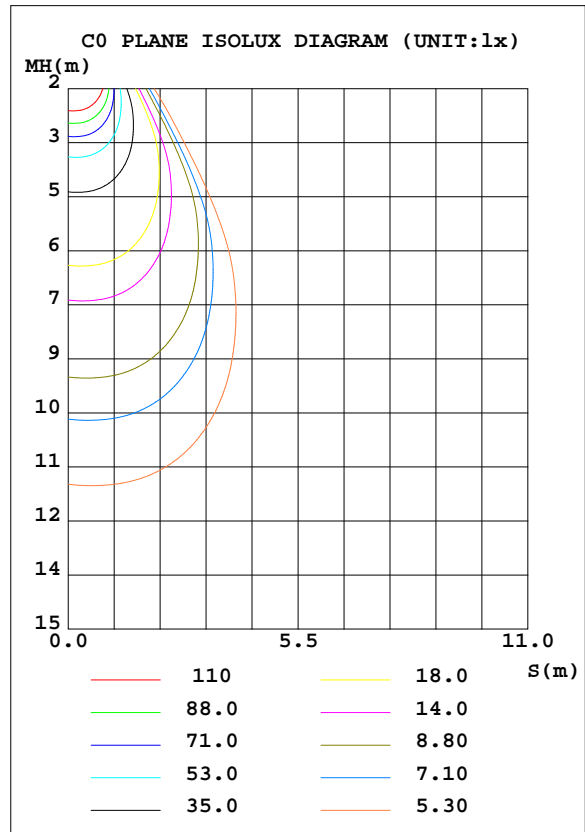
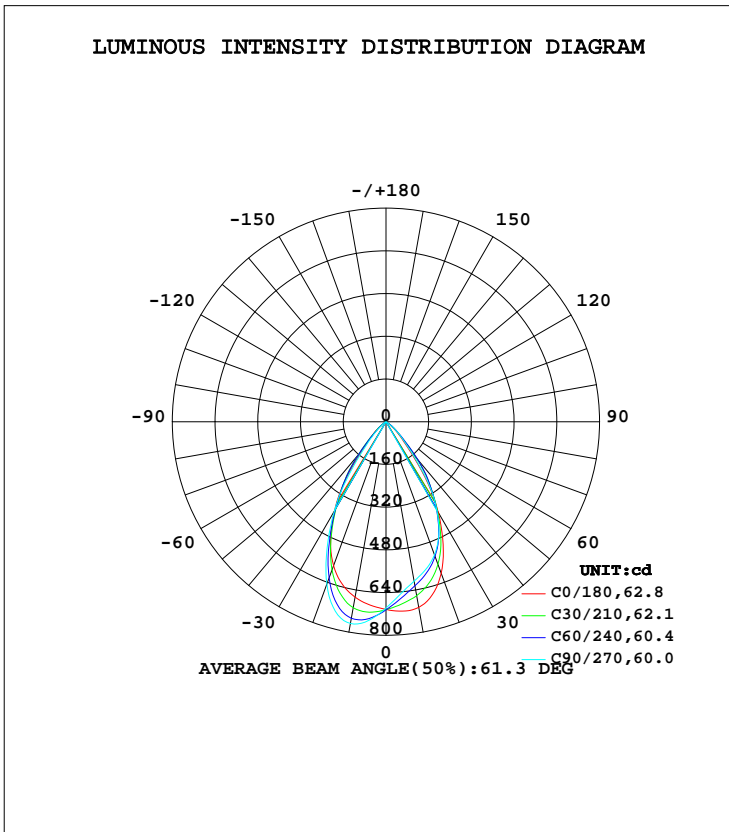


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 76.72 lm/W			
MODEL	CITIZEN-3000K	I <sub>max</sub> (cd)	767.2	S/MH(C0/180)	0.94
NOMINAL POWER(W)	9	LOR(%)	100.0	S/MH(C90/270)	0.93
RATED VOLTAGE(V)	38	TOTAL FLUX(lm)	720.08	η UP, DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	720.079	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	36.1	η down(%)	100.0	CIBSE SHR MAX	0.95



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Myles  
 Test Date:2018-11-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:56%  
 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	705.9	641.4	606.5	643.7	667.4	727.3	767.2	743.1	0- 10	66.41	66.41	9.22,9.22
20	604.5	551.4	531.1	560.2	574.0	602.8	647.8	619.6	10- 20	182.1	248.5	34.5,34.5
30	391.3	382.0	380.6	385.6	386.8	371.3	388.2	372.1	20- 30	224.0	472.5	65.6,65.6
40	130.3	206.4	144.6	204.3	139.0	186.3	116.2	182.1	30- 40	166.6	639.1	88.7,88.7
50	32.06	49.07	43.17	48.34	37.03	37.28	23.46	35.16	40- 50	65.75	704.8	97.9,97.9
60	2.588	4.526	3.062	4.120	2.533	2.850	2.205	3.140	50- 60	13.56	718.4	99.8,99.8
70	0.5691	0.7275	0.4751	0.5832	0.5044	0.5580	0.4192	0.6455	60- 70	1.256	719.6	99.9,99.9
80	0.1839	0.2030	0.1424	0.1682	0.1419	0.1620	0.0982	0.1708	70- 80	0.3594	720.0	100,100
90	0.0415	0.0350	0.0394	0.0394	0.0394	0.0153	0.0175	0.0153	80- 90	0.0798	720.1	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): 681.83 lm

%lum = 94.7%

%lamp = 94.7%

Conical surface Flux(120deg): 718.38 lm

%lum = 99.8%

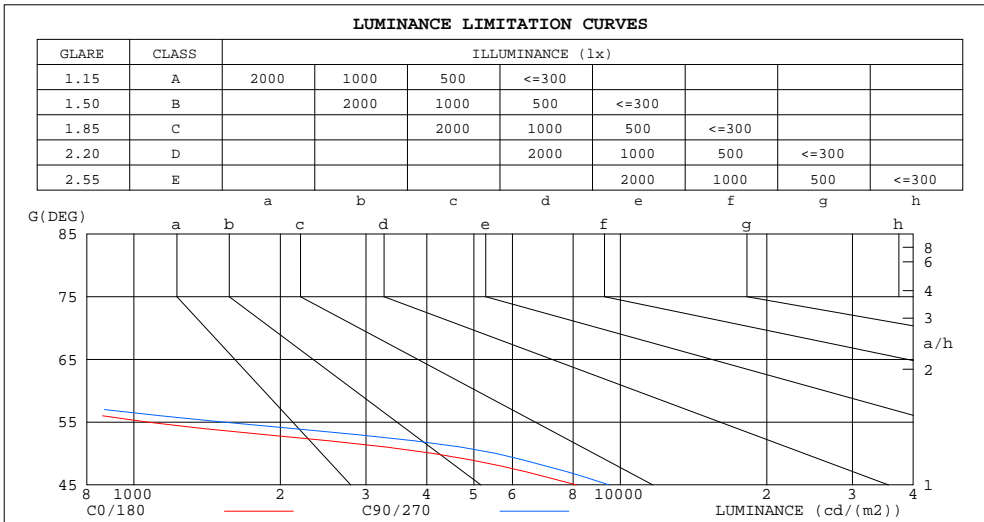
%lamp = 99.8%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2018-11-03

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	93	58
80	88	68
75	105	87
70	138	115
65	191	164
60	428	506
55	1065	1524
50	4122	5550
45	8128	9486

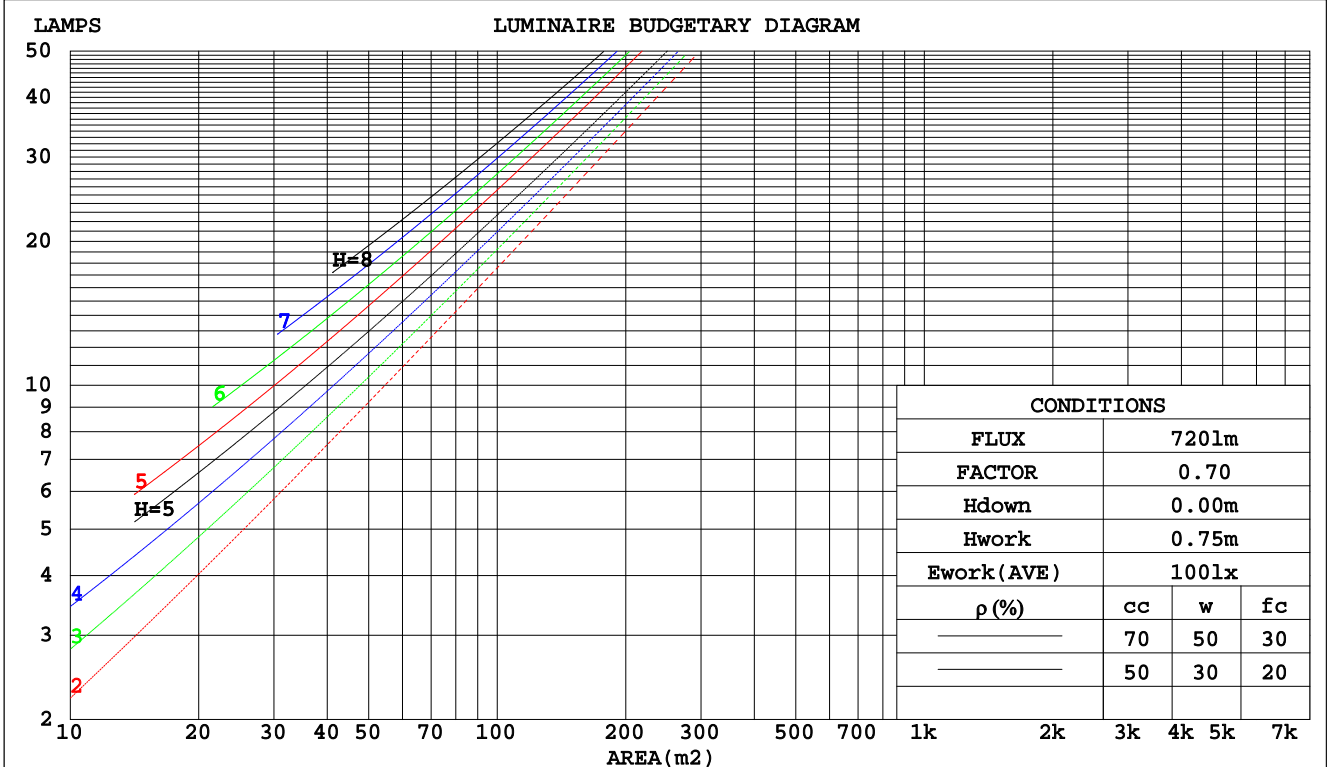
C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Myles  
 Test Date: 2018-11-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 56%  
 Test Distance: 5.850m [K=1.0000]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
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																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	.00
1.0	1.10	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.94	.97	.94	.92	.94	.92	.90	.92	.90	.88	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.89	.85	.82	.86	.84	.81	.80
4.0	.88	.83	.78	.87	.82	.78	.85	.81	.77	.83	.79	.76	.81	.78	.75	.74
5.0	.82	.76	.72	.81	.76	.72	.80	.75	.71	.78	.74	.70	.76	.73	.70	.68
6.0	.77	.71	.66	.76	.70	.66	.75	.69	.66	.73	.69	.65	.72	.68	.65	.63
7.0	.72	.66	.61	.71	.65	.61	.70	.65	.61	.69	.64	.61	.68	.63	.60	.59
8.0	.68	.61	.57	.67	.61	.57	.66	.61	.57	.65	.60	.56	.64	.60	.56	.55
9.0	.64	.57	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.53	.51
10.0	.60	.54	.50	.59	.54	.50	.59	.53	.50	.58	.53	.50	.57	.53	.49	.48



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Myles  
 Test Date: 2018-11-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 56%  
 Test Distance: 5.850m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
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	.183	.104	.033	.177	.101	.032	.164	.094	.030	.152	.088	.028	.142	.082	.026	
2.0	.177	.097	.030	.171	.094	.029	.161	.089	.028	.151	.085	.026	.142	.080	.025	
3.0	.169	.090	.027	.164	.088	.027	.155	.084	.026	.147	.080	.025	.139	.077	.024	
4.0	.162	.084	.025	.158	.082	.024	.150	.079	.024	.142	.076	.023	.135	.074	.022	
5.0	.154	.079	.023	.151	.077	.023	.144	.075	.022	.137	.072	.022	.131	.070	.021	
6.0	.148	.074	.021	.144	.073	.021	.138	.071	.021	.133	.069	.020	.127	.067	.020	
7.0	.141	.070	.020	.138	.069	.020	.133	.067	.019	.128	.065	.019	.123	.064	.019	
8.0	.135	.066	.019	.132	.065	.018	.128	.064	.018	.123	.062	.018	.119	.061	.018	
9.0	.129	.063	.017	.127	.062	.017	.123	.061	.017	.119	.059	.017	.115	.058	.017	
10.0	.124	.059	.017	.122	.059	.016	.118	.058	.016	.114	.057	.016	.111	.056	.016	

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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.067	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008	
5.0	.127	.088	.058	.109	.076	.051	.075	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.120	.078	.049	.103	.068	.042	.071	.048	.030	.041	.028	.018	.013	.009	.006	
7.0	.114	.071	.041	.098	.062	.036	.068	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.108	.065	.035	.093	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.103	.060	.030	.089	.052	.027	.062	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.099	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Myles  
 Test Date:2018-11-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:56%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
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	17.6	18.6	17.9	18.8	19.0	17.9	18.9	18.1	19.0	19.2
3H	17.5	18.4	17.7	18.6	18.8	17.7	18.6	17.9	18.8	19.0
4H	17.4	18.2	17.6	18.5	18.7	17.6	18.5	17.9	18.7	18.9
6H	17.3	18.1	17.6	18.3	18.6	17.5	18.3	17.8	18.6	18.8
8H	17.2	18.0	17.5	18.3	18.5	17.5	18.2	17.8	18.5	18.8
12H	17.2	17.9	17.5	18.2	18.5	17.4	18.2	17.7	18.4	18.7
4H 2H	17.4	18.3	17.7	18.5	18.7	17.6	18.5	17.9	18.7	18.9
3H	17.2	17.9	17.5	18.2	18.5	17.4	18.2	17.8	18.4	18.7
4H	17.1	17.8	17.5	18.1	18.4	17.3	18.0	17.7	18.3	18.6
6H	17.0	17.6	17.4	17.9	18.3	17.2	17.8	17.6	18.2	18.5
8H	17.0	17.5	17.4	17.9	18.2	17.2	17.7	17.6	18.1	18.5
12H	16.9	17.4	17.3	17.8	18.2	17.1	17.6	17.6	18.0	18.4
8H 4H	17.0	17.5	17.4	17.9	18.2	17.2	17.7	17.6	18.1	18.5
6H	16.9	17.3	17.3	17.7	18.1	17.1	17.5	17.5	17.9	18.3
8H	16.8	17.2	17.3	17.6	18.1	17.0	17.4	17.5	17.8	18.3
12H	16.8	17.1	17.2	17.5	18.0	17.0	17.3	17.5	17.8	18.2
12H 4H	16.9	17.4	17.3	17.8	18.2	17.1	17.6	17.6	18.0	18.4
6H	16.8	17.2	17.3	17.6	18.1	17.0	17.4	17.5	17.8	18.3
8H	16.8	17.1	17.2	17.5	18.0	17.0	17.3	17.5	17.8	18.2
Variations with the observer position at spacings:										
S = 1.0H	+ 2.6 / -15.5					+ 2.6 / -15.4				
1.5H	+ 3.8 / - 7.8					+ 3.7 / - 7.2				
2.0H	+ 5.8 / -14.2					+ 5.6 / -15.8				

