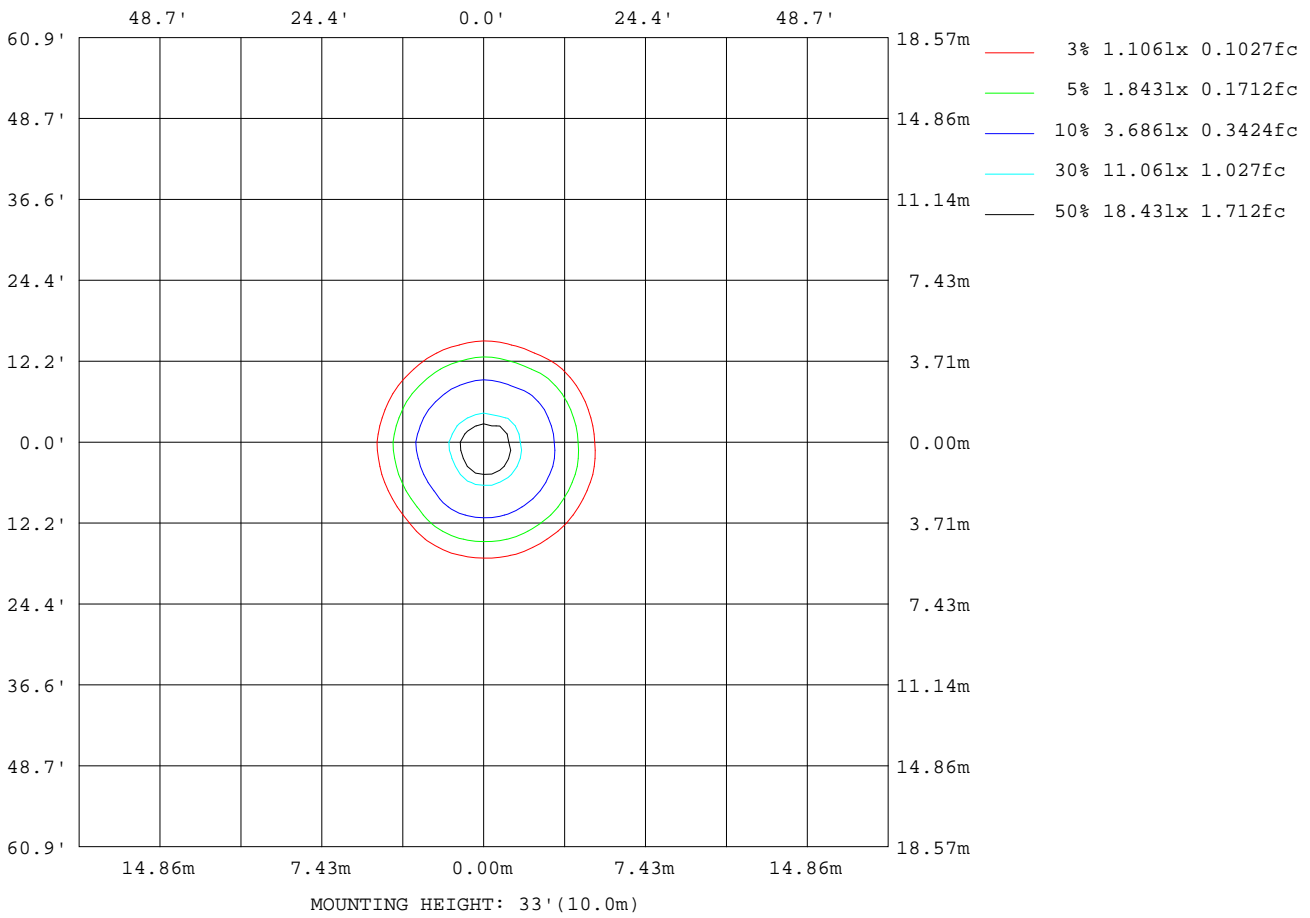
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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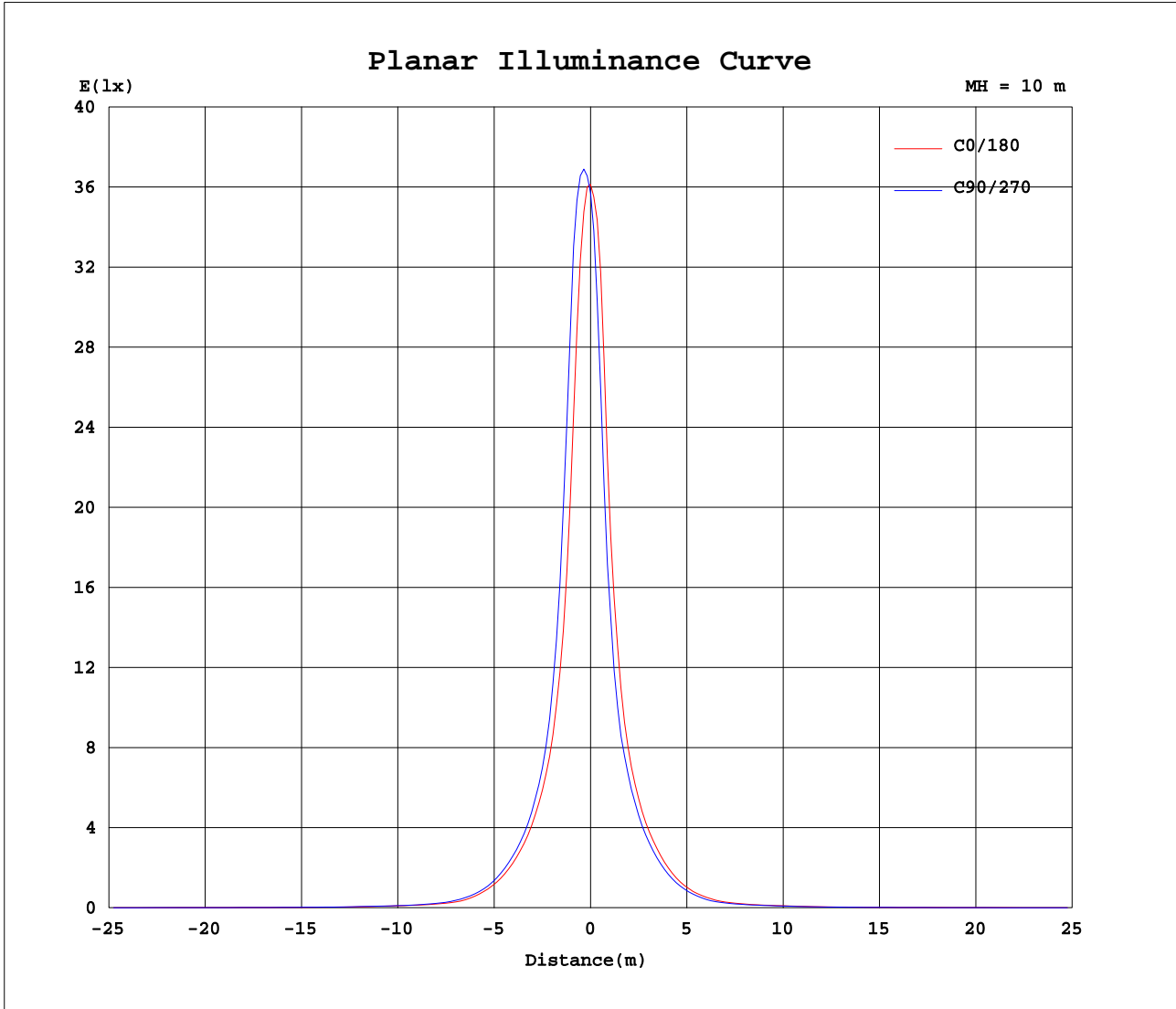
AvgL	cd/m2
L_0~180(65)av	3639
L_0~180(75)av	1848
L_0~180(85)av	1232
L_90~270(65)av	3595
L_90~270(75)av	2090
L_90~270(85)av	1209
L_45(65)av	3608
L_45(75)av	1942
L_45(85)av	1205

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Meng Yongjian
Test Date:2017-05-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.288
Humidity:52%
Test Distance:5.850m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Meng Yongjian
 Test Date: 2017-05-17

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.288
 Humidity: 52%
 Test Distance: 5.850m [K=1.0000]
 Remarks:

