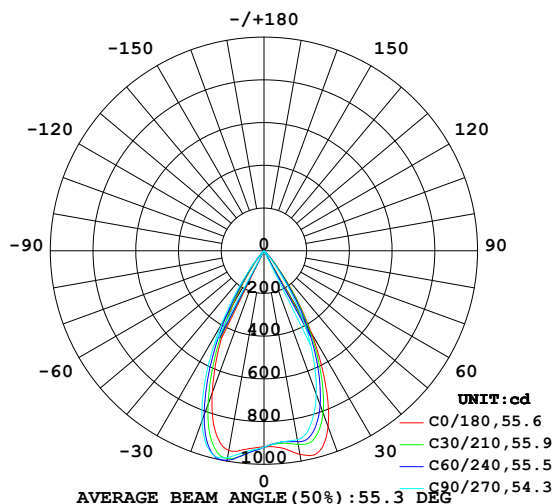


LUMINAIRE PHOTOMETRIC TEST REPORT

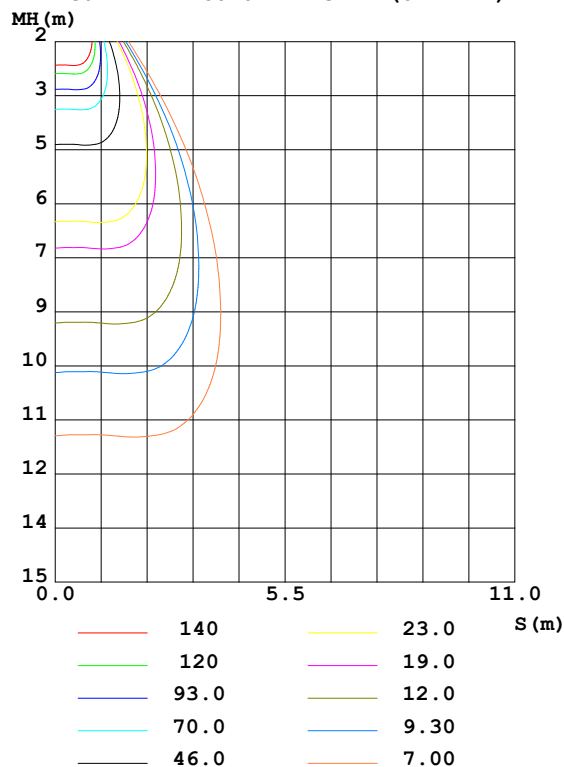
Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.621x1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 65.40 lm/W			
MODEL	CITIZEN-3000K	I <sub>max</sub> (cd)	999.2	S/MH (C0/180)	0.78
NOMINAL POWER (W)	11	LOR (%)	88.8	S/MH (C90/270)	0.84
RATED VOLTAGE (V)	31	TOTAL FLUX (lm)	740.84	$\eta$ UP,DN (C0-180)	0.0,43.4
NOMINAL FLUX (lm)	834.621	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.0,45.4
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	30.63	$\eta$ down (%)	88.8	CIBSE SHR MAX	0.85

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [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	967.4	914.1	898.9	933.4	949.1	991.1	983.2	950.6	0- 10	89.24	89.24	12,10.7
20	876.8	788.6	715.7	698.0	709.2	792.7	849.2	859.1	10- 20	252.4	341.7	46.1,40.9
30	443.1	411.0	348.7	282.3	287.8	331.8	399.5	446.7	20- 30	264.3	606.0	81.8,72.6
40	86.56	73.89	50.38	37.48	40.15	46.95	61.69	83.09	30- 40	113.9	719.9	97.2,86.3
50	9.698	8.244	5.534	4.073	4.315	5.242	7.308	10.01	40- 50	18.16	738.1	99.6,88.4
60	1.180	1.023	0.6756	0.5520	0.5147	0.5920	0.8412	1.077	50- 60	2.336	740.4	99.9,88.7
70	0.1794	0.1591	0.0925	0.0974	0.0758	0.0824	0.1146	0.1084	60- 70	0.3342	740.7	100,88.8
80	0.0598	0.0357	0.0273	0.0325	0.0271	0.0330	0.0545	0.0433	70- 80	0.0672	740.8	100,88.8
90	0.0271	0.0274	0.0273	0.0271	0.0271	0.0274	0.0273	0.0271	80- 90	0.0338	740.8	100,88.8
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): 733.15 lm