CIE Pub.117, 720.1 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.1)

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Myles  
 Test Date:2018-11-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:56%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

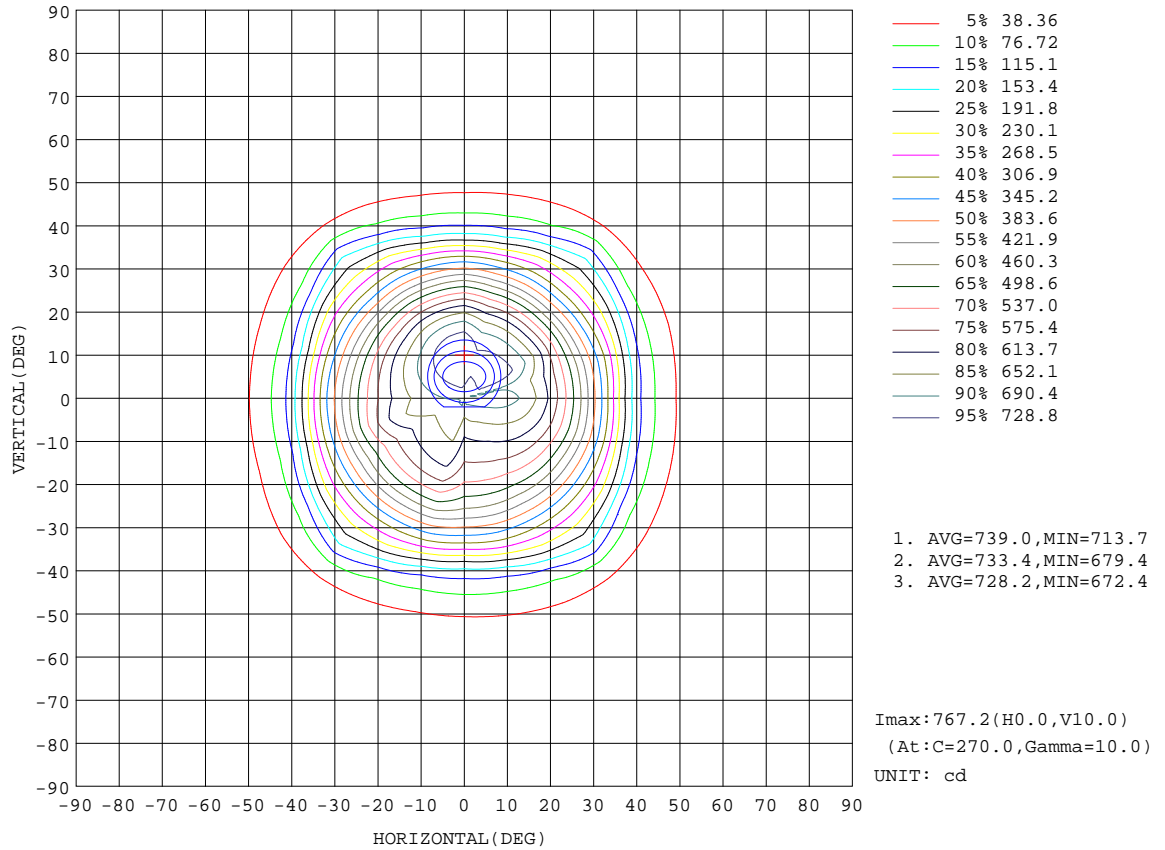
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	92	86	82	90	85	81	78
1.00	98	92	88	97	91	87	95	91	87	83
1.25	102	96	93	101	96	92	99	95	92	87
1.50	105	100	96	104	99	96	101	98	95	90
2.00	108	104	100	107	103	99	104	101	98	93
2.50	110	106	103	108	104	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	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			

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Myles  
 Test Date:2018-11-03

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:56%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Myles  
 Test Date:2018-11-03

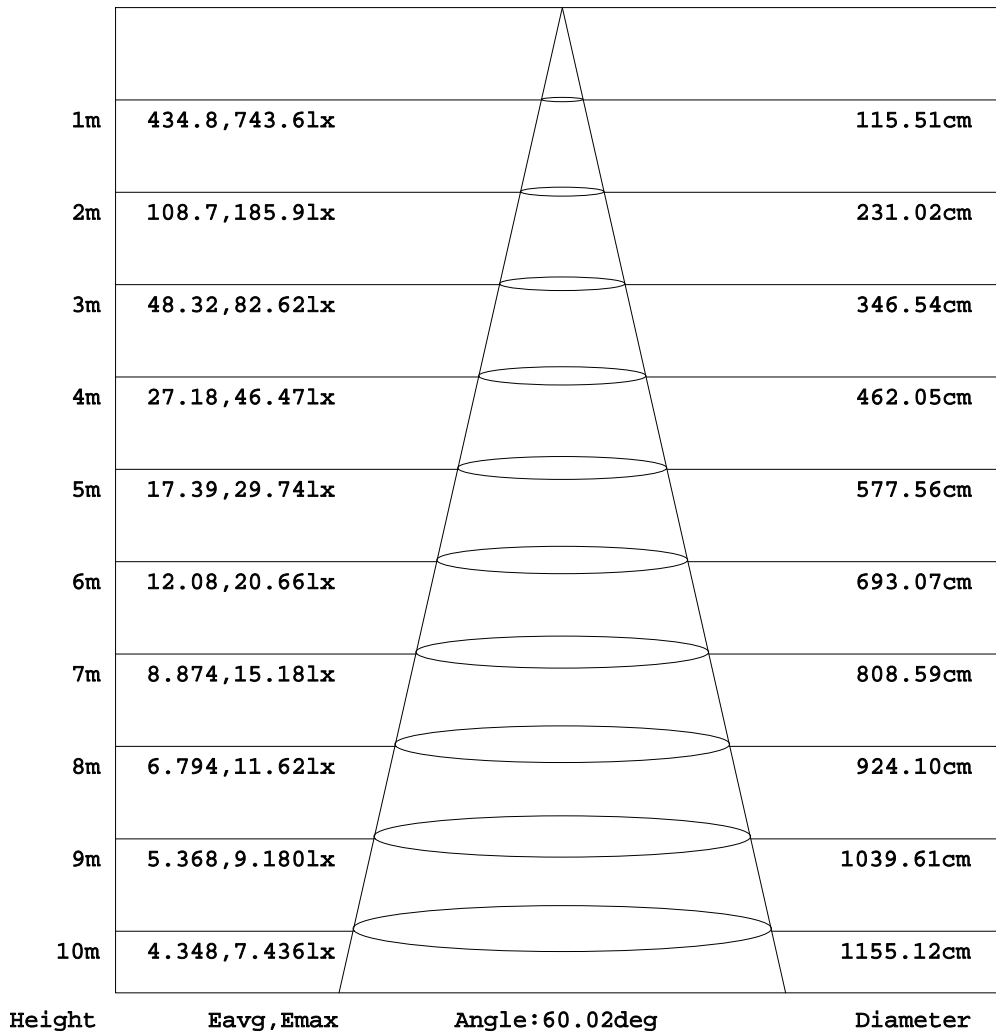
γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:56%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:



**AAI Figure**

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

Flux out:493.2 lm



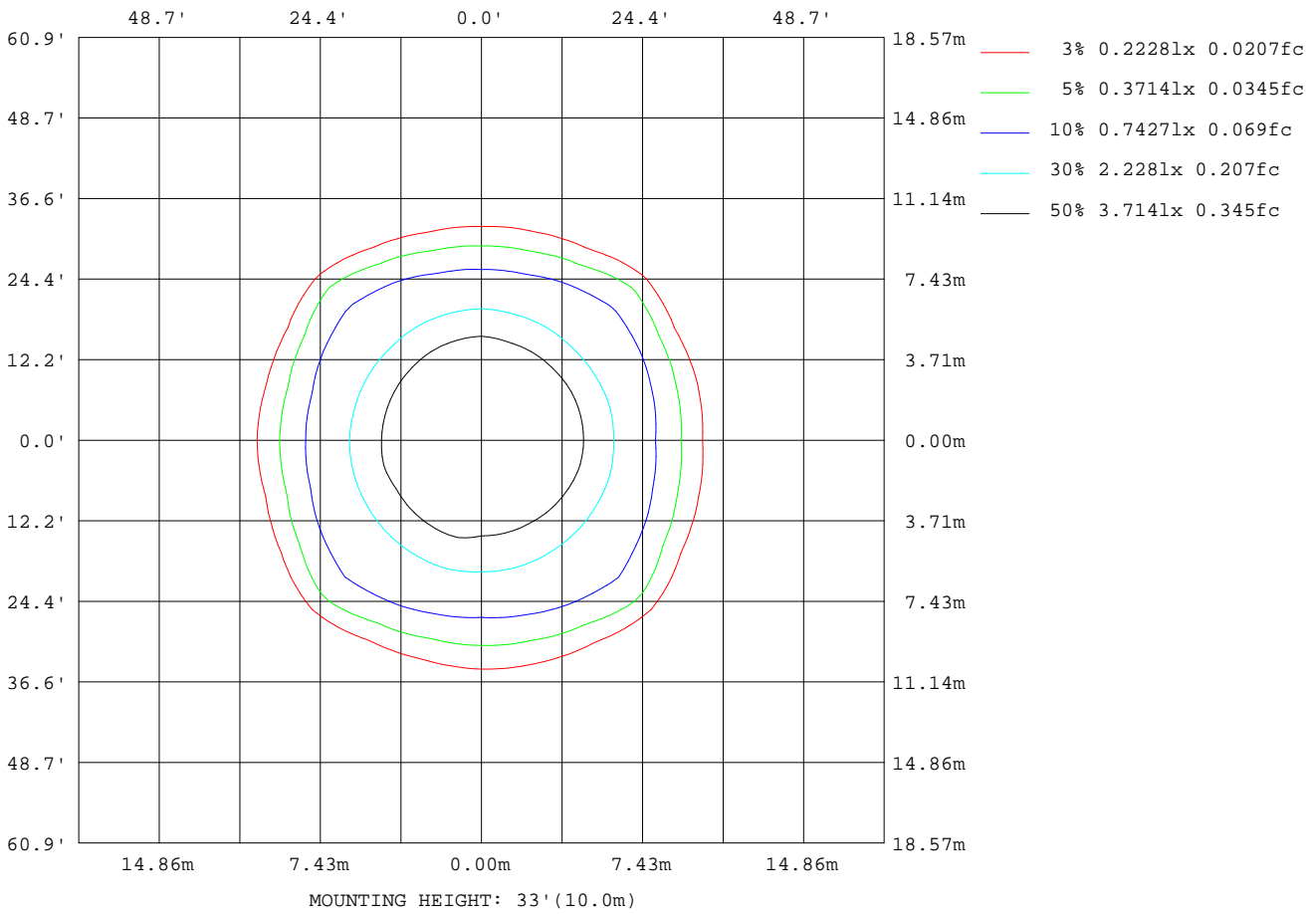
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2018-11-03

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Myles  
 Test Date:2018-11-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:56%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

LED Avg.L Report

Test:U:36.10V I:0.2600A P:9.386W PF:1.000 Freq:0Hz Lamp Flux:720.079x1 lm		
NAME: TS100-9W-930	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: L110mm*W110mm*H80mm	
MFR.: NEKO LIGHTING AG		

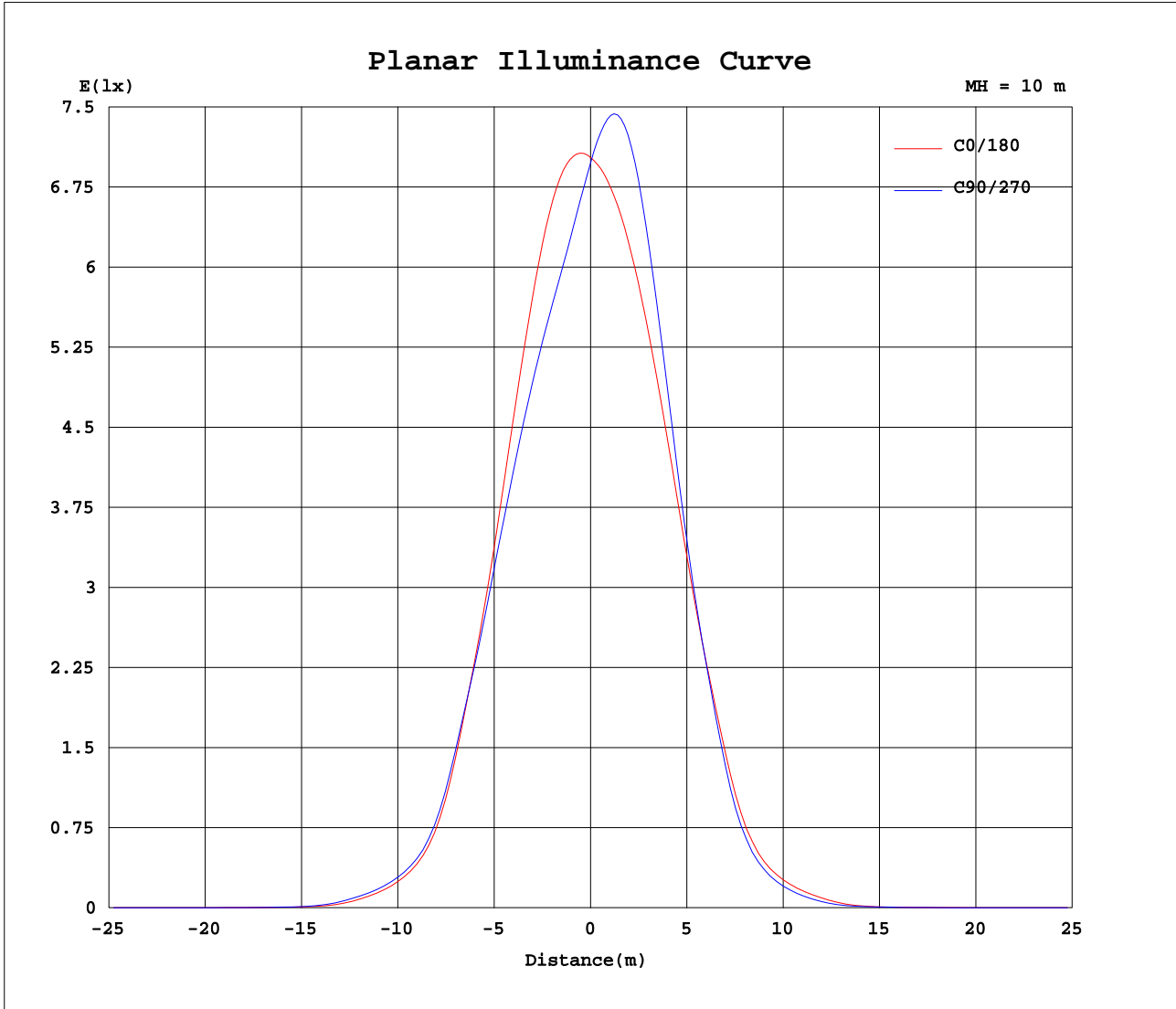
AvgL	cd/m2
L_0~180(65)av	182
L_0~180(75)av	97
L_0~180(85)av	78
L_90~270(65)av	155
L_90~270(75)av	78
L_90~270(85)av	40
L_45(65)av	232
L_45(75)av	115
L_45(85)av	60

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Myles  
Test Date:2018-11-03

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:56%  
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: Myles  
 Test Date: 2018-11-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity: 56%  
 Test Distance: 5.850m [K=1.0000]  
 Remarks:



