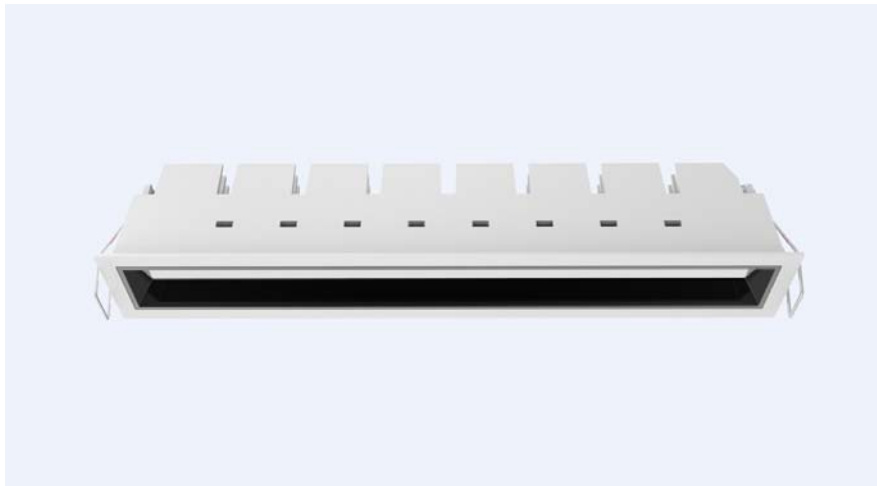


LED Downlight FUSION Series FG10-22W-930



Light Output Ratio:	100.0%	
Luminaire Power:	25.11 W	
SHR Nominal:	1.00	Calculated using the TM5
SHR Maximum:	1.10	fine grid method.

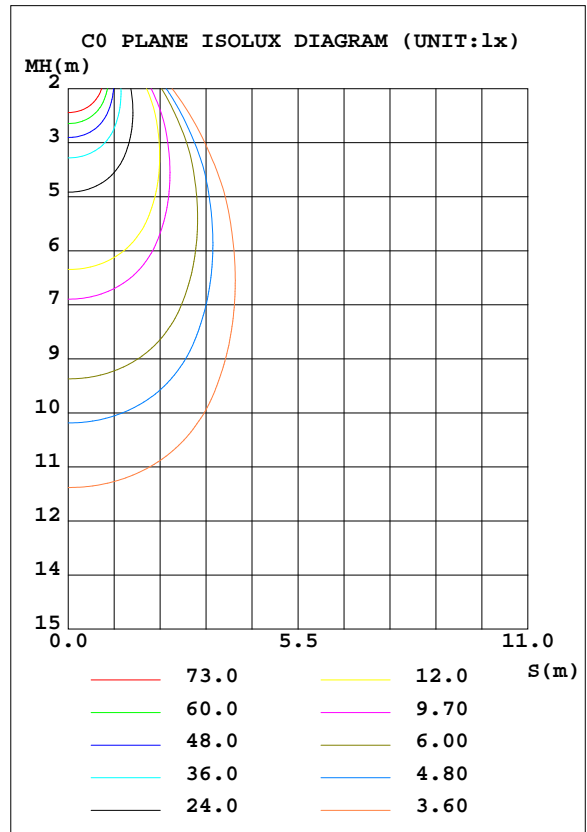
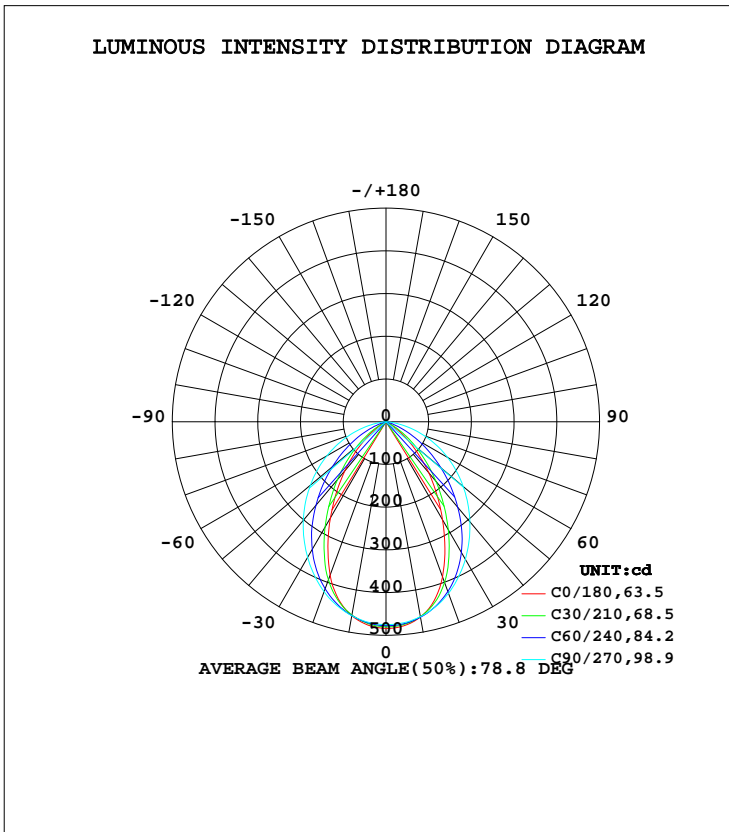
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Meng Yongjian
Test Date: 2017-05-17

