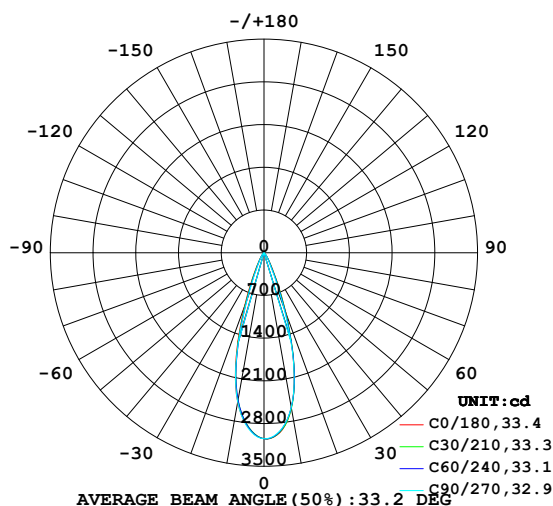


LUMINAIRE PHOTOMETRIC TEST REPORT

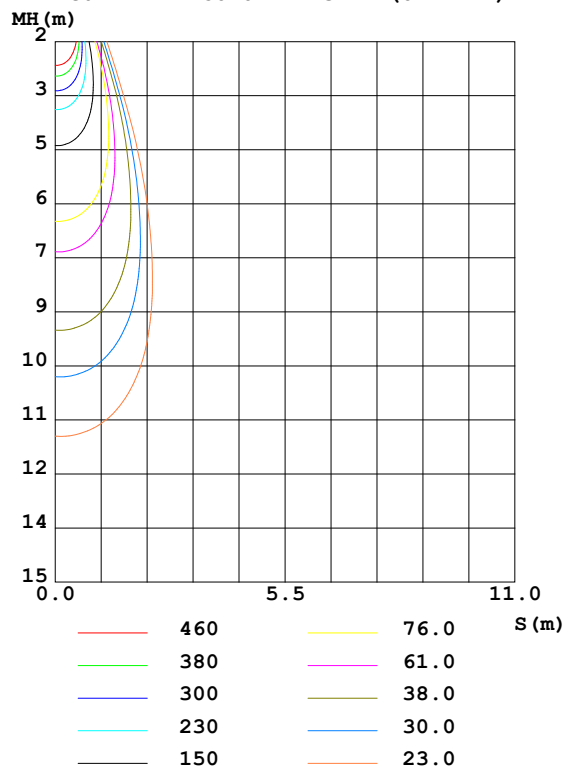
Test:U:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 55mm*H1150mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 67.62 lm/W			
MODEL	CITIZEN-3000K	I <sub>max</sub> (cd)	3054	S/MH (C0/180)	0.52
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	0.50
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	1019.8	$\eta$ UP, DN (C0-180)	0.0, 51.5
NOMINAL FLUX (lm)	1019.83	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 48.5
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	220	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	2579	2602	2574	2542	2486	2439	2485	2536	0- 10	266.5	266.5	26.1,26.1
20	1043	1044	931.4	899.7	934.0	831.6	793.7	875.2	10- 20	477.5	744.0	73,73
30	192.0	190.2	158.9	167.3	186.3	164.3	145.9	158.1	20- 30	189.5	933.5	91.5,91.5
40	52.49	52.60	49.31	49.29	52.07	46.48	45.14	46.87	30- 40	59.32	992.8	97.4,97.4
50	11.40	11.63	10.49	10.59	11.11	10.08	9.711	9.769	40- 50	20.85	1014	99.4,99.4
60	2.859	2.706	2.204	2.379	2.607	2.444	2.326	2.393	50- 60	5.136	1019	99.9,99.9
70	0.1604	0.1290	0.1268	0.1090	0.1271	0.1315	0.1004	0.1354	60- 70	0.8934	1020	100,100
80	0.0681	0.0437	0.0612	0.0414	0.0395	0.0570	0.0349	0.0568	70- 80	0.0854	1020	100,100
90	0.0395	0.0372	0.0371	0.0371	0.0242	0.0241	0.0262	0.0240	80- 90	0.0422	1020	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): 1006.5 lm

%lum = 98.7%

%lamp = 98.7%

Conical surface Flux(120deg): 1018.8 lm

%lum = 99.9%

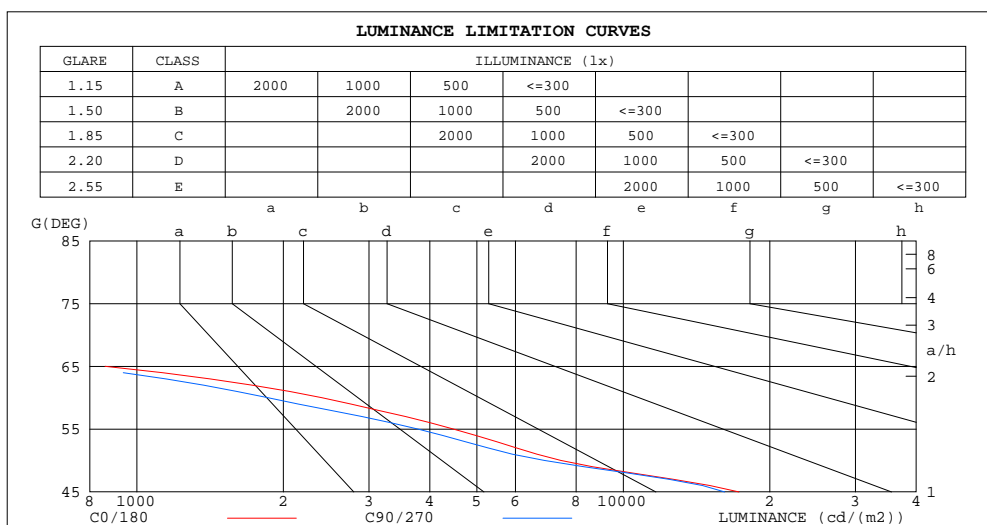
%lamp = 99.9%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 55\text{mm} \times H1150\text{mm}$	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	233	232
80	164	149
75	157	128
70	197	156
65	860	756
60	2398	1858
55	4471	3779
50	7439	6880
45	17286	16157

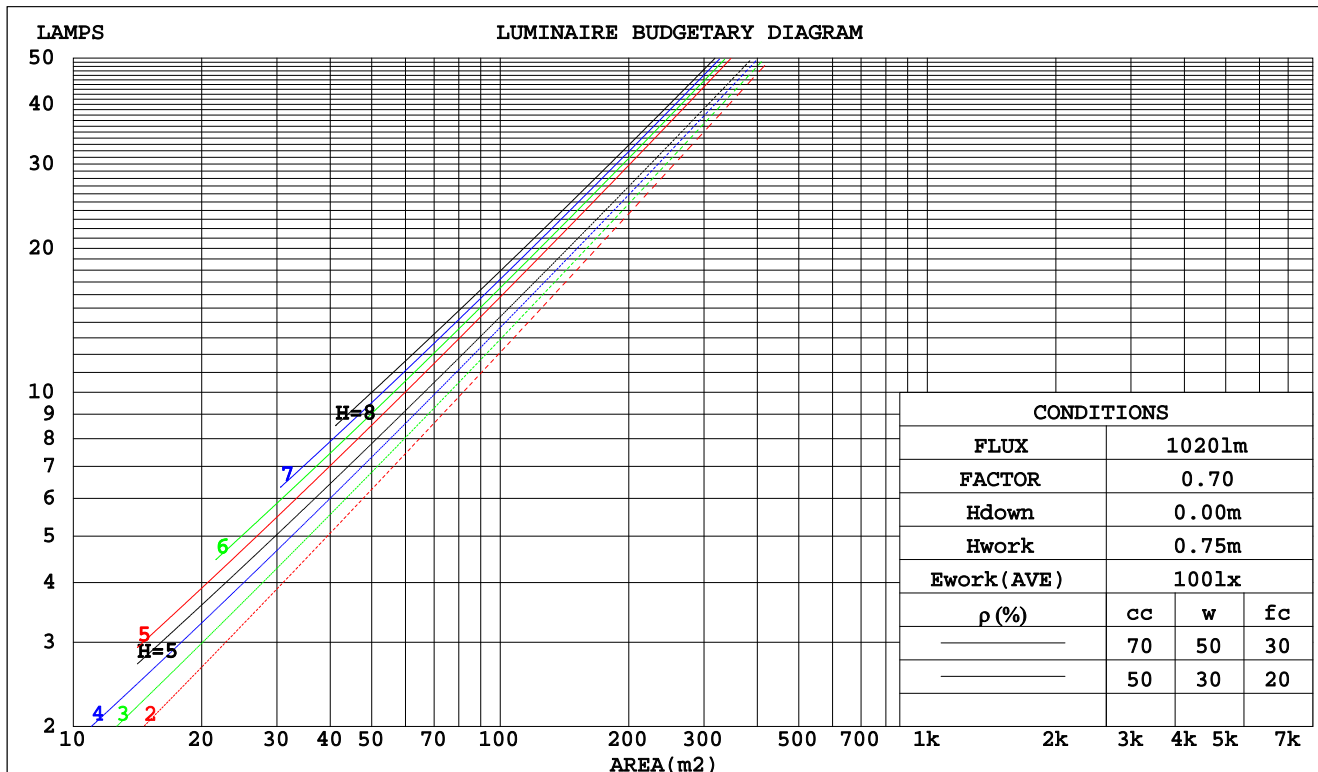
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 55mm*H1150mm	
MFR.: NEKO LIGHTING AG		

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	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	1.10	1.09	1.10	1.08	1.07	1.06	1.05	1.04	1.03	1.02	1.01	.99	.98	.98	.96
2.0	1.07	1.03	1.01	1.05	1.02	.00	1.02	.99	.97	.99	.97	.95	.96	.95	.93	.92
3.0	1.02	.98	.95	1.00	.97	.94	.98	.95	.92	.95	.93	.91	.93	.91	.90	.88
4.0	.97	.93	.89	.96	.92	.89	.94	.91	.88	.92	.89	.87	.90	.88	.86	.85
5.0	.93	.88	.85	.92	.88	.85	.90	.87	.84	.89	.86	.83	.87	.85	.83	.81
6.0	.89	.85	.81	.88	.84	.81	.87	.83	.80	.86	.82	.80	.85	.82	.79	.78
7.0	.86	.81	.78	.85	.81	.78	.84	.80	.77	.83	.80	.77	.82	.79	.77	.76
8.0	.83	.78	.75	.82	.78	.75	.81	.77	.74	.80	.77	.74	.79	.76	.74	.73
9.0	.80	.75	.72	.79	.75	.72	.78	.75	.72	.78	.74	.72	.77	.74	.71	.70
10.0	.77	.73	.70	.77	.72	.70	.76	.72	.69	.75	.72	.69	.75	.71	.69	.68



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 55mm*H1150mm	
MFR.: NEKO LIGHTING AG		

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	.146	.083	.026	.139	.079	.025	.127	.073	.023	.115	.067	.021	.105	.061	.020		
2.0	.136	.075	.023	.131	.072	.022	.121	.067	.021	.111	.062	.020	.102	.058	.018		
3.0	.128	.068	.020	.123	.066	.020	.115	.062	.019	.107	.059	.018	.099	.055	.017		
4.0	.121	.063	.018	.117	.061	.018	.109	.058	.017	.103	.055	.017	.096	.052	.016		
5.0	.114	.058	.017	.111	.057	.017	.105	.054	.016	.099	.052	.016	.093	.050	.015		
6.0	.108	.054	.016	.106	.053	.015	.100	.051	.015	.095	.049	.015	.090	.048	.014		
7.0	.103	.051	.014	.101	.050	.014	.096	.049	.014	.092	.047	.014	.087	.045	.013		
8.0	.099	.048	.014	.097	.048	.013	.092	.046	.013	.088	.045	.013	.085	.043	.013		
9.0	.095	.046	.013	.093	.045	.013	.089	.044	.012	.085	.043	.012	.082	.042	.012		
10.0	.091	.044	.012	.089	.043	.012	.086	.042	.012	.083	.041	.012	.080	.040	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.117	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013	
3.0	.137	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.125	.098	.077	.107	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.115	.086	.064	.099	.074	.056	.068	.052	.040	.039	.031	.023	.013	.010	.008	
6.0	.107	.076	.054	.092	.066	.047	.063	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.099	.068	.046	.085	.059	.040	.059	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.093	.061	.040	.080	.053	.035	.055	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.088	.056	.035	.076	.049	.030	.052	.034	.021	.030	.020	.013	.010	.007	.004	
10.0	.083	.051	.030	.071	.045	.026	.050	.031	.019	.029	.019	.011	.009	.006	.004	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Meng Yongjian  
 Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm										
NAME: ROXY Art-15W-930-36					TYPE:Tracklight			SERIAL No.:		
SPEC.:3000K					DIM.: $\phi$ 55mm*H1150mm					
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	13.8	14.6	14.0	14.7	14.9	13.2	14.0	13.5	14.1	14.3
3H	13.7	14.4	13.9	14.5	14.7	13.1	13.8	13.3	13.9	14.1
4H	13.6	14.2	13.9	14.4	14.7	13.0	13.6	13.3	13.9	14.1
6H	13.5	14.1	13.8	14.3	14.6	12.9	13.5	13.2	13.8	14.0
8H	13.5	14.0	13.8	14.3	14.5	12.9	13.5	13.2	13.7	14.0
12H	13.4	14.0	13.7	14.2	14.5	12.8	13.4	13.1	13.7	13.9
4H 2H	13.6	14.3	13.9	14.5	14.7	13.0	13.7	13.3	13.9	14.1
3H	13.5	14.0	13.8	14.3	14.5	12.9	13.4	13.2	13.7	13.9
4H	13.4	13.9	13.7	14.2	14.5	12.8	13.3	13.1	13.6	13.9
6H	13.3	13.7	13.6	14.0	14.4	12.7	13.1	13.0	13.4	13.8
8H	13.2	13.6	13.6	14.0	14.3	12.6	13.0	13.0	13.4	13.7
12H	13.1	13.5	13.6	13.9	14.3	12.6	12.9	13.0	13.3	13.7
8H 4H	13.2	13.6	13.6	14.0	14.3	12.6	13.0	13.0	13.4	13.7
6H	13.1	13.4	13.5	13.8	14.2	12.5	12.9	12.9	13.2	13.7
8H	13.0	13.3	13.5	13.8	14.2	12.4	12.8	12.9	13.2	13.6
12H	13.0	13.2	13.4	13.7	14.1	12.4	12.6	12.9	13.1	13.6
12H 4H	13.1	13.5	13.6	13.9	14.3	12.6	12.9	13.0	13.3	13.7
6H	13.0	13.3	13.5	13.8	14.2	12.4	12.8	12.9	13.2	13.6
8H	13.0	13.2	13.4	13.7	14.1	12.4	12.6	12.9	13.1	13.6
Variations with the observer position at spacings:										
S = 1.0H	+ 2.8 / - 9.4					+ 2.7 / -10.2				
1.5H	+ 4.4 / - 7.1					+ 4.3 / - 7.1				
2.0H	+ 6.1 / - 9.6					+ 6.1 / - 9.7				

CIE Pub.117, 1020 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 0.1$ )

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing 55\text{mm} \times H1150\text{mm}$	
MFR.: NEKO LIGHTING AG		

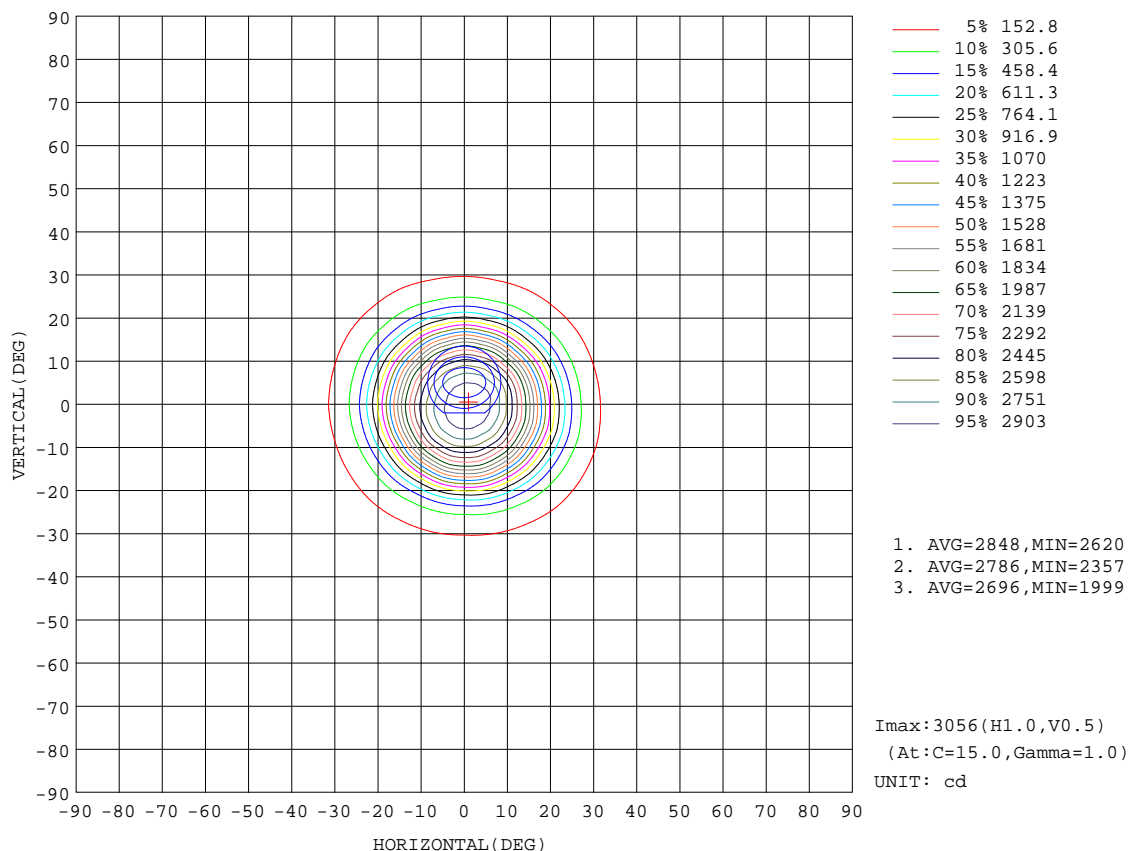
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	80	89	84	80	89	83	80	77
0.80	97	92	88	96	91	88	95	91	88	84
1.00	101	96	93	100	95	92	99	95	92	88
1.25	105	100	97	104	99	96	102	98	96	92
1.50	107	103	100	106	102	99	104	101	98	94
2.00	110	106	103	108	105	102	105	103	100	95
2.50	111	108	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	106	107	105	103	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	116	113	112	113	112	110	110	108	107	100
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:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 $\gamma$  Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity:52%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 55mm*H1150mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-08-30

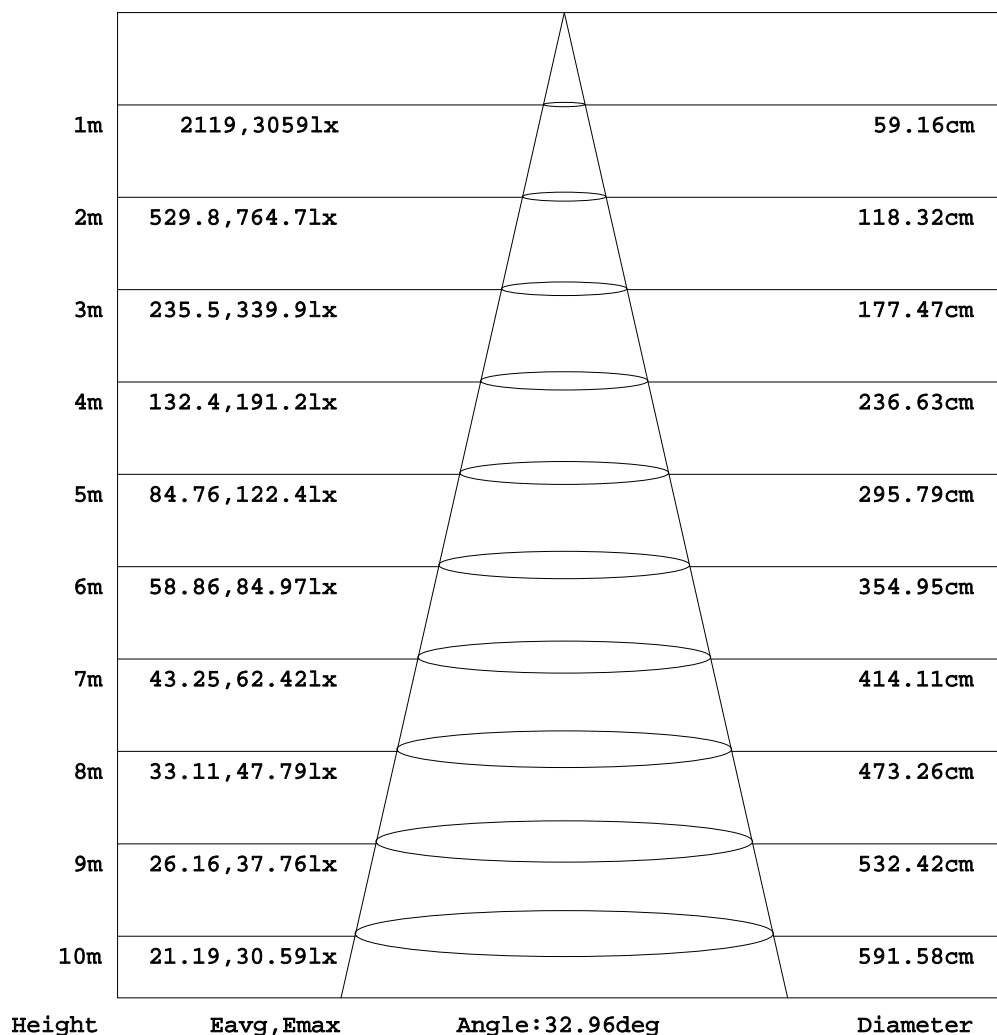
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity:52%  
Test Distance:5.850m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 55\text{mm} \times H1150\text{mm}$	
MFR.: NEKO LIGHTING AG		