%lum = 99.0%

%lamp = 87.8%

Conical surface Flux(120deg): 740.4 lm

%lum = 99.9%

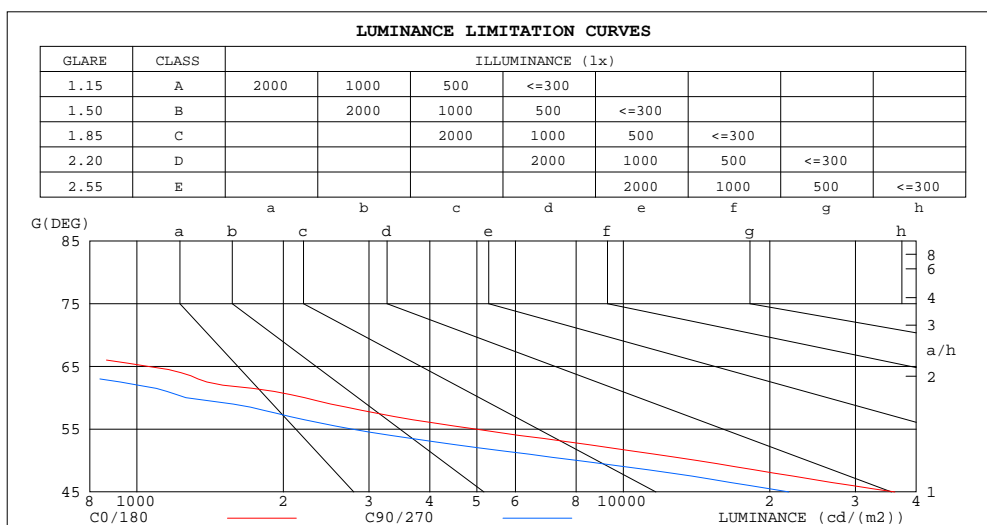
%lamp = 88.7%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### LUMINANCE LIMITATION CURVES

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	352	292
80	323	147
75	354	98
70	492	252
65	1051	541
60	2213	1261
55	4966	2765
50	14143	8035
45	36152	21885

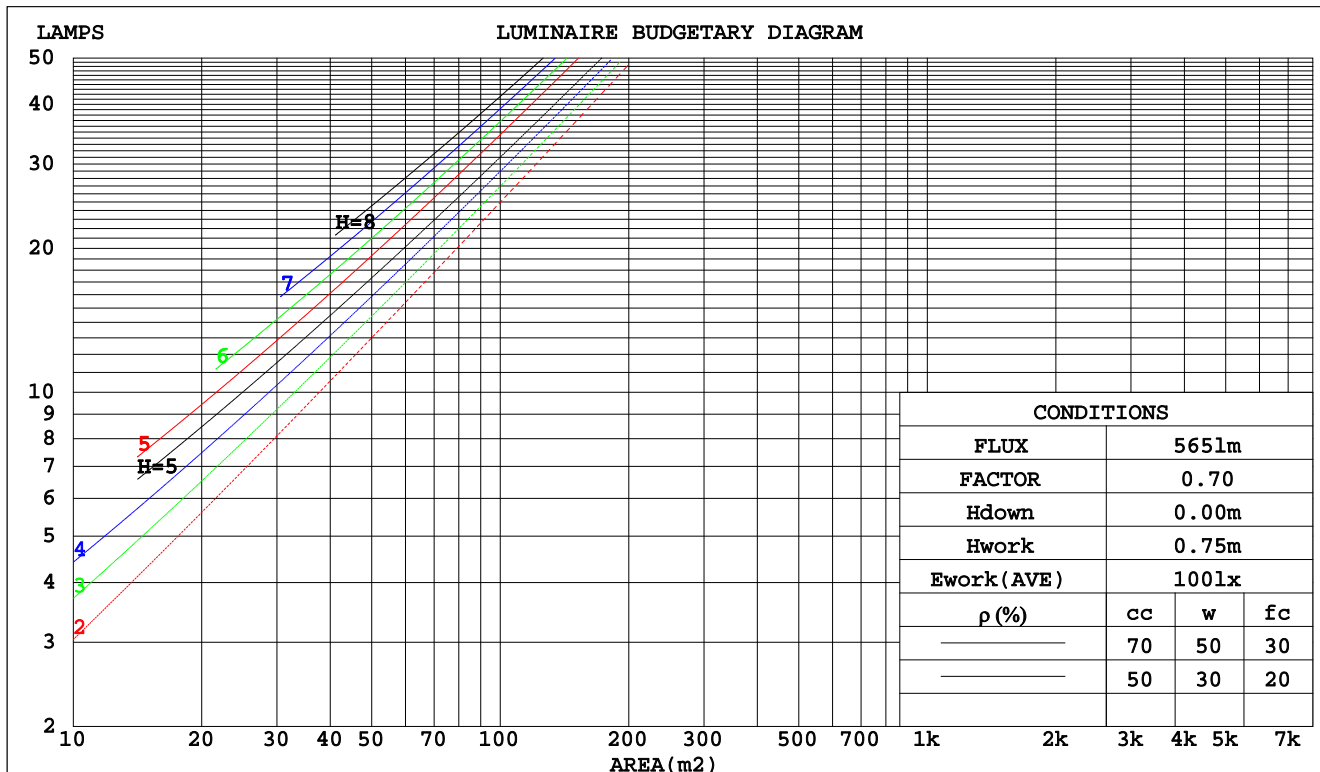
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
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	1.06	1.06	1.06	1.03	1.03	1.03	.99	.99	.99	.94	.94	.94	.91	.91	.91	.89														
1.0	.99	.97	.95	.97	.95	.93	.93	.92	.91	.90	.89	.88	.87	.86	.85	.84														
2.0	.93	.89	.86	.91	.88	.86	.88	.86	.84	.86	.84	.82	.83	.82	.80	.79														
3.0	.87	.83	.80	.86	.82	.79	.83	.80	.78	.81	.79	.77	.79	.77	.75	.74														
4.0	.82	.77	.74	.81	.77	.73	.79	.75	.73	.77	.74	.72	.76	.73	.71	.70														
5.0	.77	.72	.69	.76	.72	.69	.75	.71	.68	.73	.70	.67	.72	.69	.67	.66														
6.0	.73	.68	.65	.72	.68	.64	.71	.67	.64	.70	.66	.63	.69	.65	.63	.62														
7.0	.69	.64	.61	.68	.64	.60	.67	.63	.60	.66	.63	.60	.65	.62	.60	.58														
8.0	.65	.61	.57	.65	.60	.57	.64	.60	.57	.63	.59	.57	.62	.59	.56	.55														
9.0	.62	.57	.54	.62	.57	.54	.61	.57	.54	.60	.56	.54	.59	.56	.53	.52														
10.0	.59	.54	.51	.59	.54	.51	.58	.54	.51	.57	.53	.51	.57	.53	.51	.50														



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

## WEC AND CCEC

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

$\rho_{cc}$	80%			70%			50%			30%			10%			0	
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
$\rho_{fc}$	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.148	.084	.027	.142	.081	.026	.131	.075	.024	.121	.070	.022	.111	.064	.021		
2.0	.141	.077	.024	.136	.075	.023	.126	.070	.022	.118	.066	.021	.110	.062	.020		
3.0	.134	.071	.021	.130	.069	.021	.122	.066	.020	.114	.063	.019	.108	.060	.018		
4.0	.127	.066	.019	.124	.065	.019	.117	.062	.019	.111	.059	.018	.105	.057	.017		
5.0	.122	.062	.018	.118	.061	.018	.113	.059	.017	.107	.056	.017	.102	.054	.016		
6.0	.116	.058	.017	.114	.057	.017	.108	.056	.016	.103	.054	.016	.099	.052	.015		
7.0	.111	.055	.016	.109	.054	.015	.104	.053	.015	.100	.051	.015	.096	.050	.015		
8.0	.107	.052	.015	.105	.052	.015	.101	.050	.014	.097	.049	.014	.093	.048	.014		
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.094	.047	.013	.090	.046	.013		
10.0	.099	.047	.013	.097	.047	.013	.094	.046	.013	.091	.045	.013	.088	.044	.013		

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.169	.169	.169	.144	.144	.144	.099	.099	.099	.057	.057	.057	.018	.018	.018	
1.0	.151	.140	.129	.129	.120	.111	.089	.082	.077	.051	.048	.045	.016	.015	.014	
2.0	.137	.118	.101	.117	.101	.088	.080	.070	.061	.046	.041	.036	.015	.013	.012	
3.0	.126	.101	.081	.108	.087	.070	.074	.060	.049	.043	.035	.029	.014	.011	.010	
4.0	.116	.088	.066	.100	.076	.057	.069	.053	.040	.040	.031	.024	.013	.010	.008	
5.0	.108	.077	.054	.093	.067	.047	.064	.047	.033	.037	.027	.020	.012	.009	.007	
6.0	.101	.069	.045	.087	.060	.039	.060	.042	.028	.035	.025	.017	.011	.008	.005	
7.0	.096	.062	.038	.082	.054	.033	.057	.038	.024	.033	.022	.014	.011	.007	.005	
8.0	.091	.056	.033	.078	.049	.029	.054	.034	.020	.031	.020	.012	.010	.007	.004	
9.0	.086	.052	.028	.074	.045	.025	.051	.032	.018	.030	.019	.011	.010	.006	.003	
10.0	.082	.048	.025	.071	.041	.022	.049	.029	.015	.029	.017	.009	.009	.006	.003	

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:8.967m [K=1.0000]  
 Remarks:

## UGR(Unified Glare Rating) Table

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx1 lm										
NAME: MINUX 44-9W-930-50D					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: $\phi$ 51mm*H92mm					
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	23.0	23.9	23.2	24.0	24.2	21.6	22.5	21.8	22.6	22.8
3H	22.8	23.6	23.1	23.8	24.0	21.4	22.2	21.7	22.4	22.6
4H	22.8	23.5	23.0	23.7	24.0	21.3	22.1	21.6	22.3	22.5
6H	22.7	23.4	23.0	23.6	23.9	21.2	21.9	21.5	22.2	22.4
8H	22.6	23.3	22.9	23.6	23.8	21.2	21.9	21.5	22.1	22.4
12H	22.6	23.2	22.9	23.5	23.8	21.1	21.8	21.5	22.1	22.3
4H 2H	22.8	23.5	23.0	23.7	24.0	21.3	22.1	21.6	22.3	22.5
3H	22.6	23.2	22.9	23.5	23.8	21.1	21.8	21.5	22.1	22.3
4H	22.5	23.1	22.8	23.4	23.7	21.1	21.6	21.4	21.9	22.2
6H	22.4	22.9	22.8	23.2	23.6	21.0	21.5	21.3	21.8	22.2
8H	22.3	22.8	22.7	23.2	23.5	20.9	21.4	21.3	21.7	22.1
12H	22.3	22.7	22.7	23.1	23.5	20.9	21.3	21.3	21.7	22.1
8H 4H	22.3	22.8	22.7	23.2	23.5	20.9	21.4	21.3	21.7	22.1
6H	22.2	22.6	22.7	23.0	23.4	20.8	21.2	21.2	21.6	22.0
8H	22.2	22.5	22.6	22.9	23.4	20.7	21.1	21.2	21.5	21.9
12H	22.1	22.4	22.6	22.9	23.3	20.7	21.0	21.2	21.4	21.9
12H 4H	22.3	22.7	22.7	23.1	23.5	20.9	21.3	21.3	21.7	22.1
6H	22.2	22.5	22.6	22.9	23.4	20.7	21.1	21.2	21.5	21.9
8H	22.1	22.4	22.6	22.9	23.3	20.7	21.0	21.2	21.4	21.9
Variations with the observer position at spacings:										
S = 1.0H	+ 4.2 / -19.3					+ 3.3 / -19.5				
1.5H	+ 6.7 / -16.2					+ 5.9 / -15.2				
2.0H	+ 7.5 / -13.5					+ 6.6 / -11.8				

CIE Pub.117, 834.6 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -0.6$ )

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing 51\text{mm} \times H92\text{mm}$	
MFR.: NEKO LIGHTING AG		

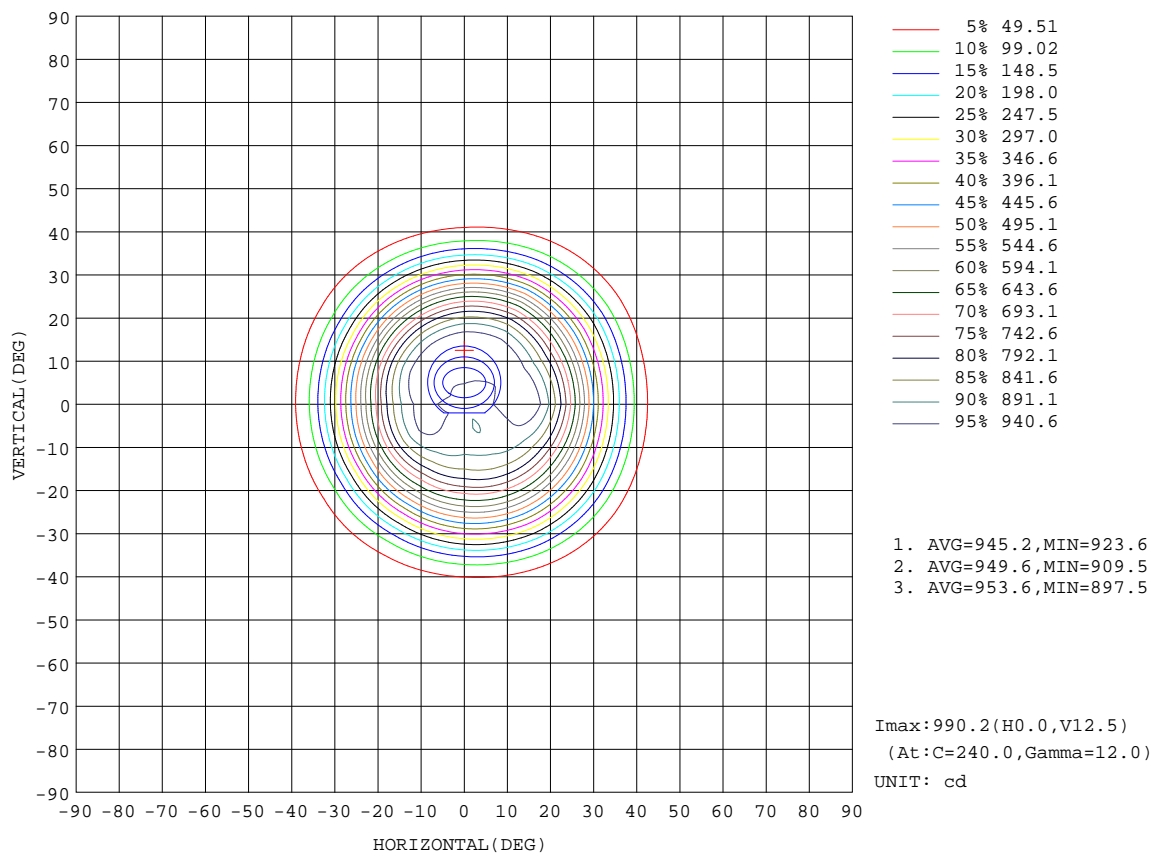
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	80	74	71	79	74	71	79	74	71	68
0.80	86	81	78	85	81	78	84	80	78	75
1.00	90	85	82	89	85	82	88	84	81	78
1.25	93	89	86	92	88	85	90	87	85	81
1.50	95	91	89	94	91	88	92	89	87	83
2.00	97	94	91	96	93	90	94	91	89	85
2.50	99	95	93	97	94	92	94	92	90	85
3.00	100	97	95	98	96	94	95	93	92	86
4.00	101	99	97	100	98	96	97	95	94	88
5.00	103	101	99	101	99	98	97	96	95	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:58%  
 Test Distance:8.967m [K=1.0000]  
 Remarks:

# ISOCANDELA DIAGRAM

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

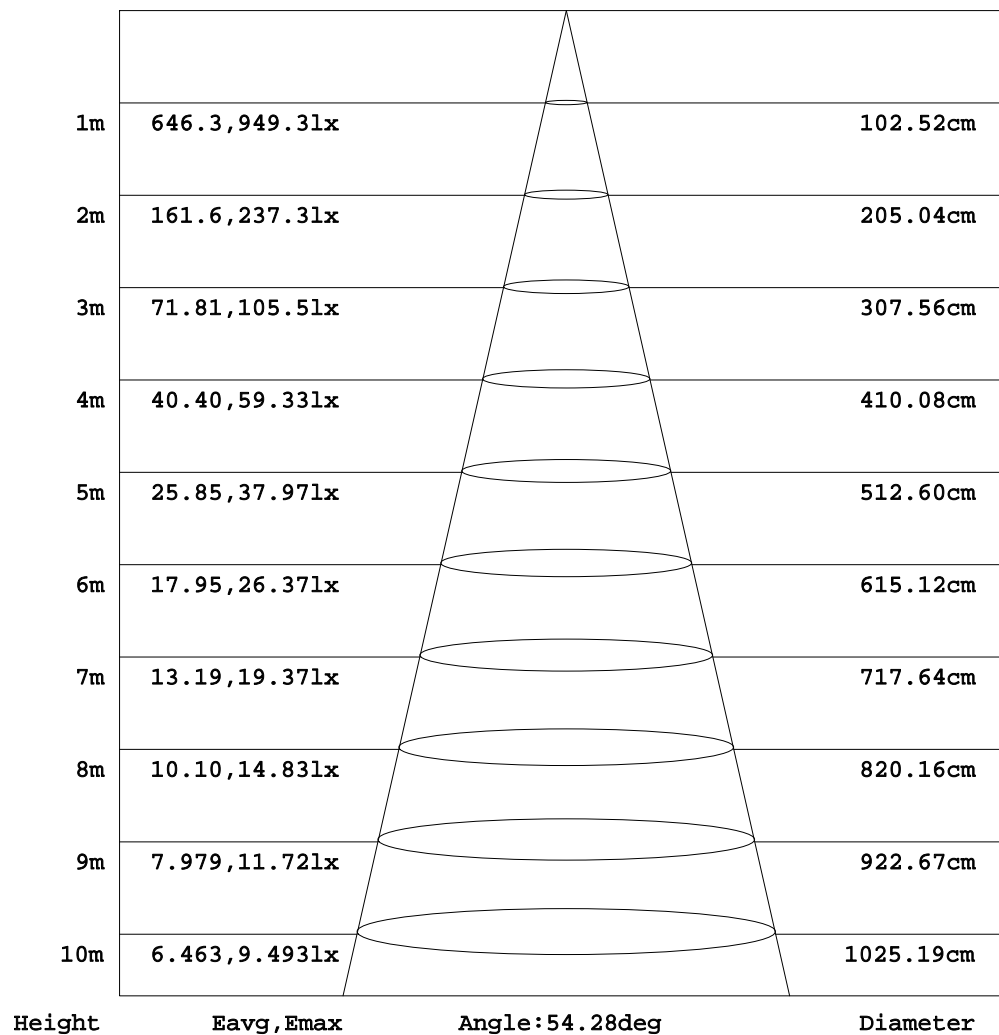
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

Flux out:550.2 lm



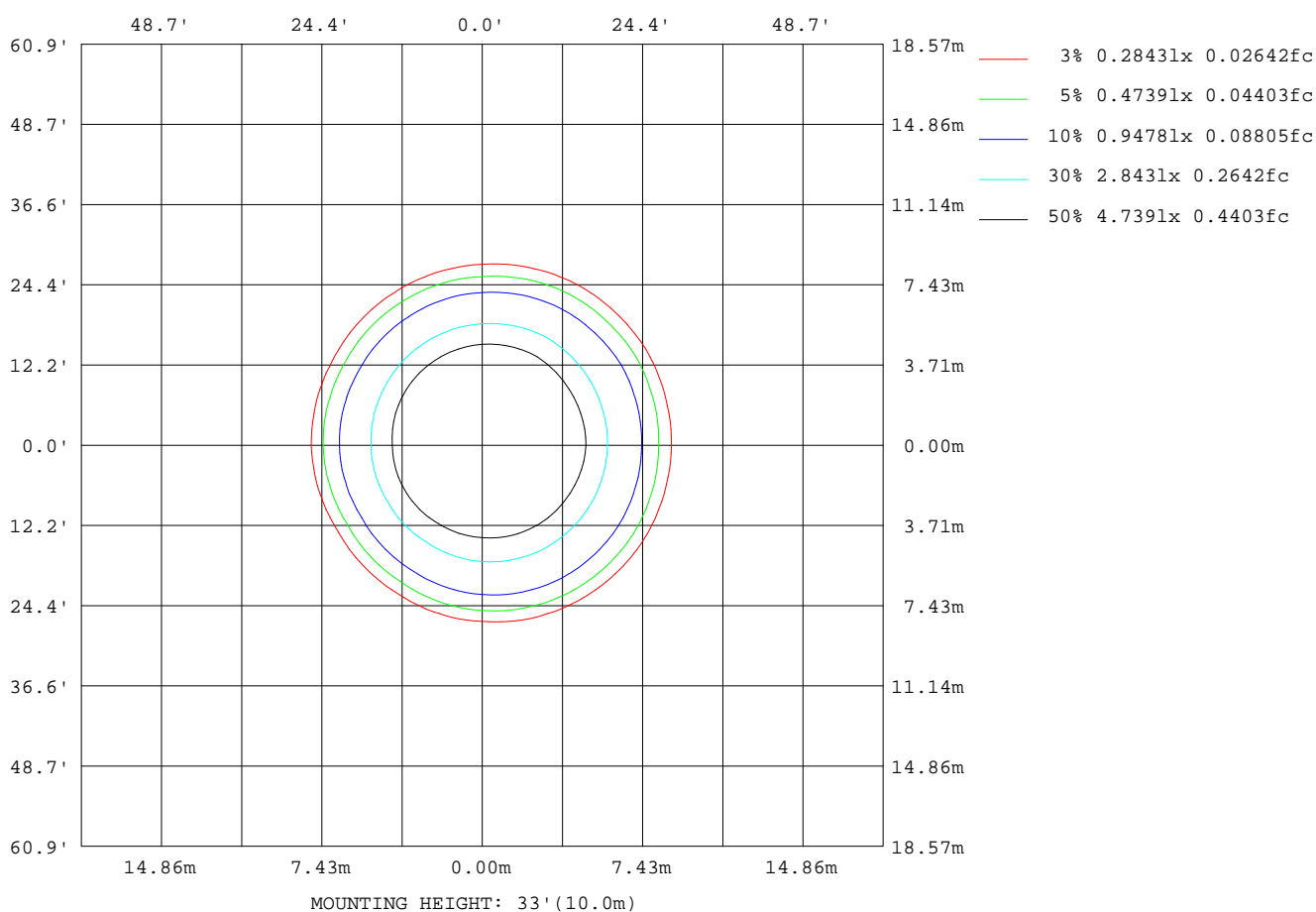
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

ISOLUX DIAGRAM

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.62lx 1m		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:221.1V I:0.0532A P:11.33W PF:0.9625 Freq:49.99Hz Lamp Flux:834.621x1 lm		
NAME: MINUX 44-9W-930-50D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