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:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 30.88 lm/W			
MODEL	OSRAM-3000K	I _{max} (cd)	483.8	S/MH(C0/180)	0.93
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	1.16
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	775.40	η UP, DN(C0-180)	0.0,50.3
NOMINAL FLUX(lm)	775.399	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,49.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.10



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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	464.0	464.6	463.5	455.5	461.0	459.5	461.2	456.3	0- 10	44.67	44.67	5.76,5.76
20	386.8	414.5	427.5	403.5	382.2	405.5	423.5	405.3	10- 20	122.7	167.4	21.6,21.6
30	265.1	323.3	371.6	312.5	260.6	313.2	366.9	314.9	20- 30	166.4	333.7	43,43
40	156.5	217.5	305.5	208.5	149.9	209.1	301.3	211.5	30- 40	167.2	501.0	64.6,64.6
50	67.16	123.1	236.0	116.1	62.98	117.3	230.9	120.2	40- 50	135.8	636.8	82.1,82.1
60	6.700	47.71	166.2	42.36	3.359	43.25	160.0	46.52	50- 60	86.82	723.6	93.3,93.3
70	1.309	0.7519	95.63	0.6929	1.400	0.5383	89.37	0.5897	60- 70	38.85	762.5	98.3,98.3
80	1.705	0.5333	30.41	0.5114	1.533	0.3390	25.41	0.3149	70- 80	11.74	774.2	99.8,99.8
90	0.2383	0.2974	0.3914	0.2536	0.2536	0.0634	0.1377	0.0590	80- 90	1.206	775.4	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): 574.28 lm

%lum = 74.1%
%lamp = 74.1%

Conical surface Flux(120deg): 723.6 lm

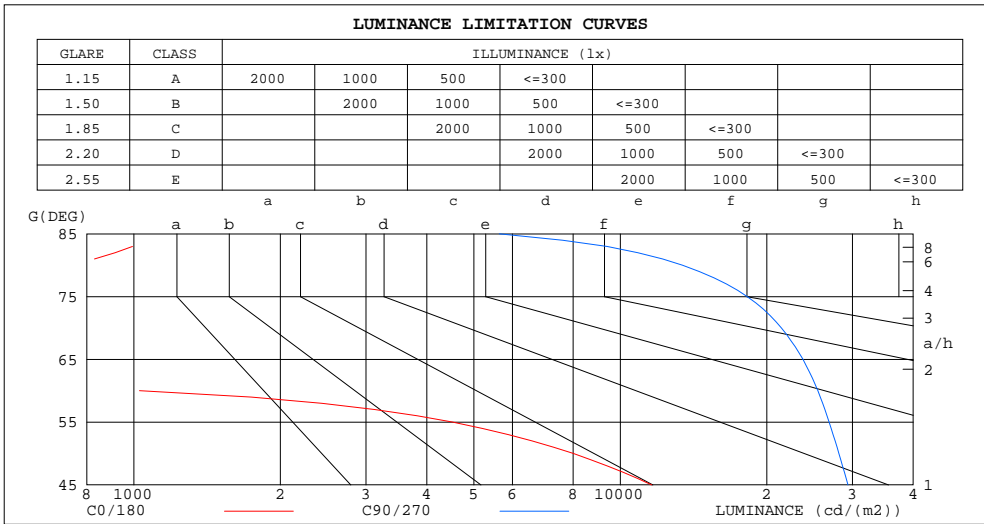
%lum = 93.3%
%lamp = 93.3%

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:

LUMINANCE LIMITATION CURVES

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	128	5640
80	753	13418
75	469	18225
70	293	21425
65	197	23736
60	1027	25466
55	4515	26871
50	8006	28136
45	11601	29364

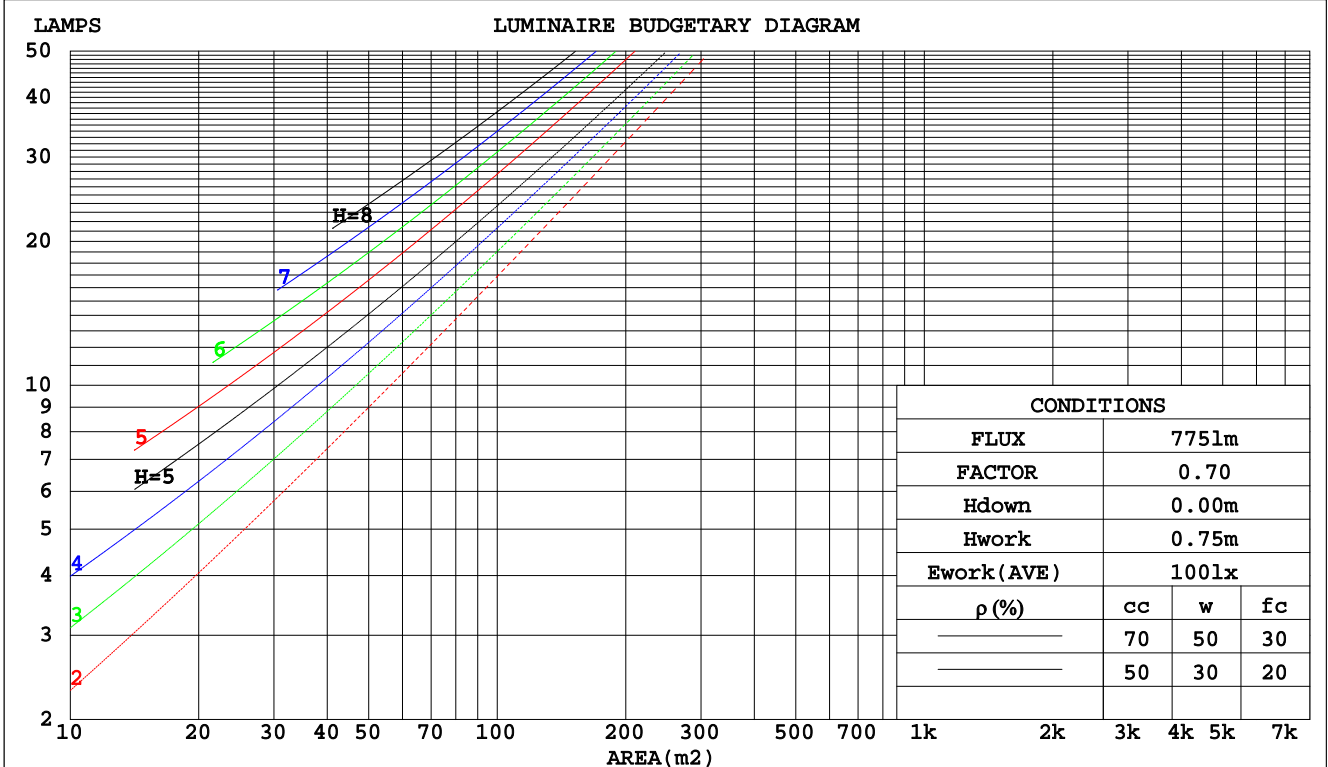
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Meng Yongjian
 Test Date:2017-05-17

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.97	.92	.88	.96	.91	.87	.92	.88	.85	.89	.86	.83	.86	.83	.81	.79
3.0	.88	.81	.76	.86	.80	.75	.84	.78	.74	.81	.77	.73	.79	.75	.72	.70
4.0	.80	.72	.67	.78	.72	.67	.76	.70	.66	.74	.69	.65	.72	.68	.64	.62
5.0	.73	.65	.59	.72	.64	.59	.70	.63	.59	.68	.62	.58	.66	.61	.57	.56
6.0	.66	.59	.53	.66	.58	.53	.64	.57	.53	.62	.57	.52	.61	.56	.52	.50
7.0	.61	.54	.48	.60	.53	.48	.59	.52	.48	.58	.52	.47	.56	.51	.47	.45
8.0	.56	.49	.44	.56	.49	.44	.55	.48	.43	.53	.48	.43	.52	.47	.43	.41
9.0	.52	.45	.40	.52	.45	.40	.51	.44	.40	.50	.44	.40	.49	.43	.40	.38
10.0	.49	.42	.37	.48	.41	.37	.47	.41	.37	.46	.41	.37	.46	.40	.36	.35



