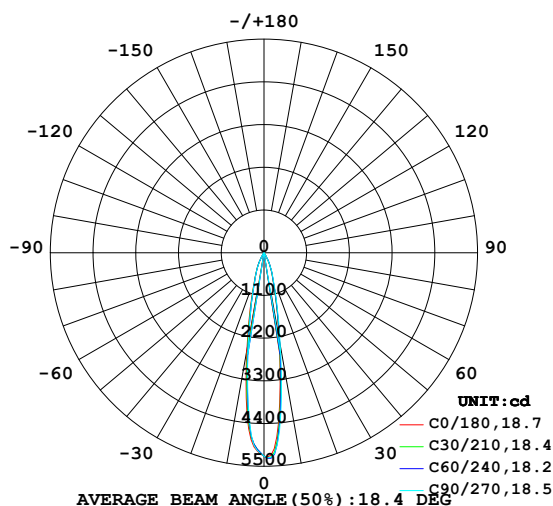


LUMINAIRE PHOTOMETRIC TEST REPORT

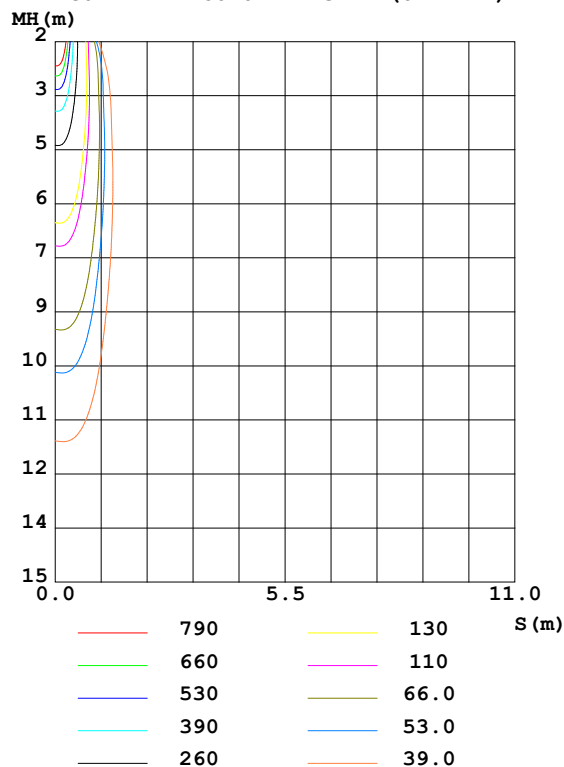
Test:U:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 55mm*H150mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 61.50 lm/W
MODEL	CITIZEN-3000K	I _{max} (cd)	5305	S/MH (C0/180)	0.34	
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)	0.31	
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	925.67	η UP, DN (C0-180)	0.0, 50.7	
NOMINAL FLUX (lm)	925.665	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.3	
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	

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

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	2253	2359	2419	2560	2556	2342	2331	2301	0- 10	352.2	352.2	38.1,38.1
20	634.0	645.8	667.7	723.5	674.7	635.8	642.1	663.0	10- 20	346.1	698.3	75.4,75.4
30	113.7	154.8	146.3	154.3	145.0	144.7	142.1	121.3	20- 30	171.2	869.6	93.9,93.9
40	25.20	27.43	27.60	26.80	26.85	27.47	27.67	26.15	30- 40	34.16	903.7	97.6,97.6
50	11.15	11.37	10.19	11.86	11.35	11.60	10.94	10.70	40- 50	14.01	917.7	99.1,99.1
60	3.806	3.455	3.442	3.602	3.665	3.601	3.688	3.869	50- 60	5.911	923.6	99.8,99.8
70	0.3778	0.3514	0.4002	0.4095	0.3639	0.3126	0.3187	0.3904	60- 70	1.715	925.3	100,100
80	0.1442	0.1222	0.1553	0.1335	0.1089	0.1137	0.1026	0.1426	70- 80	0.2446	925.6	100,100
90	0.0349	0.0328	0.0350	0.0329	0.0218	0.0218	0.0262	0.0219	80- 90	0.0736	925.7	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): 911.96 lm

%lum = 98.5%

%lamp = 98.5%

Conical surface Flux(120deg): 923.63 lm

%lum = 99.8%

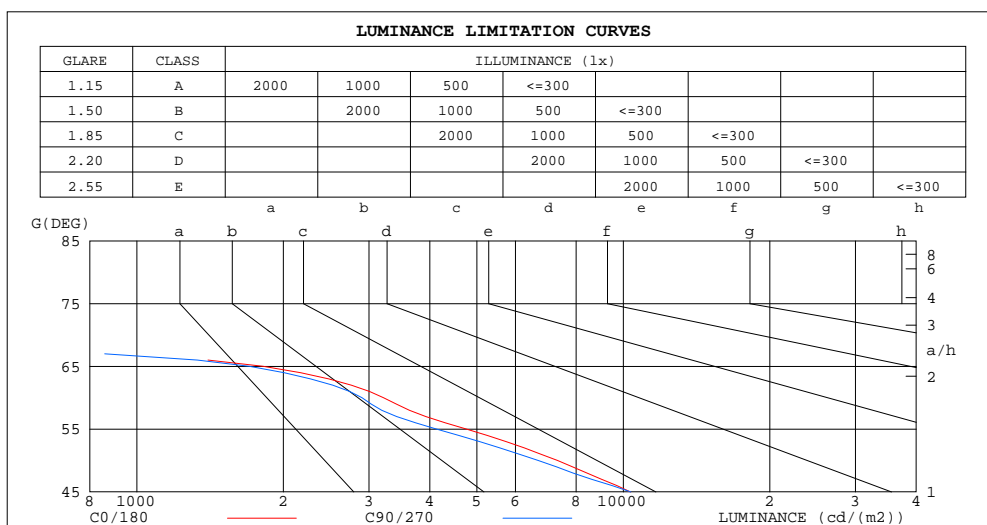
%lamp = 99.8%

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

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 55mm*H150mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	360	391
80	350	377
75	392	427
70	466	493
65	1818	1704
60	3213	2901
55	4757	4129
50	7321	6679
45	10339	10363

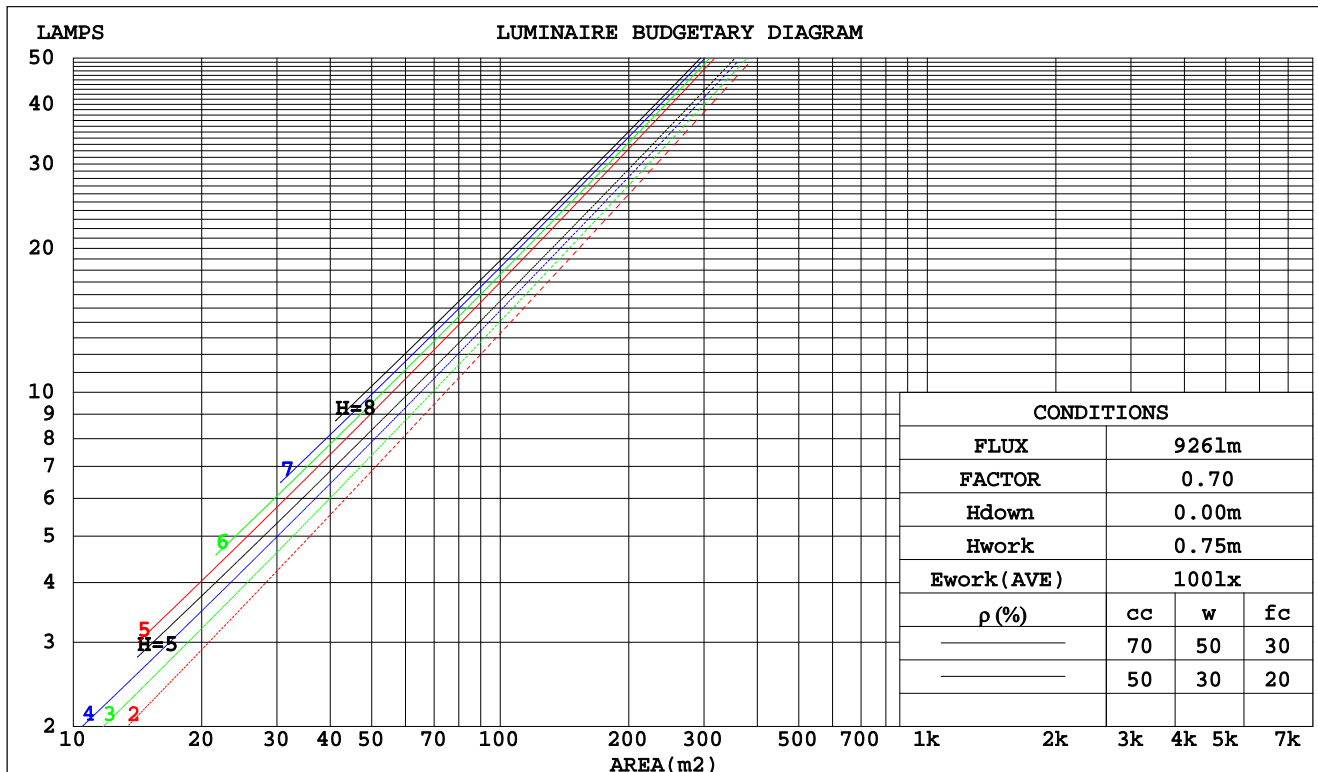
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Meng Yongjian
Test Date:2017-08-30

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi 55\text{mm} \times \text{H}150\text{mm}$	
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						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	1.13	1.11	1.09	1.11	1.09	1.07	1.07	1.05	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.07	1.04	1.02	1.06	1.03	1.01	1.03	1.01	.99	.00	.98	.97	.97	.96	.95	.93
3.0	1.03	.99	.96	1.02	.98	.96	.99	.96	.94	.97	.95	.93	.95	.93	.91	.90
4.0	.99	.95	.92	.98	.94	.91	.96	.93	.90	.94	.91	.89	.92	.90	.88	.87
5.0	.95	.91	.88	.94	.90	.87	.93	.89	.87	.91	.88	.86	.90	.87	.85	.84
6.0	.92	.88	.85	.91	.87	.84	.90	.86	.84	.88	.85	.83	.87	.85	.83	.82
7.0	.89	.85	.82	.88	.84	.81	.87	.84	.81	.86	.83	.81	.85	.82	.80	.79
8.0	.86	.82	.79	.86	.82	.79	.85	.81	.79	.84	.81	.78	.83	.80	.78	.77
9.0	.84	.79	.77	.83	.79	.77	.82	.79	.76	.82	.78	.76	.81	.78	.76	.75
10.0	.81	.77	.74	.81	.77	.74	.80	.77	.74	.80	.76	.74	.79	.76	.74	.73



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

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: \varnothing 55mm*H150mm	
MFR.: NEKO LIGHTING AG		

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	.138	.078	.025	.131	.075	.024	.119	.068	.022	.108	.062	.020	.097	.056	.018		
2.0	.128	.070	.022	.123	.068	.021	.113	.063	.019	.103	.058	.018	.094	.053	.017		
3.0	.120	.064	.019	.115	.062	.019	.107	.058	.018	.099	.054	.017	.091	.051	.016		
4.0	.112	.058	.017	.108	.057	.017	.101	.054	.016	.095	.051	.015	.088	.048	.015		
5.0	.106	.054	.016	.103	.053	.015	.096	.050	.015	.091	.048	.014	.085	.046	.014		
6.0	.100	.050	.014	.097	.049	.014	.092	.047	.014	.087	.045	.013	.082	.043	.013		
7.0	.095	.047	.013	.093	.046	.013	.088	.044	.013	.084	.043	.012	.080	.041	.012		
8.0	.090	.044	.012	.088	.043	.012	.084	.042	.012	.081	.041	.012	.077	.040	.012		
9.0	.086	.042	.012	.085	.041	.012	.081	.040	.011	.078	.039	.011	.074	.038	.011		
10.0	.083	.040	.011	.081	.039	.011	.078	.038	.011	.075	.037	.011	.072	.036	.010		

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	.168	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.136	.113	.096	.116	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.123	.098	.079	.106	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.113	.086	.066	.097	.074	.057	.067	.052	.040	.039	.030	.024	.012	.010	.008	
6.0	.104	.076	.055	.089	.066	.048	.062	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.096	.067	.047	.083	.059	.041	.057	.041	.029	.033	.024	.017	.011	.008	.006	
8.0	.090	.061	.041	.077	.053	.036	.053	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.084	.055	.036	.072	.048	.031	.050	.034	.022	.029	.020	.013	.009	.007	.004	
10.0	.079	.050	.031	.068	.044	.027	.047	.031	.019	.028	.018	.012	.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

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm										
NAME: ROXY Art-15W-930-18					TYPE:Tracklight			SERIAL No.:		
SPEC.:3000K					DIM.: ϕ 55mm*H150mm					
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	10.6	11.2	10.8	11.4	11.5	10.7	11.4	10.9	11.5	11.7
3H	10.5	11.1	10.7	11.3	11.4	10.6	11.2	10.8	11.4	11.6
4H	10.4	11.0	10.6	11.2	11.4	10.5	11.1	10.8	11.3	11.5
6H	10.3	10.9	10.6	11.1	11.3	10.5	11.0	10.7	11.2	11.5
8H	10.3	10.8	10.5	11.0	11.3	10.4	10.9	10.7	11.2	11.4
12H	10.2	10.7	10.5	11.0	11.3	10.4	10.9	10.7	11.1	11.4
4H 2H	10.4	11.0	10.7	11.2	11.4	10.6	11.2	10.9	11.4	11.6
3H	10.3	10.8	10.6	11.1	11.4	10.5	11.0	10.8	11.2	11.5
4H	10.2	10.7	10.6	11.0	11.3	10.4	10.9	10.7	11.1	11.4
6H	10.1	10.6	10.5	10.9	11.2	10.3	10.7	10.7	11.0	11.4
8H	10.1	10.5	10.5	10.8	11.2	10.2	10.6	10.6	11.0	11.3
12H	10.0	10.4	10.4	10.8	11.1	10.2	10.5	10.6	10.9	11.3
8H 4H	10.1	10.5	10.5	10.8	11.2	10.2	10.6	10.6	11.0	11.3
6H	10.0	10.3	10.4	10.7	11.1	10.1	10.4	10.5	10.8	11.2
8H	9.9	10.2	10.4	10.6	11.1	10.1	10.4	10.5	10.8	11.2
12H	9.9	10.1	10.3	10.5	11.0	10.0	10.3	10.5	10.7	11.2
12H 4H	10.0	10.4	10.4	10.7	11.1	10.2	10.5	10.6	10.9	11.3
6H	9.9	10.2	10.4	10.6	11.1	10.1	10.4	10.5	10.8	11.2
8H	9.9	10.1	10.3	10.5	11.0	10.0	10.3	10.5	10.7	11.2
Variations with the observer position at spacings:										
S = 1.0H	+ 1.9 / - 4.2					+ 2.1 / - 5.0				
1.5H	+ 2.3 / - 3.5					+ 2.8 / - 3.6				
2.0H	+ 3.9 / - 4.6					+ 4.1 / - 4.7				

CIE Pub.117, 925.7 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -0.3$)

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

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing 55\text{mm} \times H150\text{mm}$	
MFR.: NEKO LIGHTING AG		

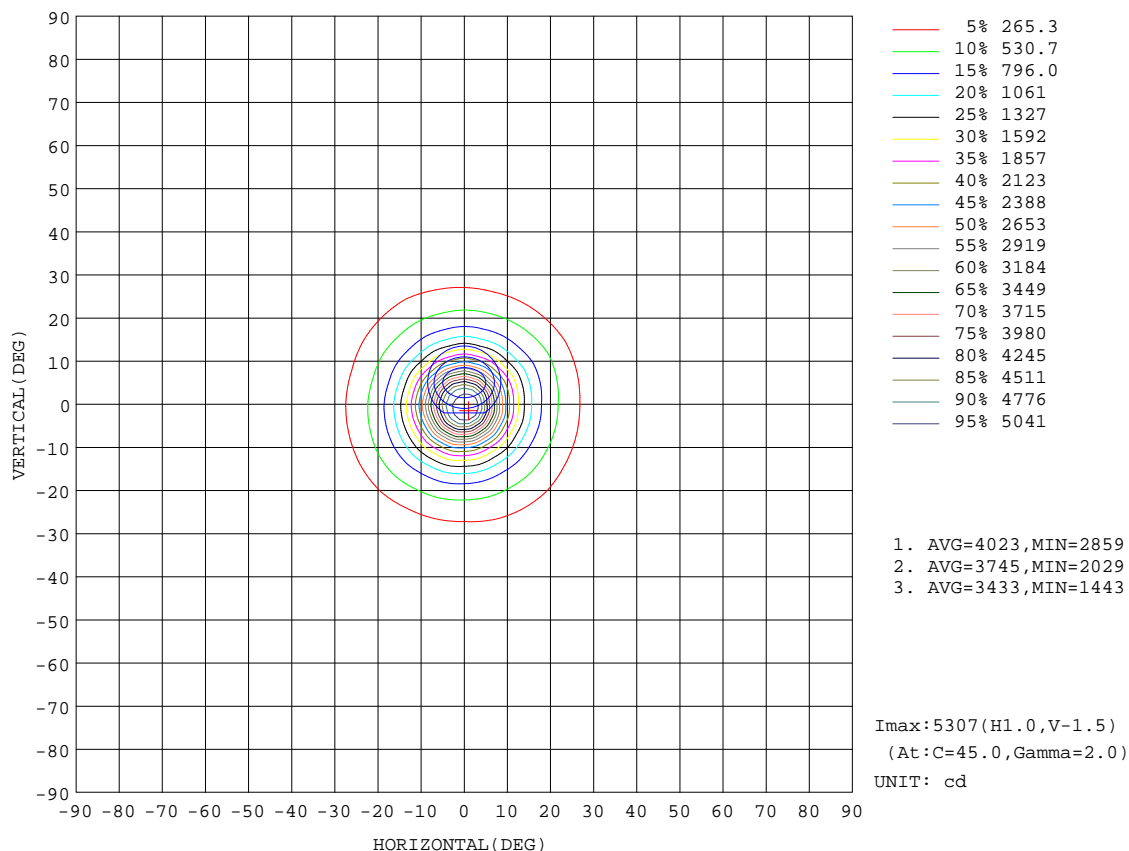
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	80	77
0.80	97	92	88	97	91	88	95	91	88	84
1.00	101	96	93	100	96	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	104	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

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 γ 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:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 55mm*H150mm	
MFR.: NEKO LIGHTING AG		



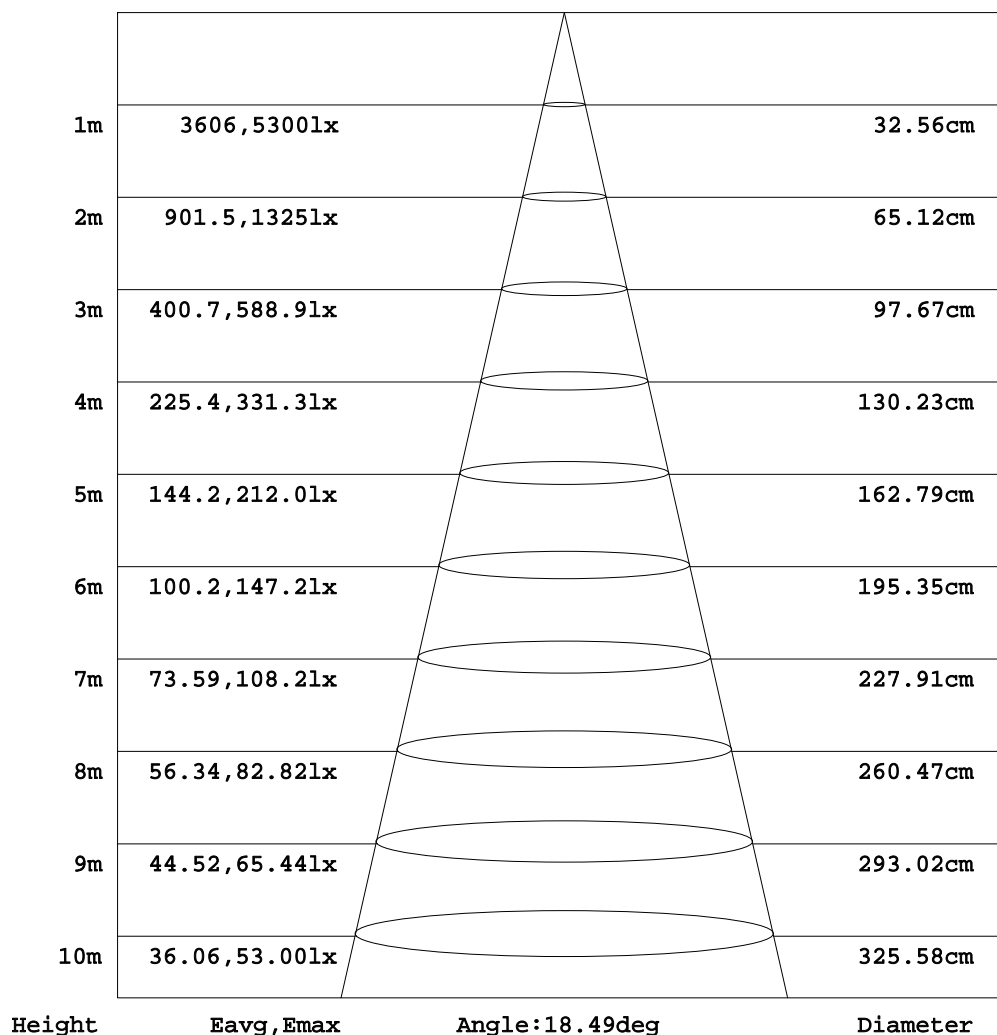
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Meng Yongjian
Test Date:2017-08-30

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 55mm*H150mm	
MFR.: NEKO LIGHTING AG		

Flux out:352.2 lm



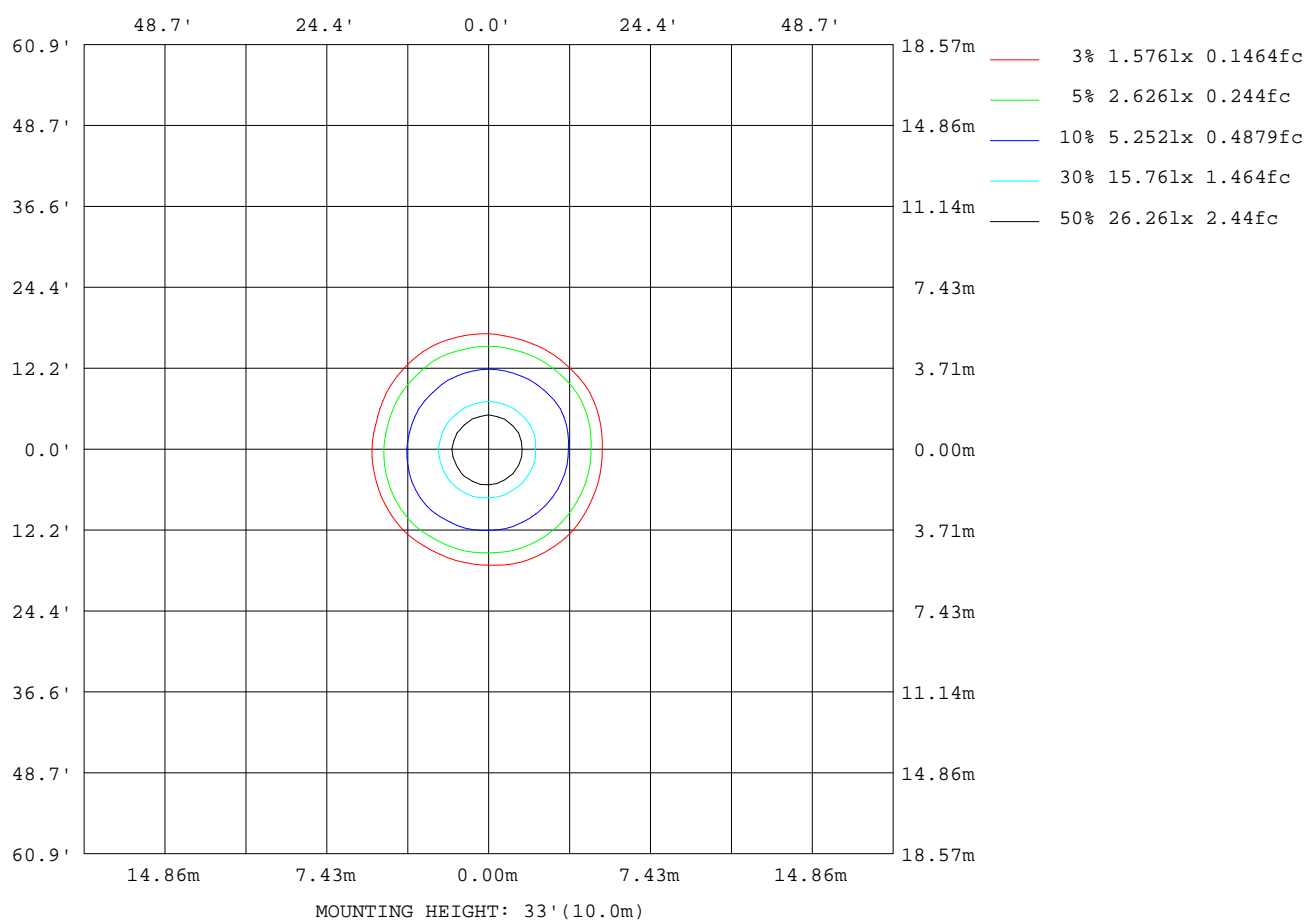
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 55mm*H150mm	
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

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:220.8V I:0.0713A P:15.05W PF:0.9564 Freq:50.00Hz Lamp Flux:925.665x1 lm		
NAME: ROXY Art-15W-930-18	TYPE:Tracklight	SERIAL No.:
SPEC.:3000K	DIM.: ϕ 55mm*H150mm	
MFR.: NEKO LIGHTING AG		

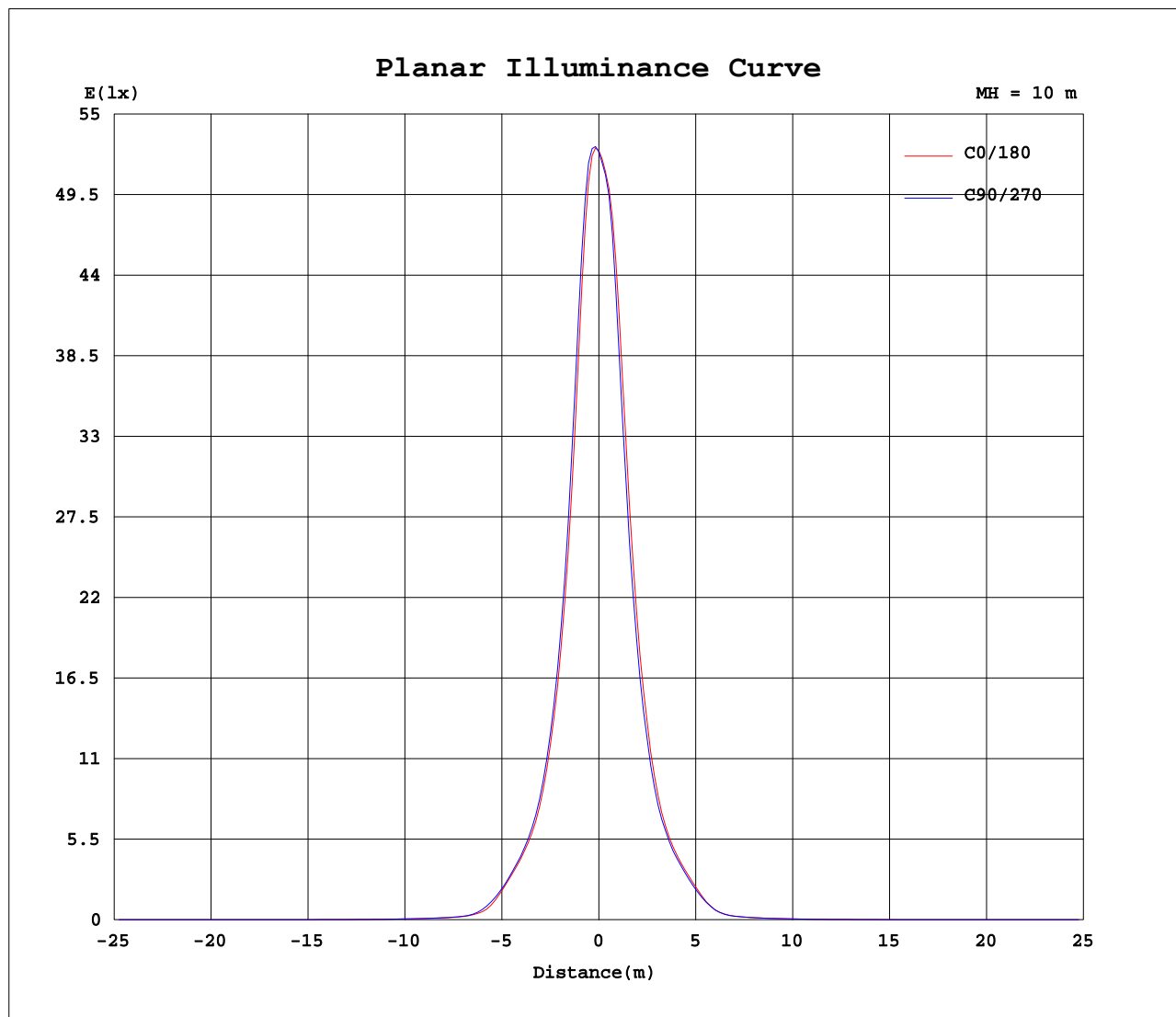
AvgL	cd/m2
L_0~180 (65) av	1799
L_0~180 (75) av	366
L_0~180 (85) av	290
L_90~270 (65) av	1663
L_90~270 (75) av	373
L_90~270 (85) av	301
L_45 (65) av	1795
L_45 (75) av	364
L_45 (85) av	309

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

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: 2017-08-30

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:

```

```

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:

```