Flux out:622.3 lm



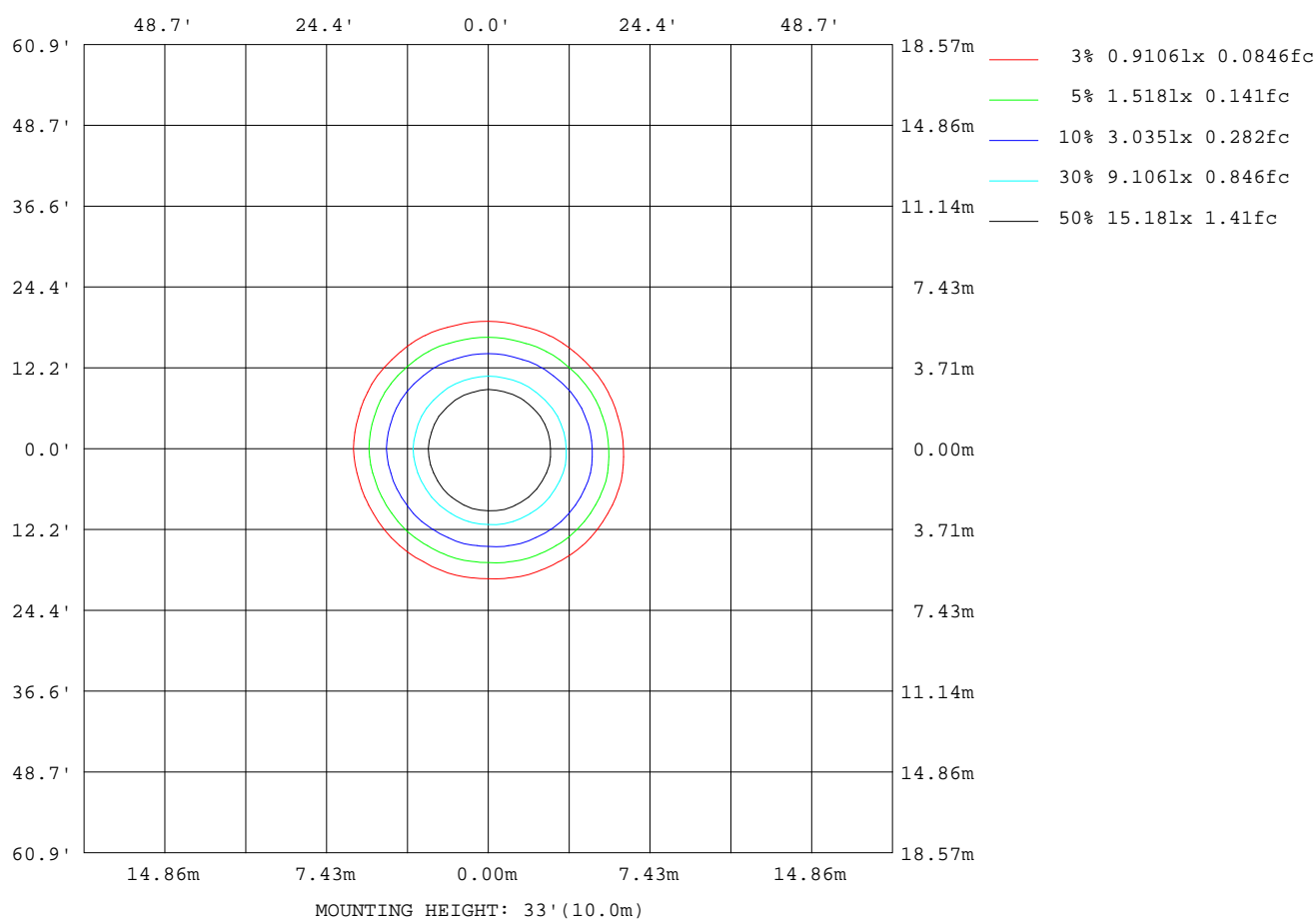
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Meng Yongjian  
Test Date: 2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 55mm*H1150mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Meng Yongjian  
Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:220.8V I:0.0714A P:15.08W PF:0.9565 Freq:50.00Hz Lamp Flux:1019.83x1 lm		
NAME: ROXY Art-15W-930-36	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 55mm*H1150mm	
MFR.: NEKO LIGHTING AG		

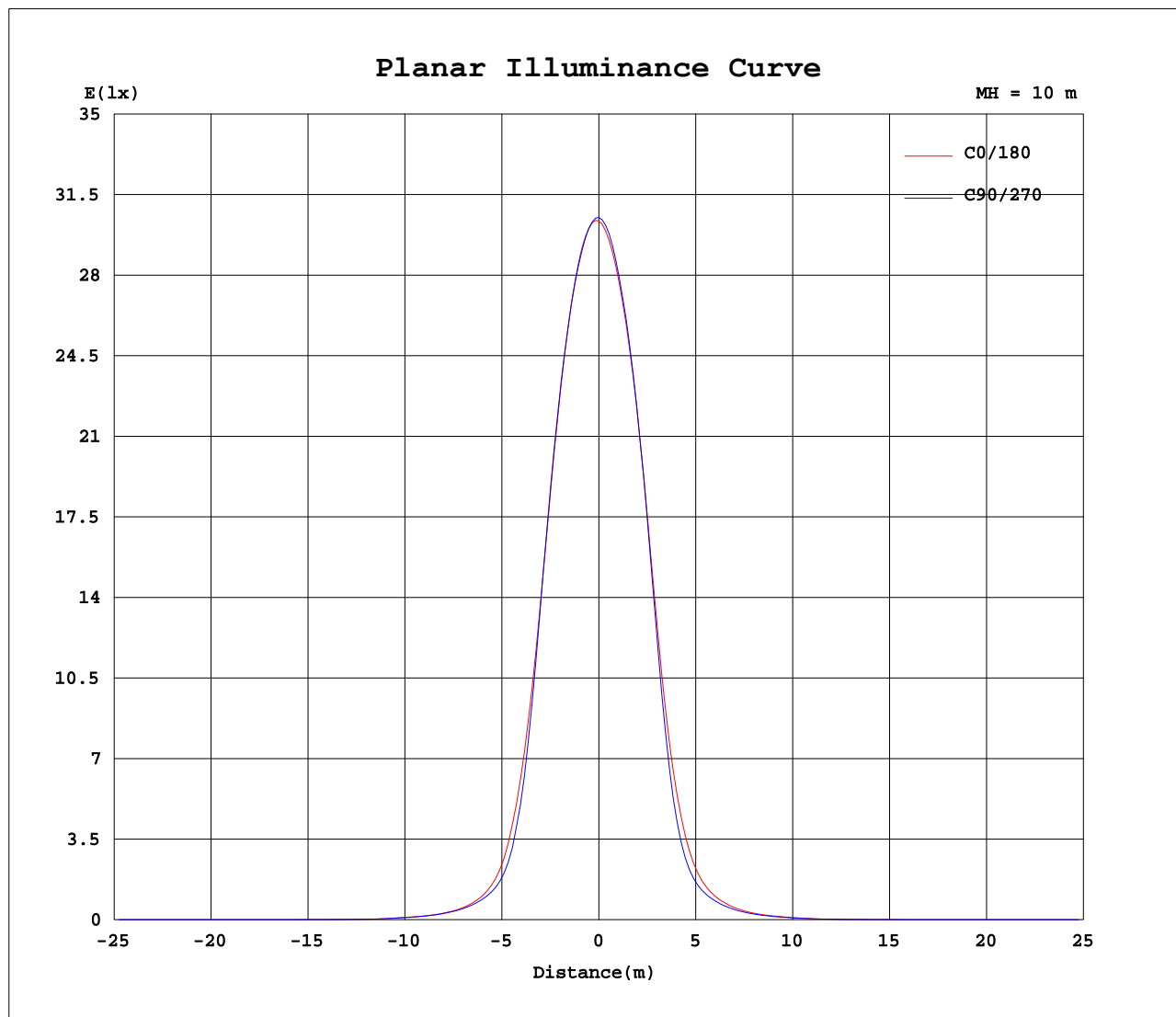
AvgL	cd/m2
L_0~180 (65) av	829
L_0~180 (75) av	134
L_0~180 (85) av	191
L_90~270 (65) av	692
L_90~270 (75) av	116
L_90~270 (85) av	185
L_45 (65) av	740
L_45 (75) av	124
L_45 (85) av	174

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Meng Yongjian  
 Test Date:2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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: 2017-08-30

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity: 52%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

```

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:

```

```

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:

```