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:

WEC AND CCEC

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

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	.232	.132	.042	.225	.128	.041	.212	.122	.039	.200	.115	.037	.189	.110	.035	
2.0	.226	.124	.038	.220	.121	.037	.209	.116	.036	.199	.111	.035	.189	.107	.034	
3.0	.215	.115	.034	.210	.113	.034	.200	.109	.033	.191	.105	.032	.183	.101	.031	
4.0	.204	.106	.031	.199	.104	.031	.191	.101	.030	.183	.098	.030	.175	.095	.029	
5.0	.192	.098	.028	.188	.097	.028	.181	.094	.028	.174	.092	.027	.167	.089	.027	
6.0	.181	.091	.026	.178	.090	.026	.171	.088	.026	.165	.086	.025	.159	.084	.025	
7.0	.171	.085	.024	.168	.084	.024	.162	.082	.024	.157	.080	.023	.151	.079	.023	
8.0	.162	.079	.022	.159	.078	.022	.154	.077	.022	.149	.075	.022	.144	.074	.022	
9.0	.154	.074	.021	.151	.074	.021	.146	.072	.020	.142	.071	.020	.137	.070	.020	
10.0	.146	.070	.019	.144	.069	.019	.139	.068	.019	.135	.067	.019	.131	.066	.019	

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	.175	.157	.141	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.106	.140	.114	.092	.096	.079	.064	.055	.046	.037	.018	.015	.012	
3.0	.154	.114	.082	.132	.098	.071	.091	.068	.050	.052	.040	.029	.017	.013	.010	
4.0	.146	.100	.065	.125	.086	.057	.086	.060	.040	.050	.035	.024	.016	.011	.008	
5.0	.138	.089	.053	.119	.077	.046	.082	.054	.032	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.108	.063	.032	.074	.045	.023	.043	.026	.014	.014	.009	.004	
8.0	.119	.067	.032	.103	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.114	.062	.028	.098	.054	.024	.068	.038	.017	.040	.022	.010	.013	.007	.003	
10.0	.109	.058	.024	.094	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

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:

UGR(Unified Glare Rating) Table

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

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	18.4	19.7	18.6	19.8	20.0	25.1	26.3	25.3	26.5	26.7
3H	18.2	19.4	18.5	19.6	19.8	26.3	27.4	26.6	27.6	27.9
4H	18.1	19.2	18.4	19.4	19.7	26.7	27.8	27.0	28.0	28.2
6H	18.0	19.0	18.3	19.3	19.6	26.9	27.9	27.2	28.2	28.4
8H	18.0	19.0	18.3	19.2	19.5	26.9	27.9	27.2	28.2	28.4
12H	17.9	18.9	18.3	19.2	19.4	26.9	27.8	27.2	28.1	28.4
4H 2H	18.9	20.0	19.2	20.2	20.5	24.9	26.0	25.2	26.2	26.4
3H	18.7	19.6	19.0	19.9	20.2	26.1	27.0	26.4	27.3	27.6
4H	18.6	19.5	19.0	19.8	20.1	26.5	27.4	26.9	27.7	28.0
6H	18.5	19.3	18.9	19.6	20.0	26.7	27.5	27.1	27.8	28.2
8H	18.5	19.2	18.9	19.5	19.9	26.8	27.5	27.2	27.8	28.2
12H	18.4	19.1	18.9	19.5	19.9	26.8	27.4	27.2	27.8	28.2
8H 4H	18.6	19.3	19.0	19.6	20.0	26.4	27.1	26.8	27.4	27.8
6H	18.5	19.1	18.9	19.5	19.9	26.6	27.2	27.0	27.6	28.0
8H	18.5	19.0	18.9	19.4	19.8	26.6	27.1	27.1	27.6	28.0
12H	18.4	18.9	18.9	19.3	19.8	26.6	27.1	27.1	27.5	28.0
12H 4H	18.5	19.2	19.0	19.5	19.9	26.3	27.0	26.8	27.4	27.8
6H	18.5	19.0	18.9	19.4	19.8	26.6	27.1	27.0	27.5	27.9
8H	18.4	18.9	18.9	19.3	19.8	26.6	27.0	27.1	27.5	27.9
Variations with the observer position at spacings:										
S = 1.0H	+ 2.0 / - 5.1					+ 0.2 / - 0.2				
1.5H	+ 1.2 / - 2.3					+ 0.8 / - 1.2				
2.0H	+ 3.2 / -12.2					+ 1.8 / - 3.3				

