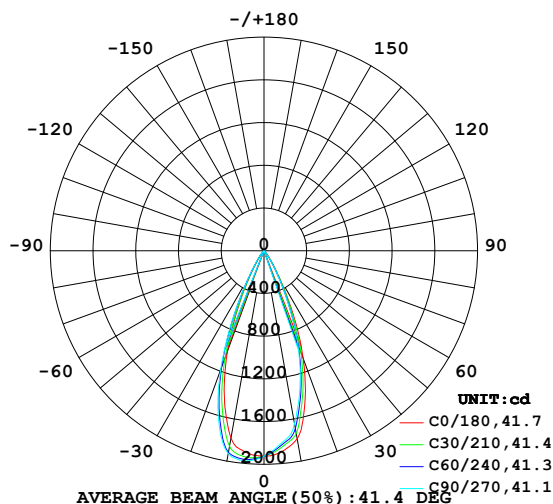


LUMINAIRE PHOTOMETRIC TEST REPORT

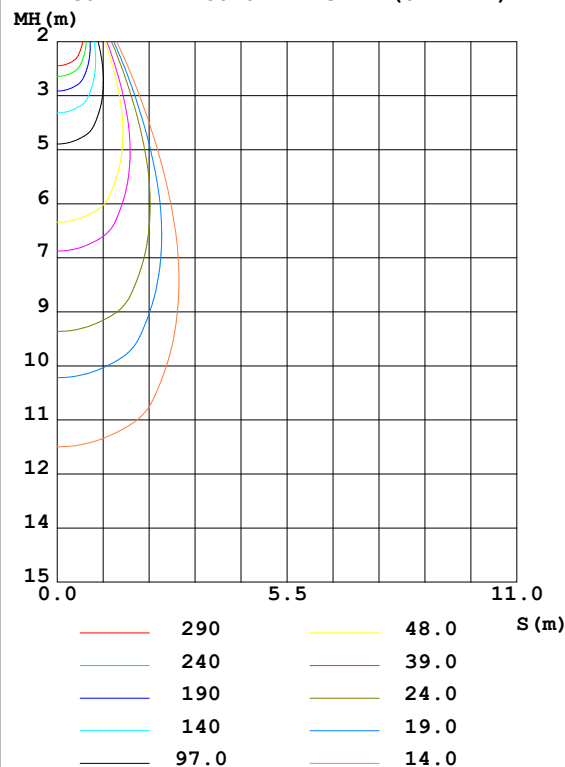
Test:U:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 82.38 lm/W
MODEL	CITIZEN-3000K	I <sub>max</sub> (cd)	1975	S/MH (C0/180)	0.63	
NOMINAL POWER (W)	11	LOR (%)	100.0	S/MH (C90/270)	0.67	
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	936.21	$\eta$ UP, DN (C0-180)	0.0, 47.5	
NOMINAL FLUX (lm)	936.205	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 52.5	
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE (V)	220	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.65	

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: 2022-11-03

$\gamma$  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	1788	1714	1647	1667	1781	1887	1928	1865	0- 10	177.7	177.7	19,19
20	1074	975.0	925.8	947.6	1002	1114	1188	1144	10- 20	399.6	577.3	61.7,61.7
30	279.8	259.2	243.6	246.8	234.8	259.6	281.4	271.5	20- 30	270.8	848.2	90.6,90.6
40	45.22	40.86	37.44	35.58	35.71	39.27	43.18	43.66	30- 40	71.05	919.2	98.2,98.2
50	8.192	7.279	6.776	6.379	6.334	6.770	7.410	7.724	40- 50	13.82	933.0	99.7,99.7
60	1.176	0.8421	0.6800	0.5776	0.5345	0.6204	0.8272	1.145	50- 60	2.916	936.0	100,100
70	0.0325	0.0191	0.0164	0.0245	0.0163	0.0245	0.0273	0.0218	60- 70	0.2120	936.2	100,100
80	0.0217	0.0164	0.0164	0.0191	0.0163	0.0218	0.0218	0.0163	70- 80	0.0214	936.2	100,100
90	0.0163	0.0136	0.0164	0.0163	0.0217	0.0218	0.0218	0.0163	80- 90	0.0200	936.2	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): 928.7 lm

%lum = 99.2%

%lamp = 99.2%

Conical surface Flux(120deg): 935.95 lm

%lum = 100.0%

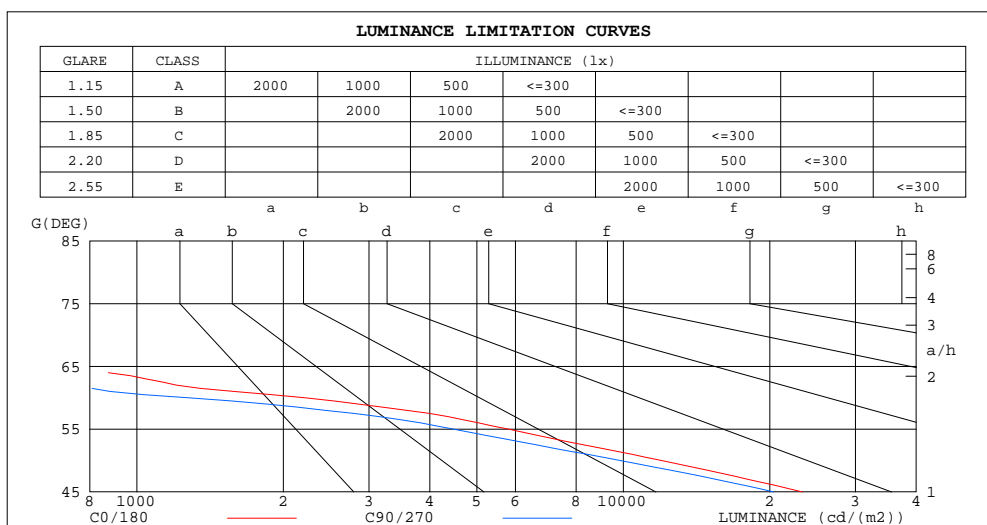
%lamp = 100.0%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	175	175
80	117	88
75	98	59
70	89	45
65	559	168
60	2206	1268
55	5797	4467
50	11959	9828
45	23350	20377

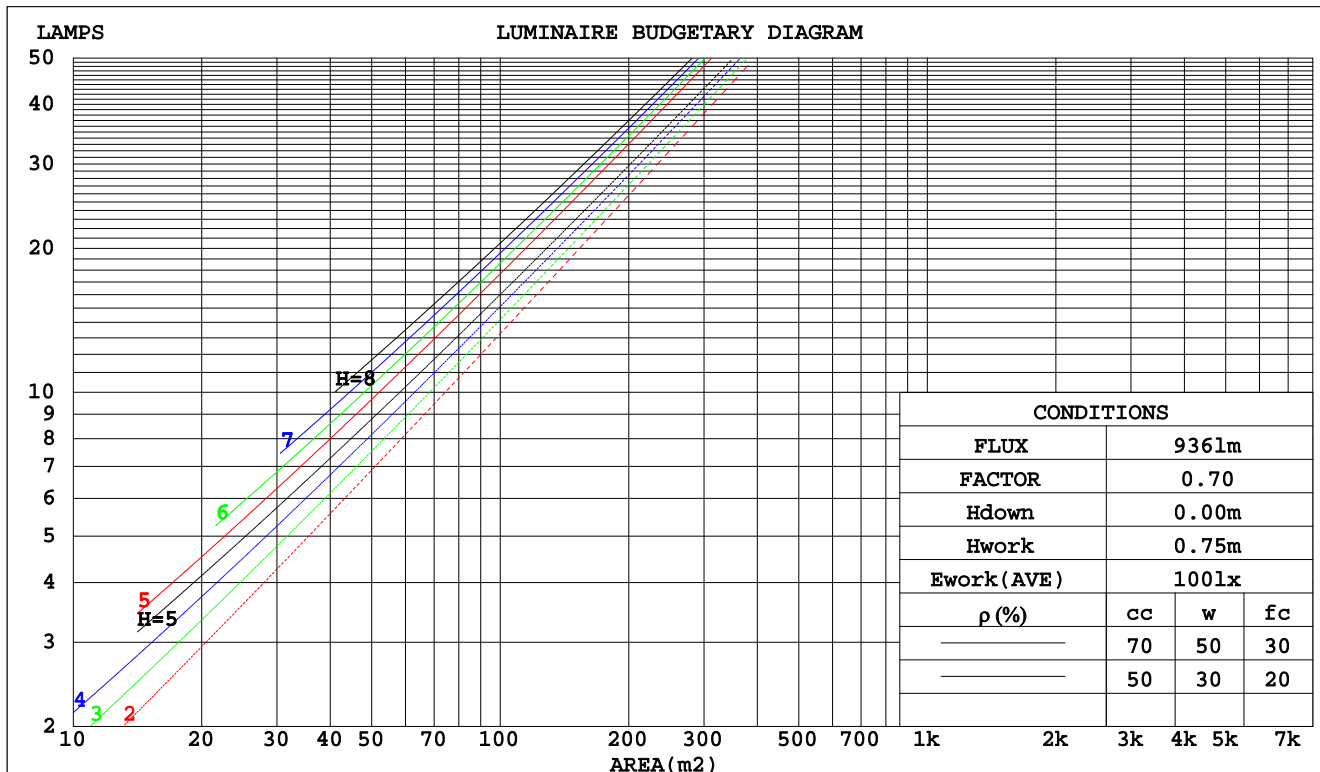
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	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	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	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.06	1.02	.00	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.96	.93	.91	.94	.91	.89	.92	.90	.88	.86
4.0	.95	.91	.87	.94	.90	.87	.92	.88	.86	.90	.87	.85	.88	.86	.84	.82
5.0	.91	.86	.82	.90	.85	.82	.88	.84	.81	.87	.83	.81	.85	.82	.80	.79
6.0	.87	.82	.78	.86	.81	.78	.84	.80	.77	.83	.80	.77	.82	.79	.76	.75
7.0	.83	.78	.74	.82	.77	.74	.81	.77	.74	.80	.76	.73	.79	.75	.73	.72
8.0	.79	.74	.71	.79	.74	.71	.78	.73	.70	.77	.73	.70	.76	.72	.70	.69
9.0	.76	.71	.68	.75	.71	.68	.75	.70	.67	.74	.70	.67	.73	.70	.67	.66
10.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.67	.65	.70	.67	.64	.63



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	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	.153	.087	.028	.147	.084	.027	.134	.077	.025	.123	.071	.023	.112	.065	.021		
2.0	.144	.079	.024	.139	.077	.024	.129	.071	.022	.119	.067	.021	.110	.062	.020		
3.0	.136	.073	.022	.132	.071	.021	.123	.067	.020	.115	.063	.019	.107	.059	.018		
4.0	.129	.067	.020	.125	.065	.019	.118	.062	.019	.111	.059	.018	.104	.057	.017		
5.0	.123	.062	.018	.119	.061	.018	.113	.059	.017	.107	.056	.017	.101	.054	.016		
6.0	.117	.059	.017	.114	.058	.017	.108	.056	.016	.103	.054	.016	.098	.052	.015		
7.0	.112	.055	.016	.109	.054	.015	.104	.053	.015	.100	.051	.015	.095	.050	.015		
8.0	.107	.052	.015	.105	.052	.015	.100	.050	.014	.096	.049	.014	.092	.047	.014		
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.093	.047	.013	.090	.046	.013		
10.0	.099	.047	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	.087	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011	
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.118	.086	.063	.101	.075	.055	.070	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006	
7.0	.103	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.005	
8.0	.097	.062	.039	.083	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005	
9.0	.091	.057	.034	.079	.049	.029	.054	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.087	.052	.029	.075	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm										
NAME: MINUX 44-9W-830-40D					TYPE:Downlight			SERIAL No.:		
SPEC.:3000K					DIM.: $\varnothing$ 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	17.5	18.3	17.7	18.5	18.6	16.4	17.2	16.6	17.4	17.5
3H	17.4	18.1	17.6	18.3	18.5	16.3	17.0	16.5	17.2	17.4
4H	17.3	18.0	17.6	18.2	18.4	16.2	16.9	16.4	17.1	17.3
6H	17.2	17.8	17.5	18.1	18.3	16.1	16.7	16.4	17.0	17.2
8H	17.2	17.8	17.5	18.0	18.3	16.0	16.7	16.3	16.9	17.2
12H	17.1	17.7	17.4	18.0	18.2	16.0	16.6	16.3	16.9	17.1
4H 2H	17.3	18.0	17.6	18.2	18.4	16.2	16.9	16.5	17.1	17.3
3H	17.1	17.7	17.4	18.0	18.2	16.0	16.6	16.3	16.9	17.1
4H	17.0	17.6	17.4	17.8	18.2	15.9	16.5	16.3	16.7	17.0
6H	16.9	17.4	17.3	17.7	18.1	15.8	16.3	16.2	16.6	17.0
8H	16.9	17.3	17.3	17.7	18.0	15.8	16.2	16.2	16.6	16.9
12H	16.8	17.2	17.2	17.6	18.0	15.7	16.1	16.1	16.5	16.9
8H 4H	16.9	17.3	17.3	17.7	18.0	15.8	16.2	16.2	16.6	16.9
6H	16.8	17.1	17.2	17.5	17.9	15.7	16.0	16.1	16.4	16.8
8H	16.7	17.0	17.1	17.4	17.9	15.6	15.9	16.0	16.3	16.8
12H	16.6	16.9	17.1	17.4	17.8	15.5	15.8	16.0	16.3	16.7
12H 4H	16.8	17.2	17.2	17.6	18.0	15.7	16.1	16.1	16.5	16.9
6H	16.7	17.0	17.1	17.4	17.9	15.6	15.9	16.0	16.3	16.8
8H	16.6	16.9	17.1	17.4	17.8	15.5	15.8	16.0	16.3	16.7
Variations with the observer position at spacings:										
S = 1.0H	+ 3.7 / -13.4					+ 3.6 / -14.1				
1.5H	+ 5.9 / - 9.9					+ 5.8 / - 9.8				
2.0H	+ 6.3 / -15.9					+ 6.4 / -15.5				

CIE Pub.117, 936.2 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -0.2$ )

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\varnothing$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

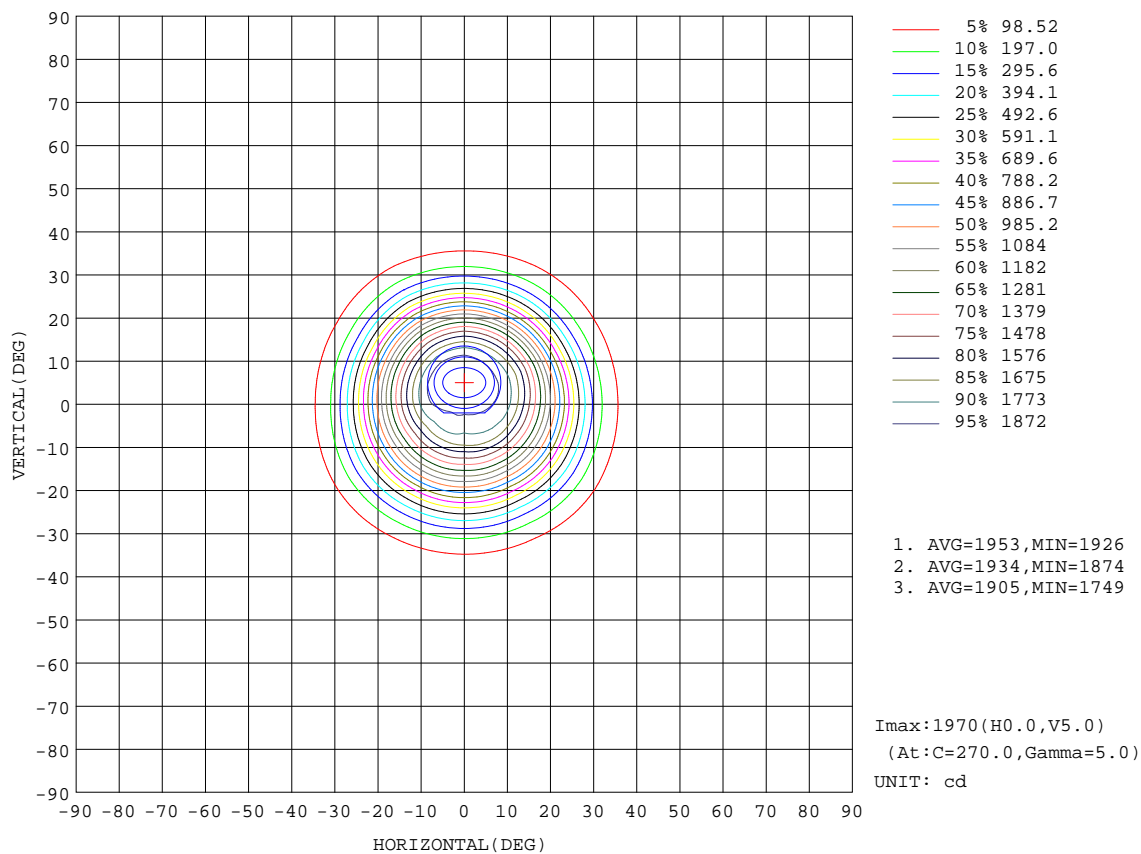
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	85	81	90	84	81	89	84	81	78
0.80	97	92	89	97	92	89	96	91	88	85
1.00	101	96	93	101	96	93	99	96	92	89
1.25	105	100	97	104	100	97	102	99	96	92
1.50	107	103	100	106	102	100	104	101	99	94
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	106	104	107	104	102	96
3.00	113	109	107	111	108	106	107	105	104	97
4.00	114	112	110	112	110	109	109	107	106	99
5.00	116	114	112	114	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: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jasoan  
 Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



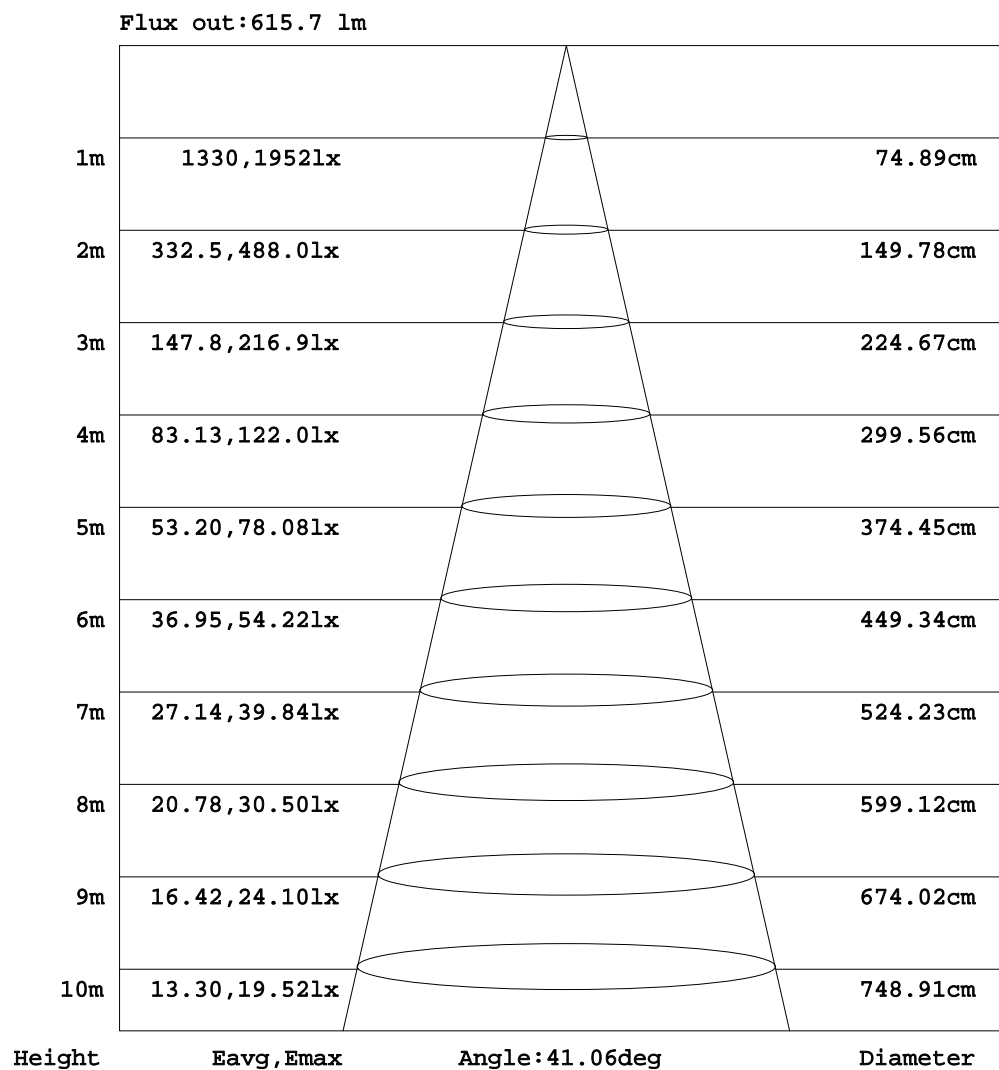
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		



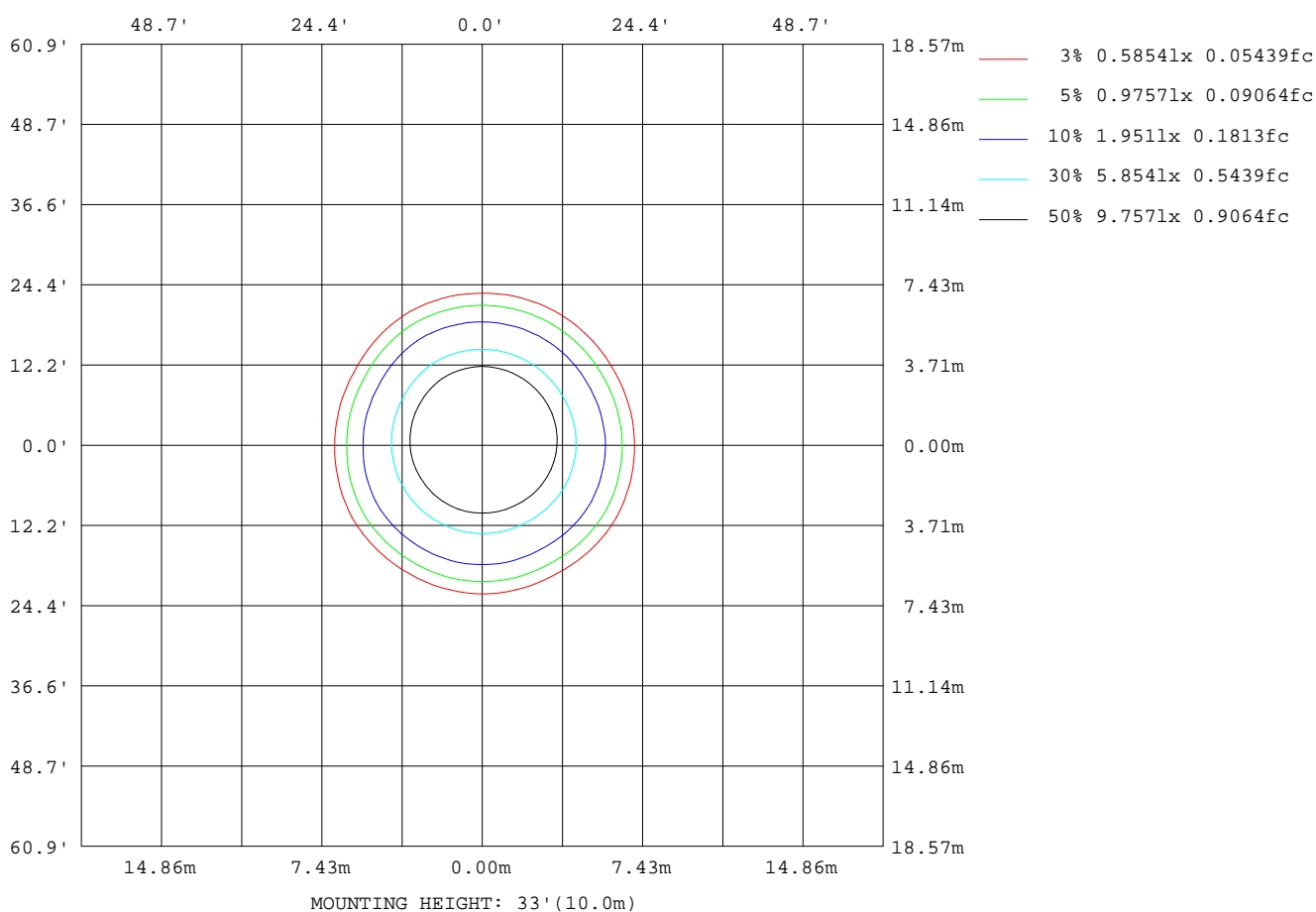
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	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:2022-11-03

$\gamma$  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:221.0V I:0.0576A P:11.36W PF:0.8933 Freq:49.99Hz Lamp Flux:936.205x1 lm		
NAME: MINUX 44-9W-830-40D	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: $\phi$ 51mm*H92mm	
MFR.: NEKO LIGHTING AG		

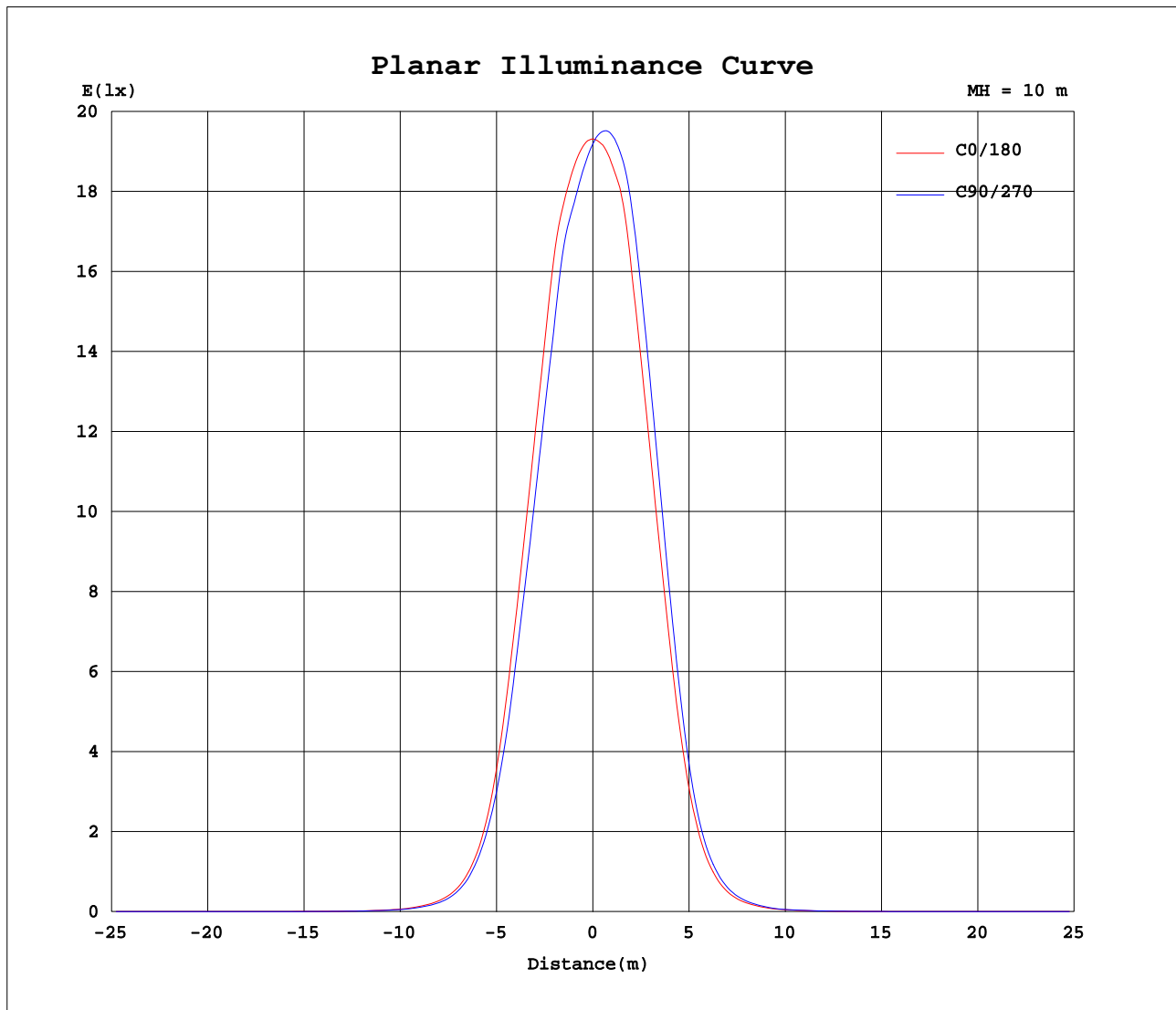
AvgL	cd/m2
L_0~180 (65) av	296
L_0~180 (75) av	78
L_0~180 (85) av	204
L_90~270 (65) av	230
L_90~270 (75) av	69
L_90~270 (85) av	205
L_45 (65) av	242
L_45 (75) av	71
L_45 (85) av	188

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jasoan  
Test Date:2022-11-03

$\gamma$  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: 2022-11-03

$\gamma$  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:

```