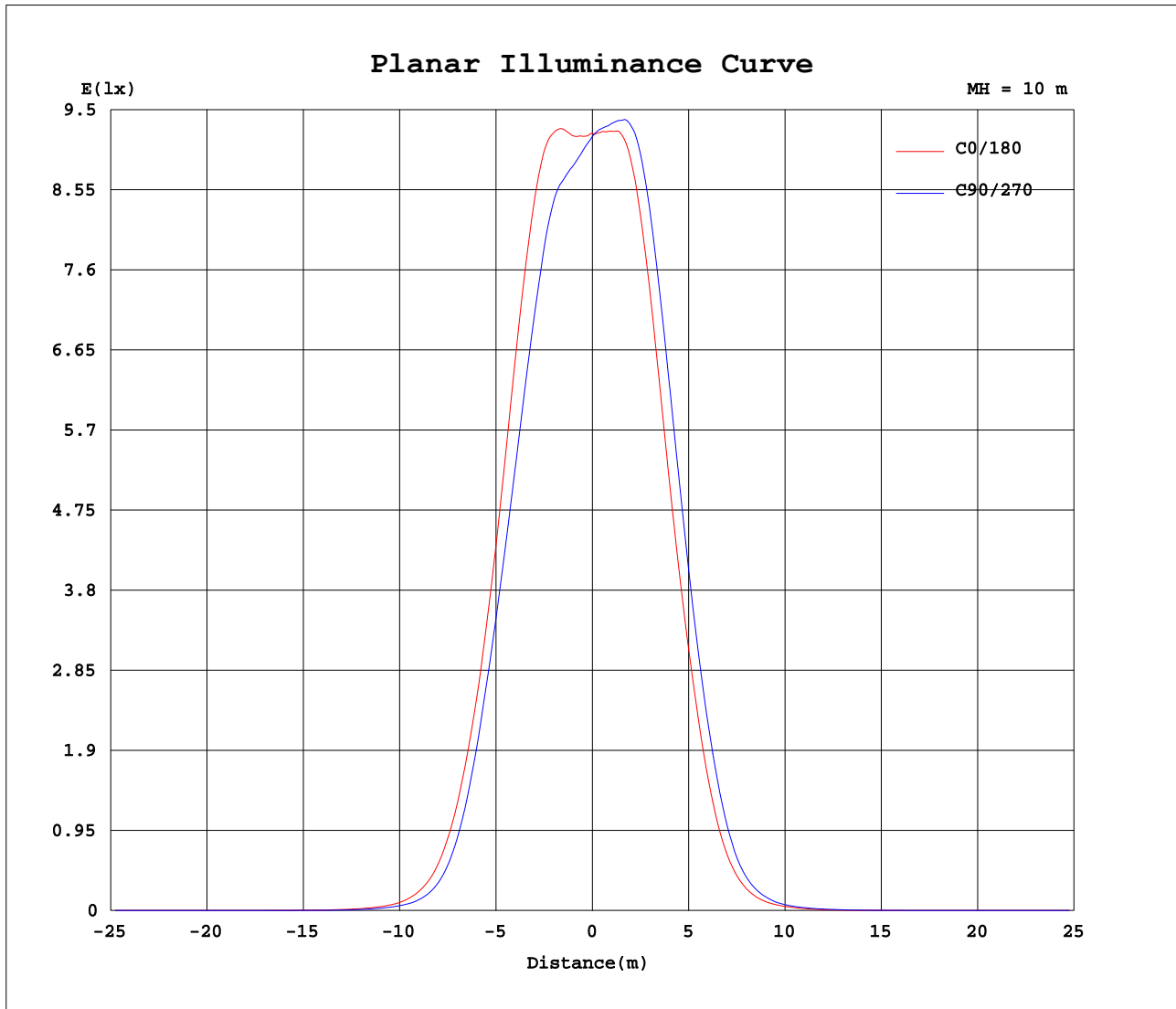
AvgL	cd/m2
L_0~180 (65) av	686
L_0~180 (75) av	226
L_0~180 (85) av	321
L_90~270 (65) av	573
L_90~270 (75) av	177
L_90~270 (85) av	351
L_45 (65) av	638
L_45 (75) av	216
L_45 (85) av	303

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:8.967m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jasoan  
Test Date: 2023-06-15

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 8.967m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:8.967m [K=1.0000]
Remarks:

```