CIE Pub.117, 775.4 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.9)

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:

UTILIZATION FACTORS TABLE

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

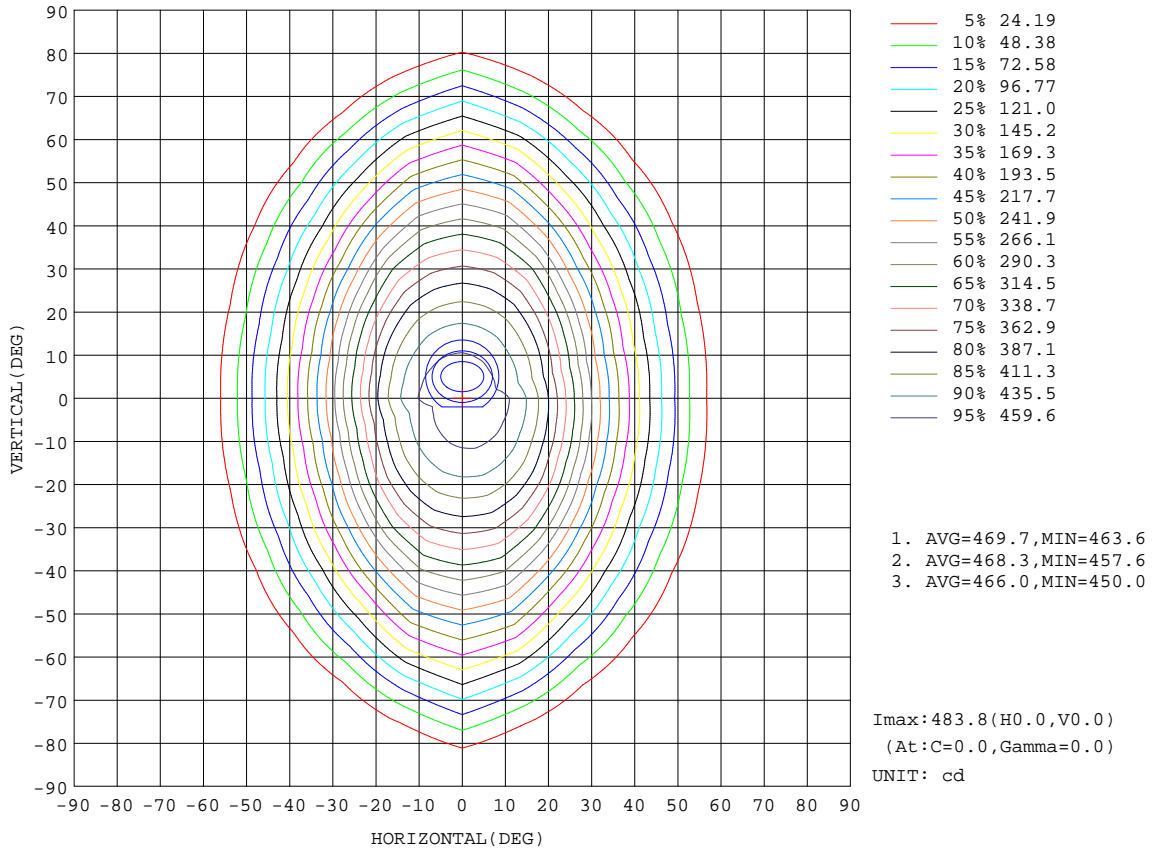
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	69	59	54	68	59	54	67	59	53	48
0.80	79	70	64	78	69	64	76	69	63	58
1.00	87	78	72	86	77	72	84	78	72	66
1.25	93	85	79	92	84	79	89	83	78	72
1.50	97	90	84	95	89	84	93	87	83	77
2.00	102	96	91	101	95	90	97	93	89	82
2.50	105	99	95	103	98	94	100	95	92	85
3.00	107	102	98	105	101	97	102	98	95	88
4.00	110	106	103	108	104	101	104	101	99	91
5.00	112	108	105	110	107	104	105	103	101	92
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

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:

ISOCANDELA DIAGRAM

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



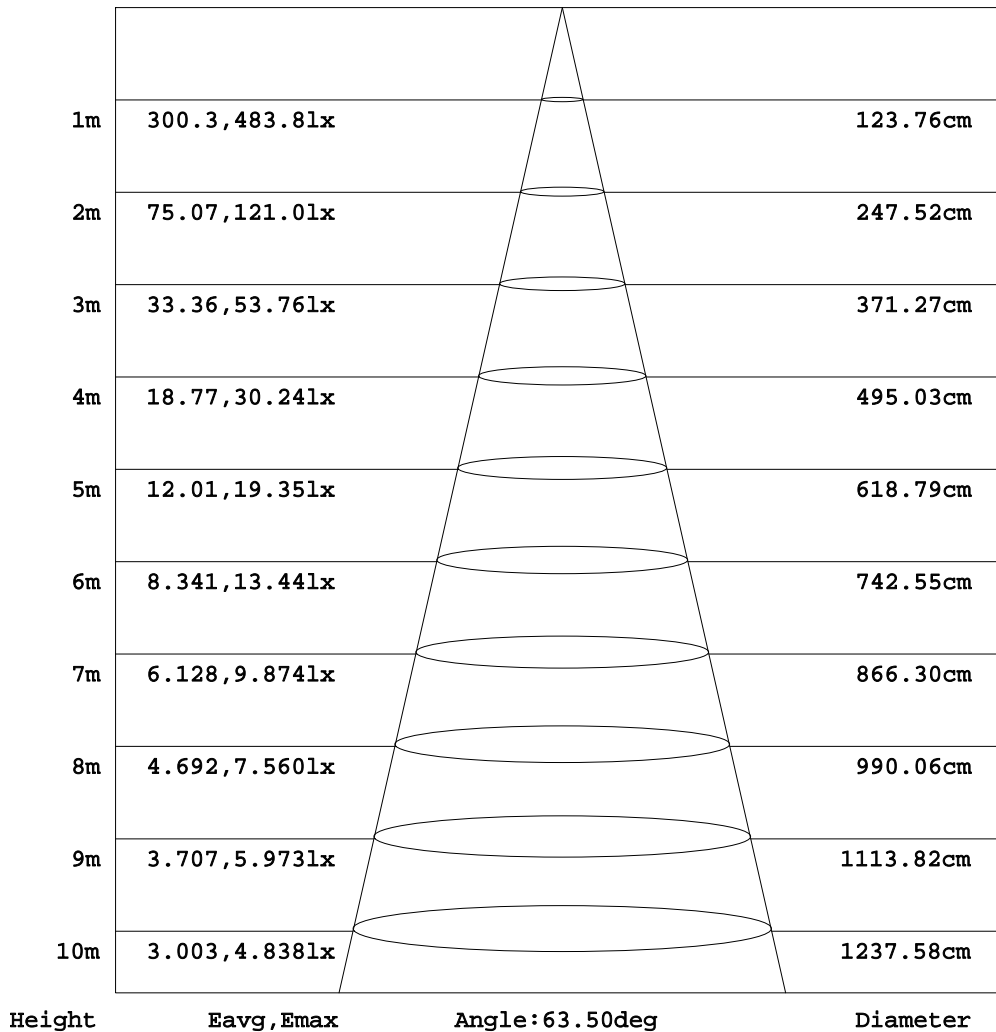
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Meng Yongjian
 Test Date: 2017-05-17

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:

AAI Figure

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

Flux out:368.3 lm



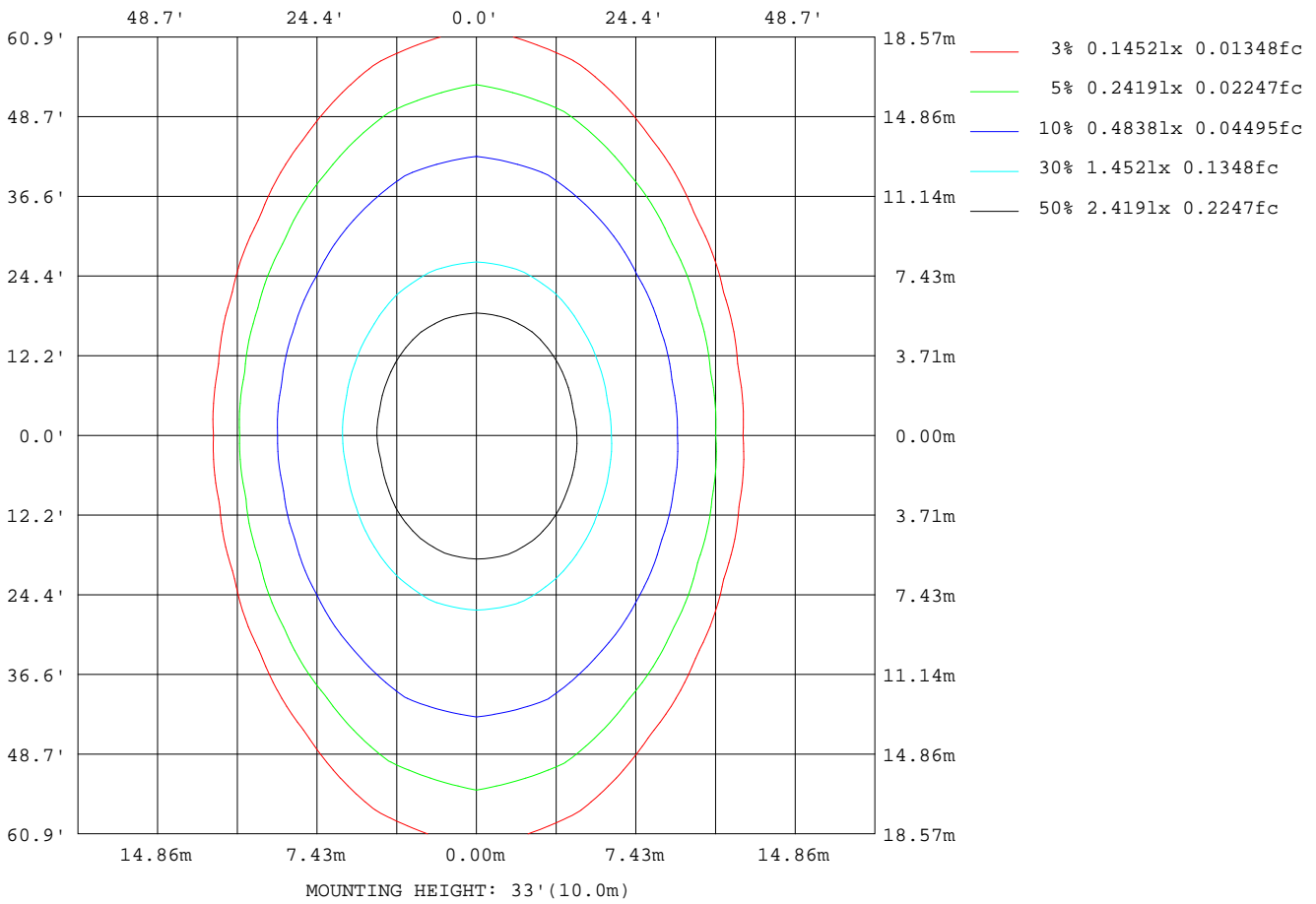
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

ISOLUX DIAGRAM

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		



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:

LED Avg.L Report

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

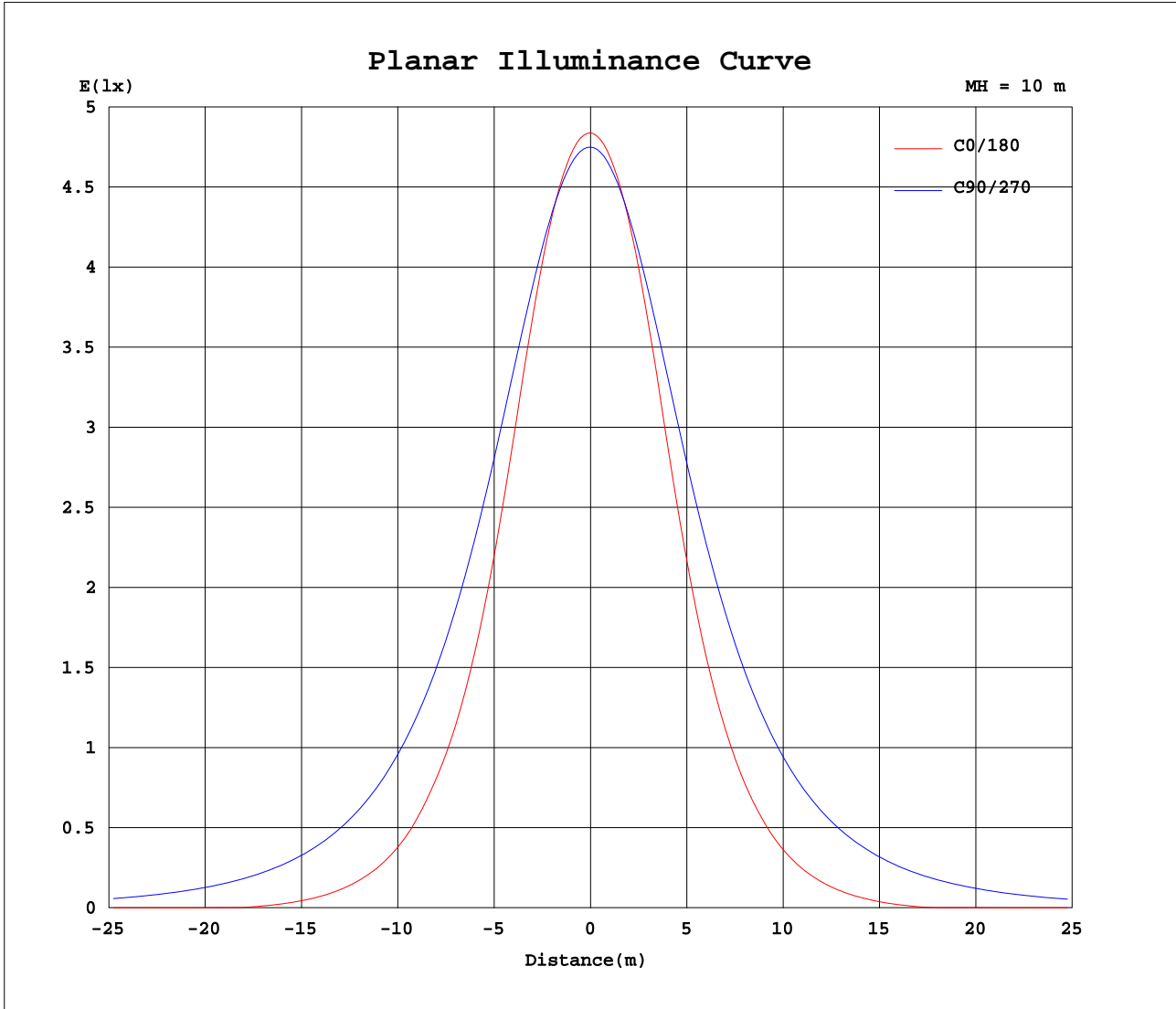
AvgL	cd/m2
L_0~180(65)av	204
L_0~180(75)av	453
L_0~180(85)av	124
L_90~270(65)av	23108
L_90~270(75)av	17347
L_90~270(85)av	4271
L_45(65)av	3042
L_45(75)av	154
L_45(85)av	236

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.6V I:0.1181A P:25.11W PF:0.9636 Freq:50.00Hz Lamp Flux:775.399x1 lm		
NAME: FG10-22W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L290mm*W45mm*H60mm	
MFR.: NEKO LIGHTING AG		

Table--2 UNIT: cd

C(DEG) γ (DEG)	285	300	315	330	345														
0	474	473	472	472	471														
5	470	470	469	468	467														
10	460	459	456	455	452														
15	443	441	436	431	425														
20	421	416	405	393	382														
25	394	385	365	342	325														
30	362	347	315	287	265														
35	328	304	263	231	209														
40	292	257	212	179	158														
45	254	211	164	132	111														
50	214	166	120	89.5	71.7														
55	174	124	80.6	53.7	38.2														
60	135	85.2	46.5	24.0	11.0														
65	95.0	50.8	18.5	0.80	0.73														
70	59.1	21.8	0.59	0.57	0.74														
75	28.8	0.61	0.42	0.49	0.84														
80	6.39	0.28	0.31	0.43	0.95														
85	0.24	0.14	0.18	0.16	0.12														
90	0.14	0.09	0.06	0.14	0.30